

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 April 2004 (29.04.2004)

PCT

(10) International Publication Number
WO 2004/036515 A1

(51) International Patent Classification⁷: **G07F 11/00**,
17/00, 7/00

(21) International Application Number:
PCT/US2003/032964

(22) International Filing Date: 16 October 2003 (16.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/418,769 16 October 2002 (16.10.2002) US

(71) Applicant and

(72) Inventor: STILLMAN, Suzanne, Jaffe [US/US]; 1712
Barrington, Ave., #4, Los Angeles, CA 90025 (US).

(74) Agent: KIRCHANSKI, Stefan, J.; Reed Smith Crosby
Heafey, Suite 700, 1901 Avenue of the Stars, Los Angeles,
CA 90067 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: INTERACTIVE VENDING SYSTEM(S) FEATURING PRODUCT CUSTOMIZATION, MULTIMEDIA, EDUCA-
TION AND ENTERTAINMENT, WITH BUSINESS OPPORTUNITIES, MODELS, AND METHODS

(57) Abstract: Individual or multiple-unit vending systems/kiosks with the ability to create highly customized products at the time of sale, with audio-visual features, handicap access and additional abilities and/or components; with multiple delivery abilities of tangible and/or intangible product(s); new real estate opportunities and business models, including business opportunities and/or jobs for disadvantaged people. This invention provides products for humans, animals and plants, and takes in one or more of the following product categories, without limitation: water, beverages, foodstuffs, toys, games contests, greeting cards, photography/video, audio/music, personal care products; using converging technologies such as, but not limited to: telecommunications, wireless data transmission, smart cards, etc. Benefits include, without limitation: test marketing, focus groups, and new product introductions using consumer interaction; education, entertainment, rewards, promotions, advertising, contests, charitable support, etc.



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**INTERACTIVE VENDING SYSTEM(S) FEATURING PRODUCT CUSTOMIZATION,
MULTIMEDIA, EDUCATION AND ENTERTAINMENT, WITH
BUSINESS OPPORTUNITIES, MODELS, AND METHODS**

The present invention claims priority of U.S. Provisional Application 60/418,769 filed October 16, 2002.

Field of the invention

The present invention relates generally to vending machines and/or vending kiosks but more particularly to a vending machine system and/or a vending kiosk systems; which employ multimedia features, new product delivery technologies, labeling, and packaging technologies, along with accompanying business models, methods, and opportunities whereby the system(s) dispense(s) products that are meant to work in consort, or systems that are to work in consort, regardless of the field of inventing.

Understanding the value of vending:

Vending machines provide numerous benefits to customers and operators alike. Vending machines typically provide customers with the convenience of self-service and twenty- four-hour accessibility. Likewise, owner's benefit from the ability of vending machines, in general, to make automated sales of merchandise to customers, often at unconventional locations and times of day, without substantial labor costs.

Background of inventor, technologies, and vocabulary:

Inventor's background:

While the inventor's background is in unique beverage delivery system,s it may be considered foundational for this invention but is not limited to beverages or even foodstuffs.

US Pat. No. 6,248,390: FiberWater: Water Containing Soluble Fiber

Stillman: WIPO: WO 01/62108 A1: Water containing soluble fiber

Stillman: WIPO: WO 01/70591 A1: Infusion Packet with useful and decorative elements, Support member, Delivery System and method

Stillman: CIP of PCT/US01/09171: Method of Hydration; Infusion Package System(s), Support Member(s), Delivery System(s), and Method(s); with business Model(s) and Method(s)

Technologies:

This invention goes beyond most conventional vending, especially with more than one agenda/purpose which may or may not be obvious at a glance. It is based on integrated systems and employs the convergence of many different technologies.

The inventor has spent considerable time studying the following (but not limited to the following) technologies, their place in society as well as their acceptance by consumers. Such tangible technologies include but are not limited to the history and background of: vending machines, arcade

games, video/computer games, pinball machines, jukeboxes, the slot machine, telephones, computers, transistors, sensors, multi-media entertainment, the Internet, evolution of software (noting that software is getting smarter with processor and memory power exploding, and that software that thinks for itself--or at least appears to--will become a reality), Asynchronous Transfer Mode (ATM), Asymmetrical Digital Subscriber Line (ADSL), Assistive technologies for the handicapped.

Intangible considerations are directed towards the following but not limited to: the study (psychology) of the value of promotions, advertising, rewards, interaction, entertainment, education, personalization, customization, licensing, and sanitation. Additional intangible considerations are directed towards concepts as demonstrated by magicians, the success of the circus, Las Vegas, Rube Goldberg (delivery systems), etc.

With the convergence of more than one of the above new business opportunities, models, and methods come forth as well.

Assistive Technologies (AT)

AT comes in many shapes and sizes. The one trait shared by each example of AT is the power to enhance the life of a person with a disability. The Washington Assistive Technology Resource Center describes AT as follows:

Technology for more independent, productive and enjoyable living --
can be simple or complex. These technology solutions improve an
individual's ability to learn, compete, work and interact with family and
friends.

People use assistive technology to achieve greater independence and to
enhance the quality of their lives.

Some AT come easily to mind, such as wheelchairs and closed-captioned television. Others may be overlooked at first by the general population, but are still familiar to many people, including Braille, sign language, and ramps. These inventions, although useful, have only played supporting roles to the major stars in the AT revolution.

The biggest part of this revolution now is in the office. From multinational corporations to family-run shops, disabled people are finding that they have an expanding place in the business world. As computers have assumed a dominant role in the office environment, AT has made it possible for many people to compete in the workforce. While many forms of AT have been of great benefit to the disabled community these technologies are becoming foundational for mainstream inventiveness. Ergo technologies under this category are incorporated into this invention to not just help those with health challenges and need assistance but converge with other technologies therefore best serving this vending invention. Therefore, any part of this invention may have a new type of handicap access (becoming

handicap friendly) even if the user has to bring a connecting part needed for operation. (any user, even if not handicapped can bring any connecting part for access, ease and efficiency of operation).

Some of the important areas of development relevant to this inventiveness are (but not limited to) the following:

Modified or Alternative Computer Input and Output Devices

Computer access is necessary in most new jobs being created in the corporate world. By using the Braille system to aid and/or modify computer input and output devices, the blind are enjoying increased productivity and job satisfaction.

Perhaps not so familiar is Hand Tapper III by Peter Grigson - this system makes use of a pad of push-up pins, whereby resting his or her hand upon the pad of pins, the user is able to receive a constant stream of output from a computer; the computer interprets text on-screen and sends the data to the Hand Tapper III, where every pin corresponds to a symbol or word of text that the user feels as it is pushed up into the palm and fingers of one hand; a similar concept is the Braille strip that blind users can lay in front of a keyboard, which produces Braille symbols one row at a time while the user's fingers rest on the strip.

Voice-activated control software for using Graphical User Interface programs - blind computer users have been challenged with interpreting the symbols used on-screen in programs such as Windows or the Macintosh Operating System; because these programs utilize pictures instead of words to present data to the viewer, software has been developed that can either read aloud or print out on a Braille translation device the text that accompanies each icon.

Many workers with disabilities other than blindness are utilizing computers with the aid of such tools as: mouthsticks or headwands - using pointers in the form of headwands or mouthsticks, people with restricted hand or arm movement can operate computers by pressing on keys or directing a surrogate mouse; in this manner, even quadriplegics are able to access computers with the same ease as individuals with total mobility.

Trackballs - Trackballs are used as an alternative to the traditional computer mouse; the device is similar to a mouse that has been turned upside down, so that only part of the ball's surface is exposed; the user simulates the movement of a mouse by moving the ball in the desired direction and thus controlling the cursor on-screen without moving the entire housing structure. Trackballs are now more mainstream in fact this inventor uses a trackball mouse.

Dvorak keyboards - featuring a different layout than the standard QWERTY keyboard (referring to the letters at the left side of the top row on a traditional keyboard interface), the Dvorak system makes one-handed use of a keyboard easier; keys are arranged so that frequently-combined letters are placed near each other, reducing the amount of hand movement that would otherwise be required.

Key locks - Key locks allow the user to push down more than one key at a time; by implementing the use of key locks, people using mouthsticks or headwands can perform multi-key functions like Alt-S or Control-P; these are simple tools which attach to the keyboard and allow the user to push down one key and hold it in place while rotating an arm of the key lock onto another key simultaneously.

Eye-controlled input - This form of input tracks the movement of the user's eye; keys on an on-screen keyboard are activated when the user's gaze pauses on a key for a specified length of time, usually two seconds.

On-screen keyboards - These keyboards can be controlled by the touch of a headwand or mouthstick or through eye-controlled input.

Sticky keys - Sticky keys work similarly to key locks, but are controlled by software rather than a physical tool; programs instruct the computer to accept a single keystroke as the first part of a multi-key instruction, and the computer then waits for the second keystroke before executing any tasks.

Auto repeat function disablers - This form of software works by instructing the computer to produce only one letter when a key is pressed down, ignoring the length of time that the key is actually depressed; by ignoring the time lapse, the computer knows to produce a single letter "m" instead of a continuous stream that would appear "mmmmm."

Speech Synthesizers and Related Communication Tools for the Deaf

Deaf people have overcome many communication challenges with the aid of AT. Everyday tasks such as knowing when a computer has beeped and participating in presentations are possible with new developments, including:

1. Messages, and visual beep indicators allow deaf computer users to stay in touch with these occurrences.
2. Electronic note-takers - electronic note-takers produce printouts of what is being spoken in a room, and deaf people are able to read the printout while the speaker is presenting information; these devices are very useful in meetings and demonstrations, when lip-reading may not be possible.
3. Speech synthesizers - speech synthesizers like the Gus Multimedia Speech System let users construct words and sentences on a computer screen which are spoken out loud by the system; made famous through use by Stephen Hawking, speech synthesizers let the user build custom dictionaries or work from existing dictionaries of commonly-used words and phrases.

Text Interpretation Systems for the Blind

With A T tools, the blind are able to process all of the information presented to sighted people, including business reports, computerized documents, email, forms and file cards, and book and magazine

articles. Absolutely any printed text can now be “read” by the blind. Aside from the Braille printers and translation software tools, mentioned above, the following devices are also used by blind people accessing non-Braille texts:

Optical Character Recognition (OCR) - OCR uses scanners to input books or other printed materials into a computer, which can then produce either a hard copy of the text in Braille or a voice-synthesized copy that can be listened to, recorded, and played back for future reference.

Voice-output devices - A machine “reads” text through Optical Character Recognition software, and synthesized speech is used to present the text to a blind person; using this method, it is possible to quickly access the information stored on file cards and forms or in phone directories and hand-written notes.

Scientific and Mathematical Data Interpretation Systems

Blind scientists and mathematicians have found that Braille is inadequate for interpreting numbers and symbols effectively. Several alternative systems have been developed to address this limitation, including:

- **Nemeth Braille code** - This form of Braille utilizes symbols and non-traditional Braille characters for the presentation of numbers, especially in complex mathematics; while useful in calculus and differential equations, some users have found a need for an alternative that will allow blind computer users to print out numerical calculations without requiring that the code be translated into non-Braille characters and symbols; this limitation led to the development of MNS.
- **MNS by Kenneth Frasse** - MNS uses text-recognition software in conjunction with speech-synthesis and printing software to create audible recordings and printouts of math data that can be used by sighted students or instructors to follow along with the work done by a blind person.
- **GS* by John Gardner**- GS8 uses eight dots instead of the six dots used in traditional Braille, allowing more combinations of dots; this method eliminates the need to spell out words such as plus and minus, replacing the words with symbols created by incorporating the extra two dots into the standard Braille system; similarly, numbers are given their own symbols, and are no longer represented by the letter of the alphabet that corresponds to the number (1 = a, 2 = b, 3 = c, and so on).
- **Audio System for Technical Reader (ASTER)**- ASTER uses a speech synthesizer to read highly technical documents so that even diagrams and unusual fonts are read aloud; different pitches are assigned to different types of text, so that the beginning of a paragraph or an item appearing in subscript sound distinct when compared to the voice used to read plain text; the user is able to customize the pitch assignments, as well as the formats in which numerical equations are presented.

- Dotsplus- Dotsplus prints out charts and diagrams in a tactile version so that lines are felt rather than seen, combining Braille for textual representations with symbols for numerical or illustrative representations.

Mainstream technologies

Cable Modems A cable modem is an electronic device that enables a personal computer (PC) to connect to a high-speed data network and send and receive data over the coaxial cable used in cable television (CATV) systems.

For an information superhighway with no speed limits, stop signs, or curbs, the cable modem could change the one-way street of television into a multi-lane highway with millions of on- and off-ramps, create opportunity for new ways of communicating, and focus attention on the PC as a source of information, entertainment, and personal communications.

The History and use of Cable Telephony

Cable television and telephone companies are two separate industries, which secretly at first, then later openly, coveted each other's business. With the passing of new, more liberal telecommunications rules and regulations (most notably the Telecommunications Act of 1996), both the telephone companies and CATV companies have been given permission to enter the other's business. For the CATV industry this means transmitting two-way signals in the form of data and voice. This type of transmission is cable telephony.

Convergence

Convergence means change. Convergence is tearing down barriers and will therefore also construct barriers as it streaks and ripples through society, industry, and institutions of all kinds.

One's definition of convergence has its roots in the perception of what is converging and how it will affect our world. Is it technology or content? Is it communication or information delivery? Is it a new industry or just new alliances of existing companies? Is it really convergence at all, or a divergence of people and ideas?

Convergence means a world in which people are not denied access to any ideas or visions that have been written, photographed, painted, spoken, or performed.

For some convergence proponents, the end product will be a massive interconnection of digital technologies. The connection can be wire or wireless, voice or data, terrestrial or space, but the goal is to enable all technologies to connect with purpose, speed and accuracy.

The technologies involved in convergence are all those used in the four essential functions -- create, display, distribute, and store -- that can be applied to anything comprised of text, visuals, or sound. The industries of convergence include those that manufacture and sell products and services used in the creation, display, distribution, and storage of anything comprised of text, visuals, or sound.

These industries include the aforementioned computer, television, and telephone industries but cannot be limited to these giants of industry. Movie and television producers, data storage, radio, publishing, photography, consumer electronics, appliance manufacturers, home and commercial construction, and utilities. Libraries, hospitals, schools, universities, government of all levels, police and fire — each connects with others and the people they serve. They converge because of the available technologies, the industries that provide them, and the need for what the institutions offer are but a few that will be involved in convergence.

For many institutions, the convergence is one of ideas. If a consumer can access medical information from any or all, the information has converged, and in the process the institutions themselves, or at least some of their functions have converged.

Convergence means we must redefine our world and our interactions within it, but without the limitations and defining elements of time and distance. Centuries, even decades ago, decisions were delayed months and days until communications could be exchanged.

Convergence drives instant decision-making, which will drive reactions

Maybe your future includes a PAN (personal area network) to connect your personal communication devices via a low-frequency network inside your body. Electronic devices on or near your body will exchange digital information through capacitively coupled picoamp currents. Shaking hands with business contacts will transfer data to their PAN, including your address, phone number, and professional information. Now one can transfer personal data to the vending system.

Asynchronous transfer mode (ATM), which makes more efficient use of networks for data, phone and video. In almost any transmission there are blank spots, or short periods of time in which no data, voice, or picture is actually being sent. ATM uses the blank spots in a transmission to send other communications. Another big plus for ATM is that it can switch streams of multimedia traffic at mind-boggling speeds. It is conceived that an ATM machine be connected to a vending machine whereby financial transactions from the ATM pay for vending

Holography

Holography is a technique, which allows the recording and playback of true, three-dimensional images. The image is called a hologram. Unlike other 3-D “pictures”, holograms provide what is called “parallax”. Parallax allows the viewer to move back and forth, up and down, and see different perspectives -- as if the object were actually there.

Holography continues to provide the most accurate depiction of three-dimensional images in the world. Holography allows the recording and playback of true, three-dimensional images. The image is called a hologram. Unlike other 3-D “pictures”, holograms provide what is called “parallax”. Parallax allows the viewer to move back and forth, up and down, and see different perspectives -- as if the object

were actually there. The concept of thinking in a spatial, rather than linear manner is at the very heart of holographic principles.

CD Players and Compact Disc Player

Found in the home, car, and even the palm of your hand, the compact disc player is a truly pervasive piece of consumer electronics equipment. The compact disc player allows anyone access to studio-quality sound nearly anywhere.

The Laser pickup represents the actual physical interface between the data on the compact disc media and the player. The pickup is typically mounted on a movable sled mounted under the disc. It is comprised of the laser, a system of lenses, a photo-detector, and a motor, which moves the sled. The actual laser is a semiconductor-type and emits light at a wavelength of 780 nanometers, just within the infrared spectrum.

Information on the compact disc is represented by a series of lands, or flat spots, and pits, or holes. However, when viewed from the bottom of the disc from where the data is read, the pits are actually bumps. The difference in height between the pits and lands is specified, so a unique property of light can be used to obtain an electrical signal.

Sibling technologies

Although the hardware to effectively implement them did not exist in 1982, the designers of the compact disc standard exercised a great deal of foresight by allowing for variations on the type of data stored on the disc. Among these alternative uses are acronyms such as CD-ROM, CD-R, CD-i, Photo CD, CD-V, CD+G/M, and game discs (which are merely specialized CD-ROMs). Rather than storing audio data, all of these formats have the ability to store any type of digital data (CD-ROM and CD-R), still or motion video images (Photo CD and CD-V), and a mixed stream of audio, video, and other data (CD-i and CD+G/M). Regardless of what is stored on these discs, the fundamentals behind their operation are nearly identical to that of the audio compact disc.

Two other technologies in the marketplace that share some similarities with the compact disc include the video laser disc and Sony's Mini-Disc. The laser disc stores its information in an analog format. While this yields the benefits of an optical reading mechanism, none of the benefits of a digital signal are realized. Digital Video Disc, recently standardized by Sony and Toshiba, promises to remedy this. It will offer a digital storage format several times that of today's compact disc, while maintaining the same small size of, as well as backward compatibility with, the compact disc. The Mini-Disc shares many similarities with the compact audio disc in terms of data representation. However, the Mini-Disc has a smaller form factor, is stored on a self-enclosed readable/writable magneto-optical disc, and utilizes data reduction that slightly lessens its sonic reproduction quality.

Compact discs have moved from an expensive audio alternative to an attractive storage and playback medium that has permeated all aspects of our cultural, social, and work lives. Recent

developments in storage and usage have affirmed the success of the compact disc, and promise to push the technology even further.

Identification possibilities within the vending system

Overview of understanding means by which to catch criminals, find lost children, and/or the like can be done within the vending concept of creating, purchasing, and receiving and are especially valuable when they interconnect and feed into a centralizing area using A.F.I.S. (Automated Fingerprint Identification System), Facial feature data bases, and HITS (Homicide Investigation and Tracking System)

A.F.I.S. (Automated Fingerprint Identification System) is a computerized database of fingerprints compiled from the records of national, state, and municipal offices in the United States.

Facial Feature Database

Tom Parker created a database of facial features. Using the faces of over 300 famous public figures, and each one was separated into such elements as nose, eyes, cheeks, hair, hairline, forehead, lips, ears, head shape, eyebrows, etc. Police artists can use this database when rendering drawings of suspects. Witnesses are able to describe a person by saying that they have the eyes of Ronald Reagan, the cheeks of Steven Spielberg, the nose of Ginger Rogers, the hair of Prince Charles, and so on.

Using such descriptions, composite images may be created by pulling those facial features from the system. There are several trillion possible faces that can be created from the database. People have an easier time describing people according to well-known images rather than by saying that the suspect has a broad forehead and deep-set eyes. HITS (Homicide Investigation and Tracking System)

The Homicide Investigation and Tracking System (HITS) is a computerized form completed by investigators, which allows them to track crimes across the United States. Up to 250 variables can be entered about each crime, including such vital statistics as the location of a crime, the nature of the crime, weapon(s) used, distinguishing evidence left at the scene (such as the presence of unusual symbols), and time of day.

The system incorporates information compiled from six different sources, and is one of seven databases devoted to a particular type of crime. While HITS is dedicated to murder investigations, the other six databases track data on sexual assault, preliminary information (before a type of crime has been determined), Department of Corrections (when a known convict is suspected of having involvement in a crime), gang-related crimes, timeline (the sequence of known or suspected events surrounding a crime), and the Violent Criminal Apprehension Program (VICAP).

Of these other six systems, VICAP is the one with which most people are familiar. VICAP lets agents monitor unsolved violent crimes and look for patterns between the crimes. Using this system, officers can identify the trademarks of serial killers who may be working over wide geographic areas. The National Institute of Justice makes HITS, as well as the other six databases, available to agencies

throughout the United States. Using this technology, officers can work together to compare notes and solve crimes.

As new technologies continue to develop, investigators will do more crime fighting in the vast dimensions of cyberspace than ever before. Even now, detectives have access to systems that rival the fictional tools used by superheroes, and the FBI is leading the pack by harnessing computer power to solve crimes in radically new ways.

Desktop publishing

Desktop publishing (DTP): Combining text and graphics into documents such as books, magazines, brochures, and manuals by using a computer system, special software, and high-resolution output devices.

Digital Cameras Digital Imaging: From Camera to Computer

Most digital images form within a blink of the camera's shutter. In that fragmentary instant, an image made of light is transformed into a stream of numerical data by a complex web of technologies. What's more, the image stored within the camera's memory chip whereby the camera's data is uploaded into a computer. Here, the photographer can alter and transform the image in almost any way desired.

Digital Music

Digital Music can send CD-quality music in digital format across the same coaxial cable was sent in an analog format using an FM frequency.

Digital Video Disk (DVD): Video Storage:

DVD is latest advance in digital information storage technology and a virtual revolution across a wide range of consumer electronics applications. The advent of DVD has already stimulated a convergence of computer and entertainment technology that offers advantages to the consumer including but not limited to the possibility of obtaining new uses from existing technologies and of replacing several appliances with a single purchase. In addition, the power and versatility facilitate applications in areas such as entertainment, education, and multimedia production t technologically and will be economically feasible.

Possibilities for Use: Convergence

The single digital technology represented by DVD offers possibilities for convergence of multiple technological applications and for the integration of new and existing technologies into integrated and flexible systems.

Regarding the convergence of computer and television technology, one could, in theory, read and view any DVD title on a PC equipped with a DVD-ROM drive, so long as the computer was equipped with the silicon chip and the expansion board necessary to decode MPEG-2 and Dolby Digital. While few PCs have the audio or video hardware to take advantage of MPEG-2 and Dolby Digital, a number of companies are supporting the idea of making PCs that support Dolby Digital. But to fully combine the

functions of television entertainment and computing into a single system, other innovative solutions will be required.

Products are already appearing on the market support the computer-entertainment convergence. From the PC side, the convergence of audio, video and computer technology represented by the DVD will allow a single technology to play, record and edit huge volumes of content, as well as to create a wide range of multimedia applications. DVD technology also suggests the possibility of cheaper and more flexible video production. DVD video also creates a possible demand for high-definition television (HDTV), the market status of which remains problematic at this time, and will undoubtedly facilitate the marketing of computer games far more sophisticated than those available at the present time.

Electronic Cash, Electronic Money: Paying With Data Bytes An extension of banking processes such as automatic fund transfers and wire transfers, electronic money is currency in digital form that can be transmitted through open computer networks and systems such as the Internet and the World Wide Web, with home computers being an integral part of the process. Eventually with security reigning at the forefront of purchasing through vending.

Consumers will use these same systems to purchase goods and services from an increasing number of companies who joined the networks as they grow. Although there were initial concerns over the security of purchases made through these networks, they soon diminished as more and more consumers embraced the convenience and ease these systems presented.

Digital Credit Cards, and Checks, Stored-Value Cards (Smart Cards)

There are programs by which to transmit credit card information which serve as an interface between consumers and merchants, using encryption programs to protect the details of the actual transaction. Programs such as Cyber-cash for merchant affiliates and Cybercast which is designed to protect consumers against credit card fraud by keeping the actual credit card number away from the company where the order is being placed can be adopted to work in a vending operation.

. A similar program developed by First Virtual Holdings issues a "Virtual PIN" to customers to use in place of credit card information, eliminating the need for special software or encryption.

For consumers who would rather pay by check, virtual check writing programs are also available that draw funds directly from real bank accounts. Like other secured payment programs, special check-writing software creates an electronic wallet on the user's system. When ready to buy, consumers pay out of the wallet either by credit card or the program's version of a checking account.

Stored-Value Cards ("Smart" Cards)

These cards contain a microchip that is preprogrammed with a specific dollar amount. To make a purchase, the card is swiped through a special reader, which automatically deducts the amount of the purchase from the stored value on the card and credits the amount to the vendor's account. With added information embedded in the card, the card can become a restrictive card and/or a card that allows

additional benefits. Additional added features will include medical information, personal identification as well. Further the cards may include 3D graphics capabilities which will allow the user to experience 3D virtual worlds in real-time without jerky motion or blocky objects. Smart cards etc may use the concept of a Dial-Up Services (Dial-up services require that their customers pay a monthly subscription fee and connect to their servers using a modem-equipped computer. These services had email, reference materials, chat systems, and of course games) whereby the card has a predetermined amount of time on it in the same way as a subscription would be. This may work for best for part of the vending operation. A likely situation would be where you can play all the games for a month but you have to buy a product to enable the game play. Other wise there is a charge for the game as well.

Shared Tenant Services Shared tenant services (STS)

Shared Tenant Services Shared tenant services (STS) is an industry that bundles together a variety of services, such as local and long distance telephone, cable TV, and security and provides them to residential or office tenants in a building or campus.

As noted in this invention the inventor bundles together a variety of service potentials (such as the aforesaid), opportunities, products, etc. but in new and novel ways, providing methods and opportunities for the user, operator, owner, any or all.

The concept of sharing services and providing packages of services makes interfacing with smart cards in co-operation with vending opportunities most unique.

STS began in the true entrepreneurial fashion, with small companies providing bundled services to buildings or campus-like business and residential areas. Most real estate and property management companies don't want to be in the communications business and welcome the chance to divest themselves of the responsibility to provide state-of-the-art communication technology to tenants. Most people who live or work in a residential or business facility purchase services from a variety of companies, receiving separate bills each month from their service providers.

Types of services can include; local telephone, long distance telephone, toll-free numbers, calling cards, cable TV, and office or residential security. An STS provider consolidates all or some of the types of services into a customizable package and offers it at a favorable price to a group of people or a facility, such as an apartment house or office complex such services as basic telephone, cable TV, and security, STS providers are looking at bundling services for video conferencing, e-mail, data transmission, integrated services digital network (ISDN) lines, Internet access, and voice messaging. For business facilities, the STS provider can also incorporate copier services, temporary personnel services, and data and word processing — any services that could be used jointly by multiple tenants. In this invention one or more of the above can be bundled with the smart card thus offering premium opportunities for all involved. Once a vending operation is designed and equipped to handle the vast

array of electronic services, they move closer to being classified as an “intelligent vending system.” Ergo the name “**Smart Vending**”

Virtual Reality

Virtual reality systems use computers to create simulated environments that can be entered and interacted with by using special equipment such as goggles and data gloves. Again they can be supplied at the machine or personally buy the user bringing assistance and usability to the machine.

This is critically important to this invention, as it is now possible to take the user to an environment geographically, including but not limited to the exploration of future worlds, experiences using virtual systems, alone and/or combined with smell, touch, audio, product(s) and more. Virtual reality (VR) is one of the hottest research and development areas in the computer industry today, and now can be incorporated into Smart Vending.

Potential applications range from medical imaging and interior design to intercontinental videoconferencing and there are a number of ways in which virtual reality technology can be employed. Basically its underlying premise, however, is to create more intuitive ways for humans and computers to work together. Ergo it is a very significant part of the vending system.

Just as we have heard of experience theater we are now inventing experience vending, whereby various elements will be used to create that total illusion, such as the brain’s sensory channels and the body’s motor network. This again is what the inventor calls “**Experience Vending**.”

Cinerama created films that could employ the human senses of sight, sound, scent, and feel. Sensorama simulated all the sensory experiences of a motorcycle ride by combining 3-D movies, stereo sound, wind, and aromas. By gripping the handlebars on a specially equipped motorcycle seat and wearing a binocular-like viewer, the “passenger” could travel through scenes including California sand dunes and Brooklyn streets.

The importance here is the inventors vision of a medium that combined multi-sensory real and/or artificial experiences is incorporated into the invention.

Cinerama and Sensorama gave VR two of its most important theoretical and visual legacies, but artificial intelligence research largely formed the scientific platform for VR as it exists today.

One area of artificial intelligence research explored building better interfaces between people and machines. Sketchpad, the program, used computer technology to create images from abstract ideas. Using Sketchpad and a pen-like device, a computer could create sophisticated images on a display screen resembling a television set. The system responded by rapidly updating the drawing so that the relationship between the user’s action and the graphical display was clear. Computer-aided design (CAD) grew out of this. Following this was the development of technology that would allow computer users to actually enter the world of computer-generated graphics. Then came the unveiling of the head-mounted display (HMD), which took users inside a three-dimensional world by limiting visual contact to the

displays shown by small computer screens mounted in binocular glasses. Videoplace, one of several experimental artistic environments, used computers to create “artificial reality,” allowing viewers to interact with computer-generated graphics and projected images.

Artificial reality is adaptable to vending systems and their creative appeal to draw consumers to the system.

Researchers at NASA created pilot training system for manned space missions. This led to the development of the Virtual Interface Environment Workstation. It was the first system that combined such standard VR elements as computer graphics and video imaging, 3-D sound, voice recognition and synthesis, and a head-mounted display. A data glove, based on an invention designed to play air guitar, completed the system.

Most head-tracking displays resemble helmets, from which viewing devices are displayed. Instrumented gloves use sensors passing over joints in the user’s hand to measure the position of the fingers and hand. Special devices called trackers are attached to this equipment. They translate movements into coordinates, which are then fed back to the computer so that the model of the virtual world can be appropriately changed.

Now as it is possible to enter virtual worlds through a desktop computer, it is also possible to enter virtual worlds from a vending system.

You’ll Be There (Virtually) *From the June 22, 1999 issue of PC Magazine*

New technology will let anyone, anywhere, participate in conversations, take part in classes, engage in discussions, see live video, and more. Some of this exists today—in chat rooms and with limited video conferencing—but better virtual reality software, digital characters, and faster bandwidth may make virtual conferences much more like the real thing. For example, you’ll be able to have chats with virtual characters that look like your real-life teachers and classmates. This will have a major impact on everything including being incorporated into vending operations.

You May Wear Your Computer (Or It May Wear You)

Instead of pulling out a computer every time you need one, why not just wear one? Perhaps a device you wear like a hat, or it may be eyeglasses that can display a transparent image. Connect this with a GPS system and it can tell you where you are. Connect it with the right database and it might show you prices at the nearest market. Take this to the vending operation for expanded opportunities.

Porrazzo Advanced Membrane Technology (AMT) “It is hard to imagine that something that looks like “Saran-Wrap” can be turned into a speaker, let alone a microphone or an antenna”.

A new foundational telecommunications technology – a full digital capable transducer. This Advanced Membrane Technology is a thin film that can be a wireless antenna, microphone, a loudspeaker and sensor, simultaneously.

Using the Porrazzo Technologies will open up the world of new innovative vending machines/ opportunities, with their integrating systems and inter communicating abilities with other compatible systems. The Porrazzo Advanced Membrane technology US Patents No. 5,450,670; 5,377,359.

A principal technology involves creation, amplification and transmission of electromagnetic waves, especially radio frequency waves, described as membrane film transducers. A primary, practical application of the technology enables the penetration of RF waves in urban environments, non-line of sight situations, and even coupled to the earth plane. Intelligent, e.g. computer/software control and steering of the membrane and simultaneous transmission and/or reception at different frequencies is contemplated and has been shown feasible.

This technology will allow the transmission of energy waves through sound and light sources, resulting in the development and production of information systems and communications products. Applications of the technology involve assimilation, transmission and reception of information relative to sound, light and other carrier waves.

The Porrazzo Membrane has the capability of direct digital interface with computer systems, network applications including the Internet, flight and transportation systems, phased array systems, wireless communications, multimedia, medical electronics, as well as countless other commercial, military, and consumer applications.

For game play and vending machine interfacing using the Porrazzo System(s) (especially here the combination of sensor and speaker) which allows the user to generate on screen movement using, as an example, the movement of your hands to move objects on the screen while simultaneously from the same surface hear sounds.

Robotics

Robotics are advancing at such an amazing pace, and while today most robots are at work in large companies, doing everything from sorting and delivering mail to helping to manufacture products from cars to laptops. Soon they will begin to come home as well. With the understanding that one day you'll have a simple robot to help with everyday tasks-perhaps one that will take out the garbage when it's cold outside it is easily seen how important a role robotics will play in the vending system in multiple ways.

Computing Is Distributed

Tomorrow's computing will be distributed, with lots of computers of all kinds working together to share information, perform amazing calculations, and track all kinds of data.

Faster Memory and I/O

There's a trend toward larger caches in today's chips. In addition to large caches, an incredibly important objective, is to get as much fast memory as close to the processor as possible and to reduce latencies to I/O devices. We'll also see a trend toward System on a Chip (SOC) designs, which incorporate cache, memory control, I/O control functions, and even embedded DRAM in some cases. Mainstream notebooks (using external RAM), hand-held PCs, palm PCs, set-top boxes, and other information appliances are candidates for such devices. Another category, called chip multiprocessors (CMPs), will include multiple processor cores on a single chip. Set-top boxes, video games, and digital TVs are probable candidates. This inventor sees how CMPs will be able to be used in this invention by offering more flexibility of hardware, then software potential.

It is hopeful that we will have available multiple intelligent agents simultaneously acquiring and processing data from external sources, and systems that understand natural language. There are numerous scenarios this inventor could envision that would benefit this invention in total and or in part from multiple processors working simultaneously.

Further investigations of the following are to be considered as part of the evolutionary process to get to the present invention: vending machine(s) system and or the vending/kiosk system. The use of the following, but not limited to the following, technologies are also to be considered as foundational and useful to the present invention: vending machine(s) system and or the vending/kiosk system

1. Magic
2. Sensors
3. Illusions
4. 3-D
5. Billboards
6. Advertising mediums
7. Point of Purchase (POP)
8. Toys
9. Electronics
10. Artificial Intelligence
11. Neon
12. Radiant barrier technology (mainly that of NASA) and other technologies as all related to transfer of hot and cold/electricity.

The circus example:

The circus revolves around promotions and promotion is one of the key elements in this vending composite...the way in which each part is so carefully crafted as to not just interface but to promote the entity as a whole. The parts are important, but the summary of the totality of the parts can purport an even greater synergy.

Barnum believed in the line. "We ought to have a big show," the public expected and appreciated. But for everyone at THE GREATEST SHOW ON EARTH®, the real beginning is that moment when the lights go down and the show is just about to start. Anticipation! Expectation! 1. Just as a circus has multiple rings where the action is so it is possible in this invention. Certainly a circus is a grand theme that has existed for about a century. It is invented and conceived that the action, perhaps even the center ring, be the product production attraction...mixing, matching etc. of the product and the rest of the rings be a part of the action, but to a lesser degree and/or just for entertainment sake. Sideshows can even be the side panels of the unit and also be integrated into the theme whether they vend or not.

- a. Aroma of a circus, audio direct and/or via headphones etc. all are to be considered part of the invention.
- b. Regardless of the product vended the labeling and branding can match that of the machine. In this instance the Circus. All theme concepts, by originality, and/or by licensing are possible.

If a beverage is made then the perhaps the dispensing container etc. will be theme related. Las Vegas Example:

Understanding the glamour of a Las Vegas environment which can translate to new and novel vending machine systems in ways that are non obvious to those skilled in the art.

Casinos continue their evolution toward high-tech wagering with every applicable breakthrough in modern technology and it is conceivable that vending will follow the same path.

Gambling, wagering and/or the like are considered illegal to those below the age of 21 in the United States. To that the inventor is respectful.

Las Vegas with computerized slot machines with poker, keno, blackjack, bingo and crap games we also have license television show games such as Wheel of Fortune etc.

As an example only this concept will also serve to familiarize users, patrons with resorts, (Las Vegas in this example) whereby a geographical location can be promoted, entertainment provided, and even various types of school lessons can be learned (math, geography, information about cultures {where appropriate}) while also receiving a vended product(s) simultaneously, and/ or independently with the aforesaid be they related to locally labeled and/or produced merchandise or expanded.

Video Games Video Games of all types are to be considered in totality and/or in separate and/or multiple components to be part of this invention with and or without legalized wagering.

There are many machines of skill and chance to provide both challenge and entertainment for the player. Video arcades are full of mechanical devices such as pinball machines, basketball free throw shooting machines, and punching machines as well as a myriad of electronic game machines such as video games.

Arcade game players enjoy games in which their skills are determinative of their success and in which they have control over the operation of the game. A game in which the operations of the mechanisms are clearly predictable and readily discernable is attractive to the arcade game player providing a challenge to the player's skills such as hand-to-eye coordination and manual dexterity.

Therefore, and proven, has been the concept of a reward/prize in relation to a vending machine and specially when a game is involved it is desirable to have prize dispensing machine which provides the player accommodation whether he has won or lost.

US Pat. NO. 4,976,440 to Faith titled: Arcade-type prize dispensing machine... teaches that a game or prize dispensing apparatus and method which transfers prizes or objects from a lower position in the machine to an upper position of the machine, releasing the prizes and allowing them to freefall. The player attempts to strike or grab the falling prize by actuating a mechanism at the appropriate time. A successfully struck or grabbed prize may then be dispensed.

Vending machines to enhance skills while delivering product

Arcade game players enjoy games in which their skills are determinative of their success and in which they have control over the operation of the game. A game in which the operations of the mechanisms are clearly predictable, and readily discernable is attractive to the arcade game player providing a challenge to the player's skills such as hand-to-eye coordination and manual dexterity. To encourage play and vend it is considered by this inventor that it might be desirable to have prize dispensing machine aspect attached to the concept regardless on location.

Taking video games to talking vending machine

While in many instances talking is not preferential it may serve further serves many important functions as well. Language translators within electronics which allows one to give commands in any language that is programmed into the machine.

US Pat. No. 5,393,073 to Best teaches a Taking video game. The invention claims that it is an electronic system for simulating voice conversations between animated video characters and the system.

For children to talk to their favorite characters, learning better speech patterns and even hearing words in foreign languages can entertain while educate. Besides children react to characters and often times will listen better to their suggestions than a parents. Mickey Mouse asks me to drink this as an example.

Talking vending machines, especially with interactive voice dialogue capabilities can both entertain and educate, aside from their use for assistive necessities.

US Pat. No. 5,292,125 to Hochstein, et al. titled Apparatus and method for electronically connecting remotely located video games teaches that it is possible to integrate the co-ordination of a computer game from more than one location.

1. As applicable to this invention it is now possible that the vending machine with interactive gaming possibilities will not just be able to serve the just said but the game will be able to be played against the home company which fabricated the game, still retains ownership, has licensed to another entity, or sold or another entity.
2. This give much feed back not just to the linking of product with a game with characters, indicia, but moral concepts that that the company may wish to reach the consumer far cheaper, on a more one to one basis than advertising.
3. Further a reward for winning the game may be given to the consumer in the form of a free product from the machine, redemption via regular post or e-mail etc. This is a way for product companies to do good for you products with the association of all the aforesaid benefits. Many of our fast food companies Mac Donald's as one does many cross promotions with Disney as an example. The Nabisco Company® owns part of a video game company.
4. The game can be changed on the spot with new cartridges installed or via new direct port to recipient technologies, which may be controlled from a home base. The game can have different skill levels by which to determine the sophistication of the consumer/player.
5. It is possible for the consumer to purchase by any means sets of plays with products included for each play of a series of multiple plays. Now we start to reward especially kids in a sound manner for creating good for you products with entertainment and edutainment.

U.S. Pat. No. 4,053,740 to Rosenthal titled: Video game system teaches that a self-contained operator responsive video game system capable of generating a virtually unlimited number of games.

1. With the foregoing and other limitations and drawbacks of the prior art in mind, one object of the present invention is to provide a completely self-contained video simulator which combines a special purpose digital computer and a display system into a single unit dedicated to the purpose of providing operator interactive graphic simulations. The object here is to provide a programmable video simulator, which is capable of being programmed and reprogrammed to provide virtually an unlimited variety of games and other simulations each having its own operational rules and degree of required skill and difficulty.
2. Another object is to provide a programmable video simulator wherein a substantial number of circuit elements serve multiple functions.
3. A further intentions is to provide a viewer with an interactive simulator system that generates a high resolution visual display of controlled objects wherein the system is simple to manufacture, operate and maintain and uses far fewer components and is thus far less expensive to manufacture than other units capable of equally sophisticated performance.

Rube Goldberg (RG) Concepts:

Rube Goldberg showed through his inventions difficult ways to achieve easy results. While most machines work to make difficult tasks simple, his inventions made simple tasks amazingly complex. Dozens of arms, wheels, gears, handles, cups, and rods were put in motion by balls, canary cages, pails, boots, bathtubs, paddles, and even live animals for simple tasks like squeezing an orange for juice or closing a window in case it should start to rain before one gets home.

Rube's inventions are a unique commentary on life's complexities. They provide a humorous diversion into the absurd that lampoons the wonders of technology. Rube's hilarious send-ups of man's ingenuity strike a deep and lasting chord with today's audience through caught in a high-tech revolution are still seeking simplicity.

Whether it be licensing of RG inventions or other inventions with the same qualities there is a following and certainly visually externally and/or internally will be a mode of operation for vending.

Inventor's vocabulary:

4. Vending system to the inventor is to include a new and novel system within the machine as well as serial machines and/or to include the term kiosks working independently but related, multiple units consort, where you can approach the system and enter the system thereby and move to one or more places within the system, either in a linear, square, and/or a circular fashion, and exit through one or more ports. (The feeling of a surrounding environment)
 - a. Product may be tangible and/or intangible and range from water: to beverage, to food (anything consumed by mouth and/or enteral feeding), to personal health and beauty care and products, to accessories, to toys, to information, entertainment, information, education, gambling, contests, and/or the like.
 - b. The system may be indoors, outdoors, or a combination of both, meaning that part of the machine may be usable from the outdoors while a portion may remain indoors. Just as an example would be where a system is built into an exterior wall.
 - c. It is only necessary for one part to vend a product, which is delivered on site and/or designed for later delivery (regardless of means of delivery, the other portions can have one or more functions.
 - i. One might find this, as an example but not limited to the just said, where the vending system is built into the wall of a building much as are some of the ATM machines.
 - ii. The system may be accessed from either one or both sides in relation to carrying out a single function. This covers all ranges including but not limited to all the selections being made from one side and product is received from the same side and/or the opposite side. Each side can present entirely differently with any or all of the single and/or

combined parts of the machine but that they are tied together in some fashion and one "plays" off of the other.

- iii. The system may exist in the aisles of a grocery store so long as a buyer of a product cannot leave the store without payment.
 - (1) Especially critical with custom products
 - (2) It is possible for there to exist in a store whereby individual products can be vended and products selected from the shelves and paid for at one port of payment.
 - (a) It is invented whereby you can enter a venue that sells many products but payment is with one single transaction.
 - (b) It is invented here the terminology, motivational buying with the goal being that the more you buy the greater the rewards. Basically whereby that by one method of payment discounts are taken for the incremental amounts of monies spent, and/or rewarding is effectuated by any means.

Motivational buying is hereby invented to expand to the ability to enter a store with many departments and/or even a shopping center whereby your participation and/or you purchases total to one tab.

- d. There is no limitation on products, nor product categories as to the methodology of dispensing, be it from one machine or more.
 - e. There is no limitation as to size, shape, complexity, and/or any other limiting restriction.
 - f. It is here also covered here that a home version can exist and be filed by, as example the parents. This can be fun for recreational rooms parties.
5. Support Member is defined as anything, regardless of material, size shape, color, amount of parts and/or components, manually operated and/or power sourced, color, and or the like that brings forth one or more of the following: information, enjoyment, entertainment, edutainment, motivation to use the product, increases product chances of success, supports the use of the product (functionality), services advertising and/or promotional potentials, reward potential, serves to expose more products to more people, serves to sell more products to more people and/or the like.
 6. Smart Card for Smart Vending or Smart Experience Vending as defined by this inventor is a card, regardless of material etc. that has more than one function so that when it is presented to a system the system reacts in one or more fashions.

Summary of the Invention:

Invented herein is a vending system comprising one or more machines in one or more locations, using one or more technologies, which can communicate with each other and can transmit information concerning the vending system's activities to one or more parties, such as the system's owners, participating vendors and/or sponsor and the like. This vending system allows a consumer to create a customized product, one unit at a time or in multiples, which incorporates features or components chosen or created by the consumer. Product categories may include food and beverages, clothing and accessories, social expression cards, music delivery systems, and the like.

While one vending system is new and novel, the inventor also wishes to emphasize the expansive possibilities of interrelated systems.

An analogy might be that while one department in a department store may be unique, many unique departments are united in various ways in a specific area, regardless of size, placement or configuration, either indoors, outdoors or both.

Because these vending systems are modular, they can be moved, changed, expanded, etc.

Because many options within a system are digitally controlled, they can be changed by one or more operators from on-premise or off-premise locations. Therefore, conceived herein is a consortium of vending systems transmitting and/or receiving data to each other, locally, nationally or internationally, from one or more central locations.

This invention combines and/or encourages participation, active, passive, and/or interactive, to contribute an added, and/or perceived value experience for, the user(s) as well as the owners and/or operators, while offering the ability to buy and/or create a custom product for purchase, (tangible and/or intangible) regardless if delivery is immediate and on site, or later delivered to a real and/or cyberspace point of receivership.

New equipment allows for new business. This vending system focuses on the ability to customize products (more individualization) and for business the ability to introduce and sell more new products, broader range of the ability to test market new products, and also provide a broader distribution channel. One can easily go national within a vending system far easier than one can go through supermarkets etc. with the need of inventories and slotting fees, and co-operation advertising. Field of the invention

This invention provides for one or more of the following: multimedia features, new product delivery technologies, labeling, and packaging technologies, along with accompanying business models, methods, and opportunities whereby the system(s) dispense(s) products that are meant to work in consort, or systems that are to work in consort, regardless of the field of inventing.

This invention, vending system, presents a new and novel way of, what the inventor calls, vending convergence with ancillary opportunities. (Convergence as defined in the dictionary means to

meet at a point) The underlying summary here is to present totally new and novel ways of presenting product(s) components, multiple abilities to develop new product(s), enrich existing product(s) in an informative, creative, entertaining educating environment.

As vending operations do not require much hiring of personnel therefore affording more individualization at a lower cost while deviating from the one size fits all It affords, for an example, an individual and/or an entity to custom build a proprietary product etc. to be used as a prototype/resume, to accompany a resume presentation in the context of "here is what I can do", a contest entry, and/or any of the like.

This system will provide new and novel product(s) which arise from a new and novel opportunities, distribution of product(s) , business methods, models, and opportunities as related to product(s), information (disseminated and collected), advertising, promotions and cross-promotions, entertainment, edutainment (educating), communication, identification and qualification modalities, and /or the like. The vending machine system will include novel packaging unit designs, and/or already designed packaging unit designs but delivered, and/or used, in new and novel ways. Additionally having, independently or in consort, multiple capabilities employing multiple technologies which may fall into one or more of the categories of active, reactive, interactive; whereby multiple components of converging technical capabilities, regardless of modality, manually operated and/or in combination with one or more power sources, one or more power sources; even wireless, in part and/or in whole providing for and/or for the delivery of product(s), promotions, advertising, entertainment, education, entertainment, and/or the like.

For the most part, vending machines do not offer a complete range of possibilities in a systematic changeable and/or interchangeable system, context, and environment, delivering real product(s) intangibles or both while influencing users in a positive motivational fashion.

We have a society where, because of mainly advances in electronics consumers are use to so many choices, the ability to combine technologies to have the competitive edge, ergo for personal care and also for profitability. We also know that we are a convenience-based society whereby ease of use, multi-functional opportunities and convenience as a time saver is critical in doing business today. In an age of advancing technologies where a multiplicity of functions can happen from a small hand held unit we look at these giant machines and know they can do far more.

The opportunity for a single individual as a consumer or an owner is enormous opportunities. (even a child or a health challenge/ disabled person), multiple individuals, as well as the smallest organization to Fortune 100 Companies worldwide; to initiate all that is present in this invention.

This invention is geared to provide more equal opportunities and provide more power and control to the individual as there are no huge financial barriers, ethnic prejudices, while providing for more customization, satisfying more needs goals and desires. f we look at just nutritive additives to

water, beverages of foods we can see this. An example would be where you go to buy orange juice and you can have orange juice with one or more of the following additives, calcium, vitamins, minerals, and fiber. Not only is the consumer confused by this fractionalization, it is very difficult for supermarkets and the like supermarket such venues to carry so many choices. Shelf space is at a premium and eye level space is at an even greater premium.

In this invention new products and/or product options have a greater chance of success and they are not buried within the system. Further more information about each product is provided on a display or a print out.

For the inventor the understanding of the beverage business is important with the cost of bringing a Ready To Drink Product to market where shipping alone is eight pounds a gallon. This is not even including being bottling plant dependent. Additionally stores do not have shelf space especially for cold space. So to add an enormous range of products in restricted environments such as movie theaters, on airplanes, on trains, on a ship, food courts, fast food, convenience venues, school and hospital cafeterias and/or the like is virtually impossible.

In recent years single stores or chain operations have opened to sell coffee with all kinds of various additives and creative blends. The most known chain is Starbucks® which in addition to all their coffee options has expanded to tea options. There are now chains of juice and smoothie stores carrying fresh juices, blended juices, and smoothies with the potential of adding additional health related additives, such as ; minerals, vitamins, energy enhancers, protein, soy, fiber, and/or the like at the cost of about \$.50 per shot. The result is that the consumer now has a customized product, by their design, to address their needs and/or desires.

If one looks closely one will notice that the coffee etc. houses are not appropriate for children and/or even teen-agers for the obvious. The juice establishments are really not for children either, if for no other reason than the density and intensity of the product offerings, and/or the size of the portions served if one was not to waste.

On the positive side these coffee and juice/ smoothie operations have been able to also address a space restraint problem as more diverse products (combinations) can be produced in far less space as compared to the stocking of RTD drinks. The inventor has just described very successful operations in the drink/liquid category which illustrates the consumer wants variety and is willing to pay for variety, and has exemplified the tremendous business booming around customization.

On Customization

Consumers want to customize products and/or information in the same way as they personalize their computers. The inventor here calls this the "consumer in charge generation" This consumer in charge element provides, besides personal control, a competitive edge, a deeper motivational reason to use the machine, ergo a sound business advantage over competitors.

Customization, while most desired and even needed has not been available, mainstream, and if so with a very high price ticket and only affordable by those of means.

As related to the just mentioned coffee/tea and juice/smoothie establishments one has to patronize them and that means that the aforesaid establishments have to have an investment in real estate and at only certain well populated locations. Sometimes parking costs alone are equal to, or even more than, the hefty price that the product(s) the consumer buys in one of these venues.

This system allows, not just customization and/or the ability to address target specific desires, needs, health challenges and/or the like but to provide the just said in more locations for a lower cost with more options.

A main goal of this invention is to provide easy access to customization, at a reduced cost of custom of product, dedicated to the mass-market consumer, while at the same time be profitable for the manufacturer.

With the discovery and introduction of many more healthy ingredients to the marketplace it is known that these ingredients need to find a home within a finished product.

This inventor looks at these machines as mini personalizing factories playing to customization and also with the opportunity of affording positive motivation to double reinforce health, safety, and satisfy the customer.

With a smart card, which has or has not and financial transaction abilities personal information can be imbedded that will allow "extras" and/or restrict/prohibit certain activity. It is a serious goal of this inventor that this invention, vending system, accentuate the positive and, if and when possible, provide reward(s)/compensation for those who make healthy and/or healthier choices.

Translating Abilities

With the world, and especially the United States, being populated with so many from foreign lands who are living or traveling here (non-English-speaking), along with the hearing challenged (deaf), having information made available from these systems in audible English is not user friendly to this population. This invention is expanded to include the showing of movies (film), television, therefore broadcasting of all audio visual mediums is also to be considered an "add-on" item to the vending system.

The invention is further expanded to visual language without audio, and covers any territory whereby technology allows, through glasses, or using electronics, the opportunity to read indicia, mainly text language, in one or more languages and/or images not visible to the naked eye, such as a sign, a hang tag on a garment, and/or the like.

It is therefore an object of this invention that there be special consideration for the aforesaid using embedded text, and/or simultaneously broadcasting readable text in one or more languages at the same time which is not visible to the naked eye.

For illustrative purposes, referenced here is the use of 3-D glasses, which transform an image from what is seen with the "naked eye," adding dimension.

In an audio-visual production for the deaf, this invention presents whereby wearing glasses permits text in one or more languages (and perhaps some images which might have meaning to those who speak one language that would be better expressed with different images for those who speak a different language) to be visible so that they can read what others can hear. This would allow a deaf person to go to the vending system and participate just as a non hearing impaired individual would be able to do.

In the movie format, a deaf person can sit next to a person with normal hearing so they can equally enjoy the film. The hearing individual will hear the words and the deaf individual would be able to read the words, closed-captioning, symbols etc. through the glasses. They can enjoy the same production with the only differentiating factor being that the deaf would wear glasses.

The above also applies to anyone who does not speak the language of the audio portion of a presentation. It is conceivable that, as an example, 5 people all speaking different native languages attend the same production and by wearing the glasses they each can have their language of choice be made available on an individual basis. This plays into the overall theme of these systems, which is customization.

Printed text, on such things as hang tags or advertising, could be printed in such a way that multiple languages are embedded in the printing and only one is visible at a time, and the glasses adjusted in such a way that the glasses screen out all but the text in the desired language. It is also conceived that items such as the above which are currently printed using paper and ink might in the future comprise programmable displays with which the glasses could interact to select the appropriate language.

From the production side this will allow more features to be seen by more people at the same time as one travels the globe or does not know another language especially of the country they live in.

For educational purposes this invention serves as a tool for learning another language. If another language is being learned the student has the option of hearing the language desired, and images, along with reading the corresponding verbiage in a language they understand.

A possible means, but not limited to this methodology, would involve the use of one or more electronic devices (computing), and if this invention is for movie/television watching, then it is conceived that the visual portion would be projected and the subtitling would be handled by the computers. The glasses would denote the language(s).

Programmable glasses may be made available for one or more languages/purposes etc. by a venue for free or for a charge. A proprietary programming format may be used so that, for example, glasses usable in one movie theater chain will not work in another.

Another option is that an individual have his/hers own glasses and if needed have their personal prescription built in.

Another object of the invention is to converge the technologies of music, with or without visuals (still images and/or video), along with the principle of advertising, promotions and cross-promotions into a finished product with or without the vending of an actual product.

An example would be PepsiCo's contract with Britney Spears.

This also provides additional job opportunities even for the disabled as that health-challenged individual might only have the responsibility of stocking the unburned non-scribed cards, CD's, DVD's and/or the like.

In addition to normally considered real estate appropriate locations this opportunity will open up (as do other parts of this invention) target specific and appropriate locations. According to this example placement such as a music store (chain, co/partnering like Blockbusters® Tower Records) is very appropriate.

It also serves to bring in customers who hopefully will shop and purchase more merchandise.

The model:

1a. An existing album is produced with a pre-recorded song/jingle advertising the company's product (Pepsi) and when the album is purchased Pepsi can offer a free drink.

1b. When the drink is purchased compensation may be adjusted to reduced cost for the purchase of the album.

2. It is conceived that a customer be able to take an album which only contains the prerecorded advertisement and then from a selection of Britney's material customize an album. (The above drink combination of beverage with purchase interfacing may or may not be a part of this version.)

3. Conceived that the pre-recorded be a message and not a song or a jingle.

4. Conceived that one or more of the following be used and/or used in combination on the album one or more times according to the discretion of the owning company.

5. Conceived that any of the following or more than one combination of the following message, jingle or song be repeated one or more times, sequentially or at intervals, whereby any artist can have material selected by the customer and or pre-exist on an album.

A message may be a charity information, etc. This obviates compensation for the product with or without the delivery of a vended product from the same or different company (cross promotion).

Any other recording artists whose work is available in this machine (through this venue).

Way to promote new talent

Customer may add own recording to the composition.

Follows same as rest of this invention as far as duplicating etc.

May add photo opportunity.

This presents a co-venture and can include even more additional relationship activity such as the venue. If in a chain specific venue, if a photo addition then with a photo company such as Kodak® company, the recording company for which Brittany is contracted under, the computer company whose programs and hard drive and software are used, and/or the like. If a photo potential then there can be the restocking of appropriate materials needed etc.

If a recording artist want to know what songs are the most popular for the production of an album then this is a test market business opportunity while making money at the same time. This inventor has repeatedly, through many of her inventions used test marketing to pay for itself in, part in whole, and even for a profit through broad channels of distribution.

It is an advertising amortization opportunity for PepsiCo in this instance in many ways, one being that the cost of paying for her representation comes back through selling her image singing etc. Also by bringing in other sponsoring companies they can be charged proportionally as one would be in acting as a landlord to participate. It is confirmed here that while this is directed towards a disabled intent it is not limited to. In fact it is a perfect opportunity to give an average person a chance at being a business operator.

Objects of the Invention

To avoid unnecessary duplication of many of the same options provided by this invention, the inventor notes that any machine/system may incorporate applicable features interchangeably with any other invention (machine/system) contained herein.

2. It is an object of the invention to provide a personal medical and/or data card with selective/restrictive purchasing abilities:
 - a. Provides for a personal medical data card (item) that can be read by the machine by any means.
 - i. Restricts and/or prohibits the vending of specific items and/or additives for health reasons (example: diabetics, allergies, contraindications to medications etc.)
 - ii. If the product(s) vended meets the requirements for any credits/reimbursement (insurance, etc.) it will be automatically deducted from the cost of the product, and/or provide a method to issue documentation so that the user can use it appropriately. (examples: print out a receipt, transfer data electronically etc.)
 - iii. The card can also have any payment ability.
3. It is an object of the invention to provide a point of location for emergency and/or medical assistance (911, fire, police etc.).

- a. Provides for one or two way communication (send a signal/ automatic connecting with open channels to an emergency operator). The data on the card can be retrieved by the attending Emergency Agency/Aid, regardless of form, and/or forwarded to a medical facility.
 - b. If the machine is stocked with emergency medical aids such as insulin etc. there may be emergency functions, which will permit dispensing (obviates the need for close monitoring and controlled rules).
 - c. In addition to general uniform emergency contact abilities, the card may have the ability to contact any entity for which it is programmed (especially valuable for children, seniors, and the health challenged).
 - d. In addition and/or in place of restrictions, rewards for healthy selections may also be programmed into the card.
 - i. While the user (such as a child) could be prohibited from buying certain products, due to any restrictions, they may also be rewarded for a healthy selection, positive reinforcement. (the reward might be the ability to play a game for free)
 - ii. Seniors too, may have restricted cards as governed by their doctor and/or health care practitioner.
 - iii. Restrictive cards especially those that are health challenged, and/or language challenged, and/or those with specific needs and/or those on medications are most needed. (product labeling has importance but also might be very challenging and/or not provide enough necessary information)
4. It is an object of the invention to use personal, body part, recognition for activating system and/or verifying identities.
- a. Far surpassing codes cards and/or the like(which can be stolen or passed around) other means of identification might be used such as fingerprint matching and/or eye recognition.
 - b. Fingerprint recognition (every print that touches the machine may be recorded) will allow the potential of finding lost children or catching criminals by tracing them through the vending system so that lost children, criminals, etc. can be traced through this vending system.
 - c. Same premise with eye recognition . (recorded when in front of the machine making a choice)
 - d. As in a very large amusement park a child can have a card for that park which allows that child privileges to use the vending and access areas and rides. (child tracker such as at a place like a Disneyland®) but also to train a child that if lost he/she can go to the system to be identified and whereabouts discovered.

- e. Value in locating criminals and/or track their usages as criminals are on the run might be more apt to using vending machines rather than go into an establishment whereby they might be recognized.
5. It is an object of the invention to create a vending system comprising one or more machines in one or more locations, using one or more technologies, which can communicate with each other and can transmit information concerning the vending system's activities to one or more parties, such as the system's owners, participating vendors and/or sponsor and the like. This vending system allows a consumer to create a customized product, one unit at a time or in multiples, which incorporates features or components chosen or created by the consumer. Product categories may include food and beverages, clothing and accessories, social expression cards, music delivery systems, and the like. EXAMPLES (partially described here or fully described here):
- a. Cooking, as an example, whereby to purchase all the needed ingredients spices etc. for a one person meal might be very expensive and/or then much may go to waste.
 - b. Jewelry, such as a charm bracelet whereby you can select the bracelet and buy one charm at a time (in craft stores you have to buy sometimes a bag of several when you only need one).
 - c. Entry in more than one form of identification and/or a combination of identifying means may be required.
 - d. Provides the customer has the ability to observe as well as listen to the production process by having the ability to watch the process occur on a video screen and/or hear information through an audio system. Also the ability to watch through a clear panel most likely glass or a composite of clarity.
 - e. A greeting card, also called sometimes a social expression card, vending system combined with personal photo machine, and /or the addition of sound into this greeting system with advertising, promotional, and/or reward opportunities. Further with the ability to make one or more customized units on and/or off site.
 - i. With consideration to U.S. Pat. No. 5,056,029 to Thomas G. Cannon, (Onkor Ltd. (Loveland CO), titled; System for printing social expression cards in response to electronically transmitted orders. The Cannon patent discloses a method wherein a customer is queried to elicit responses, in the form of occasion parameters, each of which relates to the customer's intended purpose. This invention provides an efficient means for storing many different types of social expression cards and for retrieving and displaying those card designs which match a customer's criteria.

- ii. Just as websites have banners that advertise it is possible for these cards to also include a huge potential for advertising, promotions, rewards, and /or the like to be part of this new invention. Companies are always looking to advertise (reach consumers) in new and novel ways . While sometimes brand placement is various obvious it is also conceived that it not be as obvious (as direct in your face)
- iii. Greeting cards as a vehicle for incorporating advertisements, etc. with any type of indicia(Examples would be if there is a replica of a rendering a child children are eating this is a place for product branding and/or product placement without compromising the visual of the card or compromising the integrity of the product.
- iv. Other examples would be a subliminal logo imbedded or the like (CBS lower right corner their logo on their TV channel) Also for cross advertising with a compatible joint venture company (Disney and McDonald's as an example)
- v. If a company has their brand tied into a personality of recognition etc. they both can be incorporated into the card. (Naturally royalties will be commensurate id used.)
- vi. The customer may have her/his picture taken and that picture be incorporated into the product with or without indicia, advertising etc. potential.
- f. One can bring any art and/or picture to the machine to be scanned into the system to be incorporated in whole and/or in part into the finished product.
- g. There can be a combination of scanned art as well as real photography
- h. A single unit may be produced (perhaps considered a master) which can be duplicated by the entity owning the equipment, or by any contractual agreement, on site or at another location
 - i. Good use of this would be in holiday cards whereby the item produced can act as a master to be duplicated by any means for the purpose of duplicating in quantity. (Please note objectives of photo opportunities)
 - ii. System can relay information to an off site reproduction facility for immediate or future duplication (royalties if called for will remain in place for duplications).
- 6. It is an object of the invention to personalize the photo opportunity.
 - a. Any graphic technology is considered to apply, including but not limited to 3-D, rotational abilities and angle shootings, shadowing, silhouetting, etc. and these images may be directly used on any surface and/or be transferable to an object by having the backing and/or any other ability to attach, by the requirements of the process.

- b. Printing can be in relief, for artistic purposes or for such purposes as marketing to the blind (which may or may not incorporate Braille).
- c. Personalized information introduced by the buyer can be duplicated so that for each use the personalized information there is an additional charge opportunity. This is very applicable for the visual as well as the audio market.
- d. The personalized information introduced by the buyer can be so introduced by interfacing the machine/system with a compatible storage medium or device, such as a disk, personal digital assistant or the like, with or without additional charge.
- e. By incorporating other technologies into its base product, a company can expand its product line. As an example, to add sound to greeting cards, Hallmark® can contract with audio companies for sounds, or other media companies for other material, or it can expand into audio or other media businesses as the owning entity.
 - i. Making a totally new composition card (calendar, diary, etc.) or any object that is based on a Hallmark property or a joint business effort can be made from a stand alone machine and/or is part of a larger system, regardless where it is placed, for cross promotions and/or to amortize costs.
 - (1) This card (etc.) can printed-out on the spot, or sent remotely, as a single card, and/or serve as a sample for mass production to one or more facilities on a per need per project basis.
 - (2) If the item is not generated immediately it can be produced and sent to the user-decided location(s).
 - ii. One can use an existing Hallmark format or a totally personal production, or a combination; then if desired the material can be altered by the user within the limitations of intellectual properties and/or permission-giving devices (payment or other qualifications etc.). This card (designed unit) can serve as a sample for mass production and/or sent to the company as a proposed product for their use.
- f. This also serves a business model whereby a company such as Hallmark can use this opportunity to get their own and/or shared mini-satellite venues with their own brand and/or share the opportunity with a compatible entity...ergo their name gets out in more public aware venues.
- g. Additionally, Hallmark may have a stable of personalities whose images are in the machine and/or available via the Internet.

- iii. An individual's photo may be incorporated in the product with the personalities, therefore generating multiple business opportunities. Stars can get royalties on a contractual basis directly and/or have them totally or partially deferred to another entity, like a charitable organization.
 - (1) In some instances the "star" might also be a recording artist for which the user may decide to use on or more than one option. There might be the need for compensation to the agent and or the recording company, movie studio, etc.
 - h. Enhancement properties, such as aromas or customized audio, can be added to the photo experience, either immediately per the capabilities of the system, or as a special order, in which instance the company may choose to send a sample for approval before the order is filled.
7. It is an object of the invention to have a photo machine/photo booth, with or without sound capabilities that may, or may not, add audio to the finished product regardless of the technology, and which work in consort, tandem, simultaneously, at random, or any single or combination of the just mentioned, with the vending machine(s), with or without any other part of the invention also being included.

Photography and the photo machines are a part of our culture. The black and white photo picture-taking machines, whereby the user would get a strip of four pictures, was the beginning of a new wave of photo machines. Certainly bringing in color and variable sizes in the photos, and then with the addition of interchangeable back drops, to frame the user with an additional image, which the consumer can control/select, are public domain.

- a. It is the invention here that one or more companies can have the backdrop related to their corporate image, their spokesperson(s), and/or the like, available in the photo machine and thereby incorporated into the resulting images generated.
- b. It is invented here that the final product created may be realized on any medium which can either be stocked within the system (such as labels, iron-on transfers, etc.), or ordered for delivery to the buyer later (such as coffee mugs or any large quantity of a printable item).
 - i. Example as in the situation of a photo label for a canned soft drink.
 - (1) The photo chosen is dispensed exactly to the shape of whatever item the user chooses -- in this example, a can of soda. Now the user puts his/her picture (or the pet too) on a can of soda. If used with the company signature, say PepsiCo, then there will be PepsiCo advertising. The cans can become collector items; therefore

they will save the trashing and "garbaging" the planet. PET bottles especially are cause a big problem and many dollars to clean the environment.

- (2) Further, if this drink is dispensed cold, the label may be backed with a foam and/or an appropriate material (for the same price and/or an additional price) of a cold retention/or a heat retention material. The drink will ultimately stay cooler and or hotter longer with the protection, which is a part of the inventiveness of the label.
- c. Pricing is up to the company whereby a picture can be so much, additional for text, additional for sound...builds a consumer product with extras (like buying a car and adding on the additional features). Even given for free or any other type of business arrangement apropos to the circumstances and out come.
- d. The image can also, for the same price, additional price, etc. be constructed so that it can be transferred to any item such as a tee shirt, a coffee mug etc. The buyer will need to specify transfer product so that the printing can be appropriate (size graded), etc. Because the same image is to be used on a variety of items, the cost of creating the image is amortized over the cost of all the items generated.
- e. Depending on the transferring capability of the machine/system and/or the availability of desired components, the image may need to be electronically sent to a factory, where the product is made and then delivered or picked up by the customer later.
- f. It is also considered to be a part of the invention, whereby the user may have a choice of more than one image, text, sound, which can be selected from a display.
- g. Also invented is that the customer be able to see the picture on the item and authorize approval, thus giving the consumer a more realistic view of the to-be-completed work.
- h. Also invented is that the consumer may receive "on the spot" a printout of the image created and/or a picture of the final product which includes the image created, with the product be received later on, by delivery or consumer pickup. This allows the customer to go home with the picture immediately while waiting for the product. This printout may be included in the purchase or offered for an extra charge.
- i. Sponsoring corporations using these products as an advertising medium may absorb part of the cost of the product. Thus, if a consumer elects to use one or more corporate image on his or her item, the cost of the item to the consumer may be lowered or, theoretically, even free.

- ii. The resulting image will put the consumer-selected image in the same frame as a company's image, thus creating a bond in the consumer's mind between the consumer-selected image and the corporate image.
- iii. This resulting image can be sent to the company electronically, or by any means, for the purpose of being used commercially under guidelines accepted by both parties. Thus, the machine can be a way for the company's promoters to discover new talent.
- i. It is the invention here that one or more companies can have text relative to their corporate image, their spokesperson(s), and/or the like, available in the photo machine, and/or offer the user/buyer the option of creating his/her own messages.
- j. Additionally, text can be a replacement for a design, and/or added to the backdrop design along with the photo picture (the user's choice).
- k. There can be choices of text messages and/or the user can make up an original text message.
 - i. If the user makes up the text message then it can be stored in the computer so that the company can see the messages that have been created, with or without the originator's contact information.
 - ii. Can provide a company with original talent for which they would normally pay ad agencies serious dollars to create. Further, they can compensate the originator if the message is used.
- l. By offering a selection of corporate-generated messages, the company can test-market those messages, alone and/or with the photo selected. This is so valuable to a company in relation to picking a slogan, a message, a log line and/or the like....serves as a test market.
- m. A company may offer a product for free or for a reduced price if the user completes a customer survey, with the option of identifying himself. Thus, the company creates a database of valuable marketing information.
- n. There can be different fonts, different sizes of fonts, different colors, bolded, italics, and the like, which are created by the machine under the user's choice and design.
- o. While a consumer is engaged in designing his or her customized product, a company may offer the opportunity for the consumer to purchase another product, such as a beverage or snack. In exchange for marketing information being collected during the process and by virtue of the consumer's choices, this secondary purchase may be offered either for free or for a reduced price. The secondary product may be delivered by the same machine or by another machine in the system.

8. It is an object of the invention to create feedback for test marketing, for example, of new products, new concepts, new designs, product introduction into a new market and the like.
 - a. This is possible because:
 - i. the vending machines/system can provide feedback to the vendor company;
 - ii. the location of the machines/system can be readily changed;
 - iii. the vending machines/system can be reconfigured easily and quickly so that a product can be sold more easily than in a traditional venue; and
 - iv. an immediate reward can be offered to the consumer in exchange for his/her participation in the test, such as a free or reduced cost product upon completion of a product selection and/or survey.
 - b. For example, in advertisement background, company can test which movie star or Super-hero is preferred, by having several different ones in the machine for the buyer to choose.
 - c. This is a tool of value for the company who does not know whether to spend money on a costly license or the hiring of a super star and/or spokes person.
 - d. Also important for ethnic preferences.
9. It is an object of the invention to make one or more personalized postage stamps from any appropriate venue.
10. It is invented here that there exists the potential of vending personalized postage stamps with the image of the individual on the stamp from a Post Office location and/or by a company endorsed by and working with the Post Office of any country. The price for this produce would naturally include a premium beyond the price of the postage, and will serve to enhance the revenues for the Post Office (of any country) and /or the printing company designated by the Post Office to own and/or operate the machines.
 - i. The Post Office can set one or more features of the resulting stamps as an authentication means, such as approved paper, ink, perforation pattern or the like.
 - ii. The personalized stamps can sold in any quantity and in any denomination or combination of denominations.
 - iii. Method of operation may vary using the technologies by those skilled in the art. Guidelines and/or similar are considered to be invented here.

- iv. From a home computer one can send a picture to a company for reproduction on a medium with the appropriate authentications means, and payment as requested by the modalities accepted. Then the stamps are sent to the buyer.
 - v. Additionally one can pre-buy the materials needed for authentication, and print the stamps on home computers, office, etc.
 - vi. However, one can go into a vending picture booth and order the same, by taking a picture on the spot, or bringing a picture to the booth and feeding the image to the machine and the image is printed out the medium with the appropriate authentication means.
 - (1) The backdrop of a company for product identification may be used and perhaps the stamps are discounted.
 - (2) Certain star personalities may lend their image into the photo stamp process, for royalties, charity or the like.
 - vii. From any appropriate venue, stamps for use in another country can also be generated, by any means, assuming availability of the medium with the appropriate authentication means.
 - viii. Certainly this will create business for the Post Office, as there will be individuals who will continue and/or go back to mailing letters to use the stamps. While it may be a gimmick it is very valuable to the Postal System in increasing revenues.
 - (1) One can conceivable make postage, which is related/appropriate to another countries monetary system.
11. It is an object of the invention to make personalized currency from any appropriate venue. Just as this is invented for the postal system, it may also apply to money.
- a. One can pre-buy the paper or other medium containing authentication means from the bank and/or any appropriate institution in person or as in mail order.
 - b. The government gets the money purchase, then the user can print whatever is desired on the authenticating medium, so long as the denomination is clear, accurate, and appropriate to all governing laws.
 - c. This can be incorporated into objects which are not currency but have a monetary value, such as chips in a Las Vegas casino.

- d. This would allow the printing of foreign currency as well, so in anticipation of travel one could print out money in advance.
 - e. This can be generated from a owner/user port and/or a public machine.
12. It is also invented here a vending system for the making of a *sponsored* personalized media collection product containing a consumer's selections, as with a jukebox, from digitally stored music, entertainment, educational programming, still images (including picture, graphics, text, and/or the like individually and or combined in any fashion), audio only, and/or a combination of any of the above, *and also* containing advertising from one or more sponsoring entities, either at a single point or interspersed throughout the medium.
13. In "background of the invention" many technologies are referenced. This object claim portion is based on the original concept of a jukebox, whereby many musical selections are stored and a customer can, for compensation, make selections. This invention makes background use of this principle only. We are very aware that the world is going towards customization, and that many problems have existed, and do exist, with the illegal infringements of copyrights and intellectual properties and/or the like. An example of this is in the music, television, entertainment, and/or information business whereby from any of the broadcasting of the just mentioned an individual can duplicate without re-numeration for the owning entity. One of the problems, aside from the illegality of the just said, is that with duplication technology, often the quality is not professional. Another is the time it may take to make say a personalized cassette where you have to start and stop many albums, or wait for them to be played publicly, etc. to create your personalized product. This invention solves all that and more.
- a. The collection can be delivered to the consumer in one or more copies.
 - b. The collection can be made and delivered instantly, or sent to the consumer later.
 - c. This is a new business opportunity and model and method whereby an artist, recording, and/or the like gets paid royalties per selection.
 - d. This is a new business opportunity and model and method whereby an artist, recording, and/or the like can be featured (promoted, advertised) in any fashion. As an example, there can be a reduced cost to the consumer for the product if the consumer picks a selection from a new category of artists in a special section.
 - e. The recording company can use this method before they sign a new artist(s) to their entity.
 - f. This is a new business opportunity and model and method whereby it is a test marking opportunity for a new artist(s) to test their material.

- g. This is a new business opportunity and model and method whereby it is a test marking opportunity for an already popular artist(s) to test new material.
 - h. This is a new business opportunity and model and method whereby it is possible to create a machine specifically for the featuring of unsigned talent.
 - i. This is a new business opportunity and model and method whereby the machines/system can serve as a miniature talent agency whereby the public decides if they want to buy, who they want to buy, which of their selection they want to buy, if more that one selection is by an artist(s) is presented.
 - j. It is conceived that the user/buyer makes a choice and then it is transmitted to that individual's web site, e-mail and/or the like so that it is retained in that venue, as well as being delivered to a physical address.
 - i. This must be handled carefully as there are artists right and the best modality would be for a one time use.
 - k. It is conceived that for multiple uses a duplication charge be in order.
 - l. It is conceived that if there is not an immediate duplication charge then the company is contacted and they send the amount of duplications requested with the correct charging. There might be a sliding scale for larger increments of purchase and/or the like.
14. It is an object of the invention to provide an expanded franchising opportunity that provides all the opportunities that a big companies have to an individual person.
- a. The franchise, comprising the vending system, can be moved to another location.
 - b. The system can be cost sensitive and more modules (machines) can be added if successful. If it is not successful in one location it may be transported to another location. Further it can exist within the confines of a trailer and be moved with very little commitment.
 - c. The vending system, because of its unique features, provides unique opportunities for franchisors.
 - i. Product diversity
 - ii. Expansion
 - iii. Customizable, by module, by products
 - iv. One franchisor's system can communicate with another franchisor's system for mutual gain.

- v. Not only does the buyer have the opportunity to buy one item but by the ability to duplicate this is added business for the owner of the franchise.
 - vi. Vending in general is not labor intensive, may be open 24 hours a day and function even on the days the sun doesn't shine, thus reducing the number of employees.
 - vii. Products can be interchanged within one machine (sodas can go to snacks). This allows the proprietor flexibility in merchandise.
 - viii. Many franchises can use one duplicating facility as a sound economic business model.
 - ix. The machine configuration can be changed or even moved to another location if production is not up to par.
 - x. Such an opportunity can attract a greater audience as well as provide more changeability and mobility.
 - xi. Provides opportunities for new product introduction as well as consumer visibility as compared to going into a store with slotting fees and so many units necessary to fill the shelf.
 - xii. Opens up opportunities for new and more distributors.
 - d. Promotes entrepreneurship: As more franchises open, more distribution opportunities, product display opportunities, and more jobs are created. More people are able to have their own unique business.
 - e. Can start out very small with one system; as it becomes profitable, more modules can be added.
 - f. Units can be set up in other countries.
15. It is an object of the invention to use this system for sample-making or prototyping.

Many countries encourage inventiveness, especially the United States. However, many designers are hampered in their ability to design products because they do not have the funds to set up a situation that is cost-effective for sample-making and/or production in what will at first most likely be limited quantities.

This machine(s) may make one or more samples, easily allowing for the change in the composition of the product, may offer a copy of the specifications (in printed or digital form) of the sample product, its components, pattern and configuration, retain the specifications of the product in the machine for duplication, transmit the specifications to any entity, date- and time-stamp the conception of the product, produce one or more samples or even short runs, allow for the product

to be duplicated in larger runs by a manufacturing entity, order quantities to use personally or distribute as promotions, sell and/or any combination to test consumer compliance and/or acceptability.

These machines may or may not be tied into a central data informational bank, regardless of where they are in the world, so that when a product specification is recorded, "first use" or "first disclosure" is established for the inventor.

The system can identify (1) suppliers for materials and components and (2) production facility options. Using the vending system, suppliers and manufacturers can be contacted immediately and bids submitted for even small production runs.

Then, if the product is successful, it can be introduced into the consumer marketplace through any channel.

16. It is an object of the invention to provide a vending system, be it in one machine, multiple machines, and/or what is commonly known as kiosks (whether they be ones that you approach and/or enter as an entertainment venue) which may be attached to another object(s) and/or stand alone, whereby there may also be one or more ports of entry, for one or more persons to form a surround-around vending system, and/or elongated system, and/or any footprint and/or any size of amount of components dispensing, in whole or in part, vended items from the same category and/or separate categories, be they related or not, with all user interfaces having a consistent format for ease of use.
 - a. The vended product may originate (be made) from a home computer and/or an electronic device. The final product may be tangible or intangible and delivered in any means be it immediate and/or in the future. Just as in any duplication, there is a cost per unit and if the invention is distributed to more than one recipient the cost will increase proportionately. To reduce the possibility of illegal copying measures can be used whereby tracking many options are available.
 - b. Said system dispenses items that are put together, combined, and/or the like, inside the machine and delivered immediately and/or sent to the consumer at a later date, directly, and/or for the consumer to "pick up" at a designated time and place.
 - c. Said system may also dispense one or more parts of a total product, to be put together at the time of vending, and/or to be taken to another location for future assembly.
 - i. Example beverage/food:

- (1) The machine may offer recipes and/or what would be considered formulations from which the buyer may choose the exact duplication and/or make personal alterations.
 - (a) Just as we have smoothie shops that give you a selection of potential combinations then additional "boosters" at an individual price.
 - (2) Can buy water/beverage with different additives, separately, and as many as the buyer wants in unit doses in relation to the size container.
 - ii. Example: decorative pins, patches, appliqués, jewels, etc. to be put on clothing.
 - iii. Example: packets of colored beads/stones/pearls, links/ string, hooking/closure device, etc) etc. to make jewelry (shown earlier).
 - iv. The machine's novelty potential includes, but is not limited to, displaying finished products that may light up so the machine attracts consumers, could display examples of finished products, sketched designs and/or real patterns (transferable or not) and/or photographs (product only and/or on real people, animals, both).
 - d. The vending allows for said product to be duplicated in individual units or by formulation and desire by an individual and/or company for personal and/or commercial use in larger quantities.
 - e. By hitting a "duplicate" key, the exact item just previously vended will be duplicated one or more times, in single- or multi-unit containers as desired.
 - i. If, for example, the product is a hot meal to be consumed immediately, this is possible while the others (the duplications) can be packaged to go regardless of temperature requested.
17. The vending may work whereby one portion of a product, regardless of the category, is dispensed from one machine and other portions from more than one machine.
- a. An example: One can create an entire food product and/or meal this way by building on, with or without customization: e.g., salad (with choice of dressings from one machine); noodles/potatoes (choice of toppings from one machine); the main course, e.g. steak/chicken/fish (with choice of sauce/toppings or no sauce at all from another machine); dessert (e.g. whipped cream hot fudge/caramel, nuts, fruits, from another machine) etc.
 - b. This invention takes into consideration that compensation must be factored into the machine before any vending takes place.

- c. The invention can display a sub-total of pending purchase(s), to allow the user to revise his/her selection before final purchase.
 - d. This invention can accept coupons to allow for discounting.
18. It is an object of the invention to produce product internally for sanitation reasons. This invention avoids the pitfalls of exposing product to airborne or human contact pathogens.
- a. The system can retain information pertaining to the custom selections made by the customer so that the product created can be duplicated in whatever the unit portions are desired.
19. It is an object of the invention to offer the opportunity for those on special diets, and/or with special needs whereby the machine will be devoted to producing products specifically for that need and/or desire (e.g. sugar control, sodium control, or cholesterol control).
20. It is an object of the invention to disseminate *accurate and quality information* to consumers in a comfortable setting.

Consumers are bombarded with so much information, mainly from the Internet, but little knowledge and or the method of presentation. Here this invention allows print out information and/or on screen viewable in a private vending booth or in the public. (private vending, just as like in a photo booth, is possible, as some people do not like to operate in public, regardless of the reason. It is even conceived that in areas where it is hot, that the private vending opportunity be in an air-conditioned space (which can accommodate one or more machines).

21. It is an object of the invention to have a beverage machine which contains only water and additives.
- a. A machine system may contain bottled water or may be connected to a municipal water supply.
 - b. When the machine system is connected to a municipal water supply, it may have the following capabilities:
 - i. Can purify the water;
 - ii. Can regulate the temperature;
 - iii. Can be still or sparkling water.
 - c. Water can be dispensed at more than one temperature and in containers appropriate to the temperature requested.

- d. Provide the opportunity for the consumer to receive one or more additives for the drink, and/or to mix the additives into the drinking water under sanitary conditions inside the machine.
 - i. The system can offer a variety of containers, such that a low-cost container can be included in the price of the beverage, or a premium container can be purchased directly from the vending system.
 - ii. The cost of the liquid and the additives to be combined with it is determined by the volume requested.
 - iii. It is possible for a consumer/buyer to bring his own container for which the operation offers a sanitation opportunity.
 - e. It is conceived that a vending machine deliver products from more than one company such as with tea. It is possible that the owner/operator stocks with water and provides an assortment of teas and even from more than one company...just as machines carry a variety of snacks and candies. Naturally with tea one would suspect that the dispensing would be in a container that can accommodate heat. By dispensing the bag separately then the buyer can make the tea to the strength desired, and brew it himself. For extra cost, additives such as milk/cream, honey or other sweetener can be purchased in pre-packaged portions for sanitary reasons.
 - f. A support member such as a stirrer, straw or spoon may also be offered.
22. Object of the invention whereby municipality water comes into the machine that undergoes a various process or processes which will change the structure of the water such as but not limited to micro-clustering, low plasma.
- a. It is possible to add extra oxygen to the water within the machine.
 - b. It is possible to add additional health benefits to the water such as changing the molecular structure so that the cells take up the water more efficiently.
 - c. It is possible to re mineralize the water or have flavor or aroma already impregnated into the water before it is put into a contained with the accepted packet additives.
 - d. The US FDA has a standard by which they identify a water with flavor.
 - e. It is possible to carbonate the water.
 - f. It is possible to make a light mineral water with a TDS of under 500mg/L or a heavier mineral water with a TDS of 500mg/L to 1500mg/L before selecting an additive.
23. Object of the invention is to provide the utmost capabilities of sanitation.

- a. When consumers bring their own bottles to a machine for filling the machine may or may not have a dedicated portion of the machine for sterilizing the consumer's bottle before filling or after filling to be sure that the product is as sanitary as possible.
- 24. Object of the invention is that the additives when dispensed into the liquid are done so inside the machine under sanitary conditions which are either viewable to the consumer, not viewable, partly viewable. Intermittently and/or randomly viewable.
 - a. Ingredients may go in to finalizing liquid from a single metered dose from a separate individualized envelopment/container.
 - b. May go in, as exemplified by a syringe drawing from a secure sanitary container in the designed/correct dosage, and then by means common in the art of insertion present to the liquid.
- 25. Object of the invention is protected doses/containers/packets(s) are dispensed out of the machine for the consumer to add them immediately or at will in total or in part.
 - a. This gives more control to the consumer to adjust the strength.
 - b. This gives the consumer the ability to meter the dose (1 packet spread over 3 drinks).
 - c. If the consumer wants a much stronger drink or to take a packet home to mix off premise then additional packets may be acquired by the acceptable means most likely purchased.
 - d. It is the decision of the company what exactly is to come with what price.
- 26. Object of the invention is to present unit doses be they packets or any other enveloping material/container, which brings forth a specific unit dose regardless of material.
 - a. The unit dose can be for one or more servings.
 - b. Can be a completed product.
 - c. Can be an additive for the purpose of supplementing an existing product.
- 26a. It is an object of the invention to provide additives specially designed to be combined with a flat liquid, additives specially designed to be combined with a carbonated liquid, and additives that can be combined either a flat liquid or a carbonated liquid.
- 26a. It is an object of the invention to provide additives that are appropriate for combining with liquid at specific temperatures.

- 26a. It is an object of the invention for the beverage vending system to be able to detect conflicts among chosen options and disallow them, such as combining cold water with an additive appropriate only for hot water, or combining carbonated water with an additive only appropriate for flat water.
27. Object of invention is that the water, beverage, food-stuff product of this invention is for humans and/or animals to be taken internally by mouth, enteral feeding, separate or in combination which contains one or more ingredients from the categories, including but not limited to, nutraceuticals, dietary supplements, amino-acids, digestive and systemic enzymes, anti-oxidants, diagnostics, pre-biotics, pro-biotics, herbs, vitamins minerals, to form a complete product or a product to fortify one or more of the following in the group known as water, beverages, food stuffs such as:
- a. A soup, stock, bullion, consommé
 - b. Meal replacement, meal fortification, with or without viscosity changes
 - c. Milk, Non-dairy milk and yogurt drinks
 - d. Water, beverage enhancing ingredients (regardless of source),
 - e. Coffee and additives,
 - f. Tea and additives,
 - g. Soft drinks
 - h. Vegetable and vegetable flavored drinks
 - i. Beverage mixes and flavorings
 - j. Wine and wine coolers
 - k. Energy drinks
 - l. Beer and ale
 - m. HYDRACEUTICAL™,
 - n. Alcohol, low alcohol, alcohol substitutes,
 - o. Sake
 - p. Fruits and flavored drinks
 - q. Health drinks
 - r. Isotonic, Energy producing products
 - s. Liqueurs
 - t. New age beverages and additives,
 - u. Botanicals,
 - v. All baby products both beverages, waters, food stuffs,
 - w. All junior products beverages, waters, food stuffs,
 - x. Desserts;
 - y. Entrée mixes
 - z. Poultry and sauces

- aa. Fish and sauces
- bb. Meat and sauces
- cc. Jams jellies, marmalades, sweet butters
- dd. Butters margarines, spreads, condiments
- ee. Nut and seed butters
- ff. Fruits, fruit side dishes, and toppings
- gg. Popcorn and toppings
- hh. Meal replacements and special diet foods
- ii. Sauces, Pizza, pasta
- jj. Vegetable and vegetable side dishes and toppings
- kk. Sweet toppings
- ll. Snacks, other
- mm. Rice and rice side dishes and toppings
- nn. Oil, vinegars
- oo. Mixes other baking and non baking
- pp. Meals, entrees, snacks (regardless of temperature, sandwiches
- qq. Pastry and baked products
- rr. Candies, confectioneries
- ss. Chips, cookies, crackers
- tt. Bakery goods
- uu. Stuffing's, fillings, spreads for xii and xiii
- vv. Yogurt and Yogurt imitations and toppings,
- ww. Sauces and gravies
- xx. Dairy case foods
- yy. Cheese toppings
- zz. Dips and salad toppings
- aaa. Ice cream, novelties, frozen yogurt, and ices, and toppings
- bbb. Custards, puddings gelatins and toppings
- ccc. Catsups and mustards, hot sauces, relishes,
- ddd. Spices, extracts and seasonings
- eee. An additive to an existing product under the above number (62)
- fff. Additive may be directed towards a specific category:
 - i. Age
 - ii. Gender
 - iii. Animal or human

- iv. Allergies and sensitivities
 - ggg. Diagnosed medical condition or challenge short term or long term including but not limited to the following:
 - i. Cold or flu
 - ii. Diabetes
 - iii. Glycogen storage disease
 - iv. Elevated cholesterol
 - v. Weight loss, appetite suppressant
 - vi. Weakened immune system
 - vii. Ethnic generic sensitivities
 - viii. Intolerances such as lactose
 - ix. Aid digestion, breakdown of food, assimilation of nutrients
 - x. Allergies
 - hhh. Elicit a feeling of well being and or a desired feeling or response including but not limiting to:
 - i. Energy
 - ii. Relaxation
 - iii. Mood swings
 - iv. Stamina
 - v. Support general good health
 - iii. May add a formulation designed for diagnostic purposes humans and and/or animals/pets.
 - i. X-ray
 - ii. Dental disclosure
28. Object of the invention is to present in various containers such as but not limited to:
- a. Pouches regardless of materials
 - b. Packets, regardless of amount of compartments as described in Stillman's Infusion Packet Patent regardless of materials
 - c. Vials regardless of materials

- d. Bottles glass or plastic regardless of materials
 - e. Boxes regardless of materials
 - f. Tubes regardless of materials
 - g. Cups regardless of materials
 - h. Bowls regardless of materials
 - i. Bags regardless of materials
 - j. Foils
 - k. Cartridges regardless of materials
 - l. Bottles caps and tops (exchangeable)
 - m. Attached to a member such as a rock candy to a swizzle stick
 - n. Presentation may be in various forms using interior and exterior separated and/or in combination
29. Object of the invention, when appropriate to the product, is to present in various forms such as but not limited to:
- a. Liquids
 - b. Gels
 - c. Granules
 - d. Beads
 - e. Powders
 - f. Pellets
 - g. Tablets
 - h. Gummies/confectioneries
 - i. Pastes
 - j. Capsules
 - k. Elixirs
 - l. Crystals
 - m. Slurries

- n. Pastes
 - o. Viscosity changers such as the category of gums
 - p. Compressed designs flat or in relief
 - q. All above with or without effervescence
 - r. All above with or without encapsulations
30. Object of the invention is to present methods of operation.
- a. When in contact with wetting agent
 - b. Automatic releases; quick release to slow release, at one time or in incremental times
 - c. Need to be manipulated by shaking, stirring, etc.
 - d. Liquid drawn into the packet and then released regardless of method.
 - e. Liquid impregnates packet causing swelling and ultimate release.
 - f. Manual release
 - g. Packet has to be opened and ingredients manually put into the liquid regardless of form of contents inside the packet.
 - h. Inside the machine the opening can occur and be dumped in.
 - i. Packaging
 - i. Synthetic or non synthetic materials
 - ii. Clear or opaque
 - iii. Texture/Braille
 - iv. Graphics, design, indicia, color, shape, dimension
 - v. With or without one or more support members
 - (1) What used for
 - (2) By whom
 - (3) Under what conditions
 - (4) Example of forms with or with support member
 - (a) Parachute
 - (b) Inside of a bottle top change top

(c) Origami

- j. Folded and shape revealed when opened
 - i. Geometric
 - ii. Characters
 - iii. Straw
 - iv. Peel off dot strips
- 31. It is an object of the invention to discourage littering and, where possible, encourage recycling, by making garbage and/or recycling receptacles which are able to offer reward for their use. Such receptacles can be employed in any venue where garbage is generated and/or recyclable materials are sold.
- 32. It is an object of the invention to provide the ability to make a complete new product, enhance and/or enrich an existing product in the following: water, water-based liquid products; milk products; alcohol-present or -based (regardless of source); vegetarian, non vegetarian, and/or both food categories, with or without value perceived, value added, and/or both. Those would include the following, and others, which fall under the above descriptions:
 - a. Water and water-based products, regardless of packaging
 - b. All beverages in containers regardless of packaging
 - c. Soups, broths, stocks, consommés,
 - d. Chips (any source) and dips, flavorings, and toppings
 - e. Pasta, toppings and sauces
 - f. Ice cream, yogurt, gelatos, ice like products, water ices, snow cones, and the like; topping selections, sauces,
 - g. Frostees, Ice products, Smoothies
 - h. Build a meal, meal replacement, and/or both whereby you already have a finished product but want to add additional value.
 - i. Spreadables, fillables and/or the like to be used with crackers, bread, as in a sandwich, pockets, crepes,
 - j. Hot or cold cereals and toppings, fruits, nuts, liquids, seasonings
 - k. Meat, fish, poultry: flavorings, toppings, sauces, seasonings and/or the like

- l. Rice and toppings: flavorings, toppings, sauces, seasonings and/or the like
 - m. French fries: flavorings, toppings, sauces, seasonings and/or the like
 - n. Baked potatoes: flavorings, toppings, sauces, seasonings and/or the like
33. It is an object of the invention to be so engineered that the vending system can dispense food or beverage products at any temperature, including frozen, chilled, heated or cooked by any process known in the art.
34. It is an object of the invention to have a cross-promotional method of payment. Example: A hang tag on clothing having Disney indicia may activate a discount on a purchase of a Coke.
35. It is an object of the invention to allocate payment automatically at time of purchase to each supplier company directly, but also in the appropriate percentage to the owner/operator of the system. This prevents the delay of payment of override revenues, commissions, markups, etc. to the vending system owner/operator.
36. It is an object of the invention to provide a method of restricting purchases to a particular category of goods.
- a. Example: Parents can configure a credit or debit card for children's use that will only allow them to buy parent-approved products.
 - b. Example: A card can be restricted to products appropriate for diabetics or persons on other restricted diets.
 - c. The system will accept other purchases, but they would have to be made via a non-restricted method.
 - d. With said card, as with any owned debit credit, smart, magnetic card and/or the like it is possible for a company to track important data, not just related to the product but to the consumer, user of the card, as well.
 - e. A company card used for these machines may ensure brand loyalty to one or more entities, which may operate independently or as a consortium.
 - f. A record of the transaction may be stored any where and/or by any means for future use. As an example with kids, parents can find out what their kid ate, drank used, etc. if tracking information was made available to them by the company regardless of the method of retrieval, for free or at an additional cost.
37. It is an object of the invention to have a vending machine coupled with an entertainment, edutainment, informational, active, reactive, or interactive component in the same machine(s), or

more than one companion machine(s) attached or not, which can operate independently and/or synergistically. If the machine is in a venue, which offers one or more other opportunities for a consumer to participate in, be it entertainment, education, or location for purchasing additional items, it is conceived that the consumer will partake in an "add on" opportunity.

- a. While the product is being formulated/formatted there is time for which the buyer may partake in an activity within the same and/or companion machine.
 - b. This is very psychologically reinforcing, as pleasure is associated with product. Also accomplished by a small prize with each product that is vended...this relates to the Cracker Jack Box Presentation.
38. It is an object of the invention to provide a vehicle for test-marketing of beverages. This allows more beverages to be tested without producing them in ready-to-drink format.
39. It is an object of the invention to allow for the formulation of a custom-created beverage to be transmitted to a manufacturer for possible future marketing by the manufacturer.
40. The object of the invention is to offer products for animals in the same vending operation as for humans and/or have a vending operation solely for animals, pets, etc.

Animals, mainly pets, that may accompany their owner on a regular basis are usually on a leash and are afforded the opportunity of being present at various venues especially vending machines.

- a. A support member(s) may be offered, because they are also considered as functional/useful. A support member may be nothing more than a mixing and/or drinking vessel of normally recognized design and/or of a special design with one or more features.
 - i. The support member is the drinking bowl. Or water is kept in bowls, not bottles, for pets only. Could have a screw on lid like a wider mouth bottle.
 - ii. There exists on the market collapsible cups, which may and/or may not be "throw-aways" ergo one time use (hopefully bio-degradable).
- b. It is also conceived that, considering the variety of cats, dogs, etc., one can program into the operation the category of the species, the age, the weight for special consideration and claims.
 - i. Puppies, (babies) have different needs.
 - ii. An animal with a special health condition can be programmed in; e.g., a diabetic dog weighing 50 pounds.
- c. The inventor also makes note that there exists an opportunity for testing a potential animal product and/or testing certain additives which may, or may not, find a home and/or be

packaged with animal/pet food regardless of type of product, amount of servings provided, container size, shape, and/or the like.

41. It is an object of the invention to provide a branded-ability vending system with tailored individual options.
 - a. For organizations such as Weight Watchers International® who have venues and whose products are in major chain stores, there can be a branded ability machine with tailored individual options (a meal with or without salt).
 - i. Portion controlled and cost appropriate options. An example: An individual can program in one's category, his/her gender, age, present weight, height/size needs, desires/goals and the machine(s) will offer suggestions, variations, product specifics, etc., or can even offer other information pertinent to the request, for free or at a fee, based on how much information requested ergo delivered etc. (examples would be, but not limited to, calories, sodium content, fiber grams and/or the like).
42. It is an object of the invention to provide handicap access to the vending system whereby integrated into the general controls or on a special side of the machine there is a method for all the necessary operative controls for the vending system to be within reach of a person in a wheelchair and/or to provide any means so that a disabled person can activate and retrieve even from a port on a different side (location).
43. It is an object of the invention to provide increased consumer education and identification of who, how when, the consumer should use the product if it is deemed to be a responsible decision to do so.
 - a. Examples would be:
 - i. Product use for humans only, animals only, or both
 - ii. Consumed directly or indirectly whereby the resulting product goes into another product
 - iii. Product labeled by age groups such as children, teens, seniors
 - iv. Labeled by their enhancing properties such as energy drink, gut health, cholesterol lowering, essentially what they do for you
 - v. Labeled by vending machine with products options labeled for health conditions and challenges diabetics, sodium restrictions
 - vi. Braille to provide promotions, advertisements, instruct, to educate, to entertain

44. It is an object of the invention to eliminate and/or reduce the need for acidulates when formulating a beverage, as the vending machine dispenses components for a finished product to be mixed on the spot.

The Food and Drug Administration of the United States requires that for the production of a beverage containing ingredients with the potential of producing pathogens, if said beverage is not to be consumed immediately and is not stored under refrigerated conditions, it must be acidic and hot-filled. Therefore, all beverages existing in traditional vending machines are acidic and, for the most part, contain preservatives. The continuous consumption of acidic beverages may lead to gastrointestinal problems, including erosion of the esophagus and acid-reflex disease, which in turn can led to esophageal cancer.

Thus, if a beverage is mixed at the time of purchase, it need not be as acidic, and can therefore avoid causing gastrointestinal distress.

- 44a. It is an object of the invention as related to a specific product to keep all active ingredients for use in food or beverage formulations stable and bio-available to the product being made using technologies such as encapsulations etc.
- 44b. It is an object of the invention to provide separate airtight and perhaps sterile environments within the machine for complete ingestible products with reduced and/or eliminated preservatives, acids, chemicals, etc.
45. It is an object of the invention that multiple machines comprising the vending system may work in an assembly-line manner whereby the user takes the product from one machine to another and/or if connected the machine may be able to pass the item down the line.
46. It is an object of the invention that if a vending system is out of an item and/or cannot product an item, it lets the user know where the closest system is that is operational, and to the specifications of the user.
47. It is an object of the invention to provide a method for funding a charity(s) whereby a certain percentage of the profits from a machine may go to a charity and this could be with, or without, celebrity enrichment and/or endorsement, or the incorporation of any and/or all of the aspects of this invention.
48. It is an object of the invention to be able test price points appropriate for an item by adjusting price according to location, ethnicity, financial income, different packaging images, etc.
- a. Products now can be tested 24 hours a day without needed labor.

49. It is an object of the invention to include security features, such that if any attempt is made to steal any portion of the product, or currencies, the vending system will respond in one or more ways, such as the ability to take a picture or record a fingerprint or method of identification, sound an alarm, flash lights, spray a dye which will coat an individual if tampering.
50. It is an object of the invention to design jewelry and accessories for humans, toys (dolls), pets etc.
- a. The customer/designer can virtually design a product on screen, see a proof, receive a print out and then have access to receiving the product immediately or at a future date.
 - b. One or more of the same products can be ordered.
 - c. The system may also dispense components of the finished product, resembling a mini craft store but providing just the number needed for the product.
 - d. The inventor here is most sensitive to peoples needs and desires who do not live in areas where they have access to all the choices one would have if they lived in a large urban environment and have access to craft, and/or the like, stores. Small towns etc. don't have the abilities to provide many choices and so, as an example, a young creative child is not exposed to the options that their urban big city sisters are exposed to. While Internet stores and infomercials, and catalogues present opportunities for ordering product it is not possible to make such a custom product immediately and/or without buying more and/or different components than is necessary and/or that one will never use.
 - e. A claimable system example is a jewelry making machine for making a necklace and/or a bracelet etc.
 - i. A wire, string, chain etc. is offered and may even be precut to measure within the system.
 - ii. A vast amount of pearls, charms, beads, pearls, etc. are made visible to the buyer for selection.
 - iii. Also adhesives, closures and other ancillary items are also available.
 - iv. Patterns are available.
 - v. The buyer can purchase by increments and the purchase be subtotaled before the actual buying.
 - vi. The customer may design object of a screen and watch the virtual assemble (Can even drag a selection for the composition onto the piece of jewelry being fabricated to see

how it looks. If it is not appropriate item it can be dragged back to its home of for time sake be deleted).

- vii. Once approved then the ordering begins following the guidelines and pre-described options presented in all the aforesaid material.
- f. A claimable example for making a custom watch in the vending system.
 - i. One or more basic movements are available.
 - ii. Create a watch whereby the basic movement presents options/choices and in a few possible modalities, digital, wind up, with hands without hands etc.
 - iii. Customer selects such options, but not limited to the following: the face, the bezel to go around the face, the band, cover if desired, it, color, materials, decorations, etc.
 - iv. Personalization and monogramming is possible.
 - v. Just as with the above the watch can be assembled virtually for approval.
 - vi. In the case of a sensitive watch with a mechanism that needs to be protected, then part may be assembled in a clean environment inside the machine
 - vii. If the band has to be attached in a special manner then that can also be accomplished inside the machine.
 - viii. If a certain part cannot fit another part (e.g., the watch face to the band selected), then the system will notify the consumer that that choice is not an option. (machine gives feed back)
- 51. It is an object of the invention to produce a custom deck of cards.
 - a. Options are to have personalized text and/or pictures (fronts, backs, or both).
 - b. Licensable characters (royalty fee appropriate): One may produce with the proper license as example a baseball card and/or any cards, and/ or any objects whereby the image of the buyer, and image selected by the buyer, text offered by the machine, created by the buyer, and/or the like be patterned into the picture, or on the reverse side, and/or both.
 - c. Size and shapes and materials colors decorations styles, etc. are all personal choices.
- 52. It is an object of the invention to be able to create personalized labels for product(s) within the system.

- a. Some vineyards offer a personalized label option where by you can order wine with a personalized name on it, or a denotation such as "This wine was made for Jane and Johns 25th Anniversary."
- b. Jones Soda offers the public the opportunity of sending in art work to be selected by the company to go on their production bottles.
- c. In this system one can design ones own custom label.
 - i. All possible ranges of customization, from embroidery to digital reproduction with color ranges, materials, sizes.
 - ii. Quantities range from a single label upward and follow all the duplicating abilities previously stated herein.
 - iii. If there is product(s) in the machine that label can be affixed to the product before delivered, or dispensed at the same time for the buyer to label.
- d. If the product is not in the machine and is to be affixed to product, then all ordering regardless of quantity with follow the parameters previously stated.
- e. If the label is to be put on manually regardless of the number, then they will need to have sticking options such as an adhesive backing, peel off an adhesive back impregnated with or without aroma.
- f. Further, this label can also come with additional coupons and offerings for the consumer.
- g. If the label is made digitally then the consumer may receive a copy on a disk from the machine or forward to a designated computer for saving for one's records and/or later use.
 - i. If made digitally, and if a famous personality (licensable character) is incorporated into the design, then royalties must be paid and the equipment must be able govern that or not release the data from the system which has the royalty feature built into it.
- h. The system may serve as "print shop" of sorts, as an individual may bring in his own disk (or present to the system a personal electronic device containing the material) for which the system has a user-friendly connection mode. The data is transferred and the system then offers the buyer the option of accepting as presented or use other capabilities of manipulation (formatting, color, font changes etc.) and embellishment.
 - i. The newly designed digital rendition can then be saved and/or override what the buyer originally had fabricated.

- i. Digital reproduction allows the system to be programmed to permit variations (e.g., in colors) from one unit to another within a single production run.
 - j. The material that the label is printed on may have additional benefits such as a backing that if affixed to a cold or hot product will preserve the temperature of said product.
- 53. It is an object of the invention to have the vending systems offer perks such as coupons, free movie tickets, travel discounts, game play opportunities for the arcade like machines, etc. as enticements to use the system and/or for rewards.
- 54. It is an object of the invention to interface with a portable digital device, allowing the customer to begin the design process off-site and then transmit information to the vending system for completion of the process.
- 55. It is an object of the invention that a vending system be accessible by a customer via an off-site computer, with appropriate customer identification.
 - a. Information about the customer's product selections can be sent ahead to the system, and stored there until the customer retrieves it.
 - b. Information from the system can be transmitted to the customer, including scheduling of user time, allowing the customer to avoid waiting in a line if the system is busy when he arrives there.
 - c. Allows a customer who does not have a portable device or portable storage capability to begin the design process off-site and transmit the information to the vending system.
- 56. It is an object of the invention that, to facilitate collaboration with other customers, one or more vending systems can be accessed simultaneously, either via an off-site computer, or on-site.
- 57. It is an object of the invention is to provide the vending system with scanning capabilities.
- 58. It is an object of the invention to provide the ability to record sounds and/or receive sounds which have been pre-recorded via digital, analog or other means.
- 59. It is an object of the invention to monitor the amount of time a customer spends in the design process and provide a means for charging a customer incrementally for time spent beyond an allotted basic period, so that the system is not kept busy by customers who are not making purchases.
 - a. Customers may be charged an entry fee for a minimum amount of time before they can begin using the system, further time being charged incrementally.

- b. The system may offer to credit the cost of time purchased against the cost of a purchased item. The amount of time credited can be related to the final purchase price.
 - c. Time charges may be varied for any reason, for example, according to the time of day, weather condition, promotional specials, etc.
 - d. Time monitoring is a way of tracking behavioral patterns, by providing feedback as to how popular an item is, how long a consumer spends to design it, how valuable it is to the consumer in time, money, both. (Great for tourist attraction.)
60. It is an object of the invention that the vending system can be used as a broad, non-biased focus group, since it monitors all details of customer interaction as well as personalized information entered by the customer.
- a. A perk or reward can be offered to the customer to encourage him/her to submit personal information.
61. It is an object of the invention to protect the intellectual property rights of an inventor, designer, creator.
- a. The vending system may record the date and time of creation of a product and/or concept.
 - b. The vending system may, for an additional price, mail a description of the product and/or concept created to the inventor/designer/creator, who may keep the mail unopened as documentation his/her ownership of the product and/or concept and of the date and time of its creation. If a tamper-proof, unalterable digital means of transmitting such information becomes available in the future, the vending system may employ those means instead of mail.
 - c. The vending system may allow an inventor/designer/creator to document his/her ownership of his/her creation and the date and time of its creation by generating a disclosure document based on the product and/or concept to be protected and submitting the same to the U.S. Patent and Trademark Office or the corresponding governing agency in any other country.
 - d. The vending system can create and maintain a database, for free or for charge, of any information regarding an inventor and his/her invention which he/she wishes to be made public, so that persons or entities searching the database may be able to contact the inventor regarding business opportunities, and so that inventors working on similar technologies are able to contact each other. The database system can include language translation capability so that users from a variety of countries can use it. Searching persons or entities may also post information about inventions that they would be interested in, so that inventors may contact such searching persons or entities. The database would also include a list of legal and

business professionals, including patent attorneys, who can assist inventors with the next steps in developing their invention. The system can also offer a database of referrals to outside vendors that can facilitate the creation of the product.

As a rule, companies do not want to take submissions from the public, and they follow the Not Invented Here (NIH) principle to protect themselves from lawsuits. However, with this system, there is now provided a means of protection for the inventor, thus making it more difficult for a company to dispute the ownership of an invention/design/concept.

The inventor can request, for a charge, a verification document which is not to be opened to be mailed to himself and/or his legal counsel. A company at firstuse.com does create these sort of files for a price.

It is conceived that a company sponsor a vending system for which they will have the right of first refusal for anything created using that vending system.

62. The object of the invention is that the vending system operates in modules or stations whereby the customer can move from station to station, either sequentially or randomly, as each station completes a portion of the product being created.
63. Object of the invention is that the machines have the options of robotic movable and/or expanding parts so that they are not confined to a fixed structure:
 - a. An example is an arm or a shelf that extends beyond the confines of the machine to deliver the product, advertisement, promotion and/or the like.
 - b. Can be used to deliver product to those who need assistance. Children are delighted especially.
 - c. As a product exits audio may accompany and be activated by any means.
64. Object of the vending system is to combine and/or incorporate into the vending system one or more elements of game machines, to attract customers to use the vending system and to enhance the overall experience of the vending system.
 - a. The sort of game machines that could be used may include, for example (without limitation):
 - i. arcade and/or video games
 - ii. pinball machines
 - iii. Pachinko machines
 - iv. jukeboxes

- b. The games may be sponsored and include:
 - i. product branding
 - ii. branding associated with television game shows, quiz shows, talent shows, etc.
 - iii. the image, voice pattern or both of a celebrity, character, or the like that is used as the game moderator, host, facilitator etc.
 - c. Sponsored games may be free since they are supported by advertising, while unsponsored games may require payment.
65. Object can present as a way of teaching how products are made and borders on a science demonstration. For example:
- a. The vending system can present a scientific display of how a product is made; or
 - b. The vending system can present as a Rube Goldberg experience whereby the machine goes through wacky, for lack of a better description, machinations until the completed product is vended.
66. Object of the invention is to provide space for banners and messages in any form whereby the system incorporates the qualities of a billboard (stationary, moving, etc...best expressed by those skilled in the art), such as, for example:
- a. Advertising
 - b. Messages from law enforcement agencies, e.g. the message "Not to do Drugs."
 - c. Pictures of lost children, animals etc., which may or may not require the entity posting the picture to pay for the use of the space.
67. An object of the invention is to provide a system for identifying and locating children by providing children with a smart card with their identification on it so that if they wander from home they can be identified by the card as the machine has a locating system and if that child is registered with the company we can help find lost children 6,339,744 like a Global Positioning System.
- a. Especially if the child has a card in a large venue like a Disneyland or a mall.
 - b. If a child presents his card the machine may alert a central office whereby they can talk to the child through a loud speaker.
 - c. A security officer of the like may be summoned.
68. Object of the invention is to conserve energy and use alternate energy sources when possible.
- a. Vending machines that are outside can be in part or in whole solar powered.

- b. There is also the possibility of harvesting solar energy, or energy from any source, to be relayed to power, in total or in part, the machine.
 - c. Many technologies that use mirrors and foils and metals and fiber optics and the like can be used to give the look of additional brightness, dimension, illumination, and/or the like by which it would seem that more energy is used than actually is.
 - d. Heat conducting and transferring technologies such as conduction, convection, and radiation barrier (NASA) technologies can be used to regulate temperature and provide better insulation thus conserve energy.
 - e. Radiant barrier containers and packaging materials can be used to insulate the products within the machine and/or the containers that the products are dispensed in.
 - f. Radiant barrier containers will allow a consumer to keep a finished product at an ideal temperature for an extended period of time.
69. Object of the invention to provide containers that will keep products at an ideal temperature for an extended length of time.
- a. Radiant Barrier technology developed by NASA will allow, if used accordingly containers to be so fabricated so as that heat seeks cool when a product is put in at a temperature that product will remain at that temperature for a protracted period of time. An example is that a container of frozen ice cream made it in tact frozen from Los Angeles to New York still in its frozen state.
 - b. Vending machine products, especially temperature sensitive (hot coffee, cold drinks) are usually consumed when then are received or they lose their ideal drinking temperature.
 - c. Very convenient to receive a product from a vending machine which you can purchase at one time of the day and it will stay at the ideal time until consumption perhaps many hours later. Make you ice cream Sunday in the morning and have it for the afternoon with or without additional refrigeration.
 - d. Ideally one can have his gas filled at a station and vend from that station a breakfast, beverage, snack, lunch etc. And all will be at the right temperature when ready to consume.
70. Object of the invention is to provide a credit card that can work in any of the companies' products or assigned products at full price or a discounted price.
- a. Embedded in this card can be information that the company wishes the consumer to retrieve and/or information the consumer wishes to have the company know.

71. It is an object of the invention to provide a vending machine system compatible with a theme regardless of shape or size.
 - a. The theme may or may not be carried out through out the looks of the machine, the operation, the products dispensed and/or the like.
 - b. An example is a machine may be designed to look like a waterfall and carry only water and products to go into water.
 - c. Another example is that if it a kids-only machine it would present in that fashion. The entire machine could be a tribute to a super-hero or a company like Disney.
72. The object of the invention is to protect the privacy of the user by providing a place for private viewing of personal material even when in the midst of public displays of graphics, writing etc.
 - a. Example: A customer may enter payment information in private.
 - b. Example: A customer may not want anyone to know that he is looking at literature pertaining to certain health conditions.
 - c. Example: A customer may wish to design a product in private.
73. The object of the invention is to provide a place for private listening to audio material if desired.
 - a. One or more headphones and/or the like maybe present.
74. It is an object of the invention is to provide a built-in telephone system.
75. It is an object of the invention that entire system may be voice activated.
76. Object is a machine for which a customer can put in a card with information identifying him/her, including voice pattern, and the machine will recognize that customer and interaction can take place.
77. Object of the invention is to provide consumers with the ability to vote for products, characters, etc. through vending system. The buyer may get to vote without making a purchase or with a purchase only.
78. The object of the invention is that the vending system to be configured in the form of a shopping center of any size: a strip center, a group of separate establishments working in consort, even to a huge shopping mall or the like.
 - a. Benefits to customers:

- i. The vending system operates on a group discount and or interrelated combinations of allowing the customer to benefit in any manner by staying within the confines of the venue.
 - (1) The venue may be inside on one or more levels, outside, connected units, regardless of formation and/or the like.
- ii. Consumers may receive a discount card by shopping incrementally at each venue.
- iii. Special invitations and perks and bonuses instead of being offered by one store is offered buy the center in general.
- iv. Consumers may buy a credit card for shopping at the entire operation and then receive a general discount at the discretion of the operator.
- b. Benefits to shopkeepers:
 - i. This make the space in a center such as this more valuable to those who witch to rent, lease space as they are part of a whole interface.
- c. This invention combines venues of the same category or any number more than one of categories.
- d. It can resemble a department store with different departments.
- e. Tenants do not have to participate but it will be to their advantage.
 - i. Large stores like Wal Mart are making it difficult for the individualists (the small establishments) By this invention the are connected to larger unit with advantages.
 - ii. Some advantages are that their may be one printer who will do special work at special rates, insurance benefits (especially if the tenants form an association or a compatible feature for employees etc. offering a broad range of opportunities.
 - iii. Vending machine in this operation can draw you into a tenant unit by what they offer.
- 79. It is an object that a vending system can operated in a drive-through manner.
 - a. Also permitting cross promotional opportunities such as with Disney and Mac Donalds.
- 80. It is an object of the invention that a vending system may be situated in proximity to people waiting in line for any reason, providing entertainment, food products, and any other purchase opportunity for which the vending system can be used.
- 81. It is an object of the invention that a vending system can be situated on the outside of a store building, either attached to the building or not.

- a. The vending system can be operated even when the store is closed.
 - b. Food stores or restaurants can make "leftovers" available via the vending system.
 - c. Individual units of an item normally sold in quantity inside the store can be offered in the outside vending system.
 - d. Pricing can be varied for "off-hours," if desired.
82. It is an object of the invention that the vending system will accept payment via food stamps, or whatever food-restricted social relief may be offered by the appropriate governmental agency in the future. The vending system will be able to restrict purchases so made to those items authorized by the pertinent government regulations.
83. It is an object of the invention that any vending system pertaining to a particular field or product category may have the ability to make available a database of intellectual properties relevant to that category.
- a. The general public may use such a database to contact an inventor or patent owner for information concerning the invention.
 - b. Potential licensees may contact patent owners.
 - c. Inventors or patent owners may use the database to help them locate entities that may be interested in developing products from their intellectual properties.
84. The object of this invention is a business model centered around a vending operation following a "real estate" metaphor.
- a. The vending system may follow a condominium pattern, where an owner of the system sells units to vendors.
 - i. An owner of a space can resell his unit sub-lease etc. with or without the permission of the owner depending on the terms and conditions of a mutually acceptable contractual agreement.
 - ii. Just as with homeowners' dues, a model can be created whereby everyone contributes to the maintenance, upgrading etc. Particulars worked out by the contractual agreement.
 - b. The vending system may follow a rental pattern, where an owner of the system rents and/or leases one or more units of space to vendors depending on the terms and conditions of a mutually acceptable contractual agreement.
 - i. Mutual agreements can have a sublet clause.

- ii. Terms and conditions, length, cancellation and/or the like arranged mutually.
- c. Further conceived is that some space may be rented/leased, while some space sold. This provides leverage.
- d. The physical position of a unit and its relative visibility are conceived to be part of the rent/lease/sale transaction, so that they cannot be changed outside of the control of the vendor contracting the unit.
- e. Each unit can have its own payment/compensation ability and/or use the service of the owner, with or without a management company.
- f. It is conceived that each unit be filled/managed and/or the like on an individual basis and/or it is conceived that there be a management company to manage the property as an entity and/or any unit holder can have his own full and/or partial servicing.
 - i. Tenants may have the benefits analogous to "Share Tenant Services" (STS) enjoyed by real estate tenants, whereby one or more industries bundles a variety of services (such as, for example, utilities, phone, but also duplicating services and others unique to a vending operation situation) and offers them to tenants at reduced cost, greater convenience, or the like.
 - ii. An association can be formed comprising the tenants of a single vending system, a regional network of systems, or any such grouping.
 - (1) Group rates may be negotiated for things like maintenance and insurance costs.
 - (2) Health benefits may be made available to association members.
 - (3) Discounts and cross relationships can be available to association members.
- g. The owner/manager of the vending system can have the option of listing available units in what might be called "Vending Opportunity for rent or lease," just as in the real estate listings of the multiples and/or the newspapers, Internet, and/or the like, either directly or through an agent.
- h. Sale or rental transactions may be handled by brokers or leasing agents. It is possible to have an entire network of vending brokers, just like real estate brokers, who can service in the same manner or differently
 - i. It is conceived that a license be necessary and there becomes laws that have to be enforced etc.
 - ii. Codes may be written.

- i. It is conceived, as a business model, that the entire operation compile data and distribute on an as-best-used basis.
 - i. It is conceived that each unit holder receive its own data, which may be a compilation of data pertaining to multiple units in multiple locations.
- j. This business model provides opportunity to test new products before investing a lot of money to go to market.
 - i. The flexibility is huge, as one can obtain units in many markets and move around from market to market.
 - ii. In this model, a vendor is not subject to the sort of requirements typically imposed by, for example, supermarkets, which may impose cooperative advertising fees, and wherein the vendor has no control over its products' positioning within the store.
 - iii. Allows a company to launch, test market and the like a product in one or more foreign countries in one or more machines/systems at a reasonable rate of market entry.
 - (1) Said company can have the flexibility of changing even minute details, such as a label color, aroma and the like.
 - (2) Said system offers an independent and/or a large company to own and/or operate the machine(s)/machine system.
- k. This provides many opportunities including but not limited to the obvious, especially those who know advertising, marketing, etc.
 - i. Business model provides unified services such as co-op advertising and promotional opportunities.
- l. Real estate being very expensive, the vending is an opportunity to be provided to the smallest of possibility (one owner, one machine) to the very ultimate and as big as the huge shopping center conglomerates.
 - i. It is conceivable to pay for all purchases made within, as one and/or more payments.
 - ii. The machine/system can have its own credit card, individual payment system and/or act in total.
- m. It can be of great benefit to an entity who wants to bring a new product to market to own an entire vending system, because that owning entity can reserve more units for its own use than it needs at first, leasing or renting the reserved units not being used, and then reclaiming them for use leases expire, tenants leave, etc., and as its own operation is ready to expand.

- n. The vendor occupying a unit can do one or more of the following and or the like.
 - i. Change pricing
 - ii. Change products
 - iii. Pay taxes etc., as even a little slot in one machine is a business.
 - iv. The huge slotting fees in stores can be eliminated and a product still gets exposure.
 - v. The tenant/rentor/leasee/purchaser of space is in control of the decisions and therefore eliminates the potential of failure due to a store's mismanagement.
- o. It is conceived that this be a very important opportunity/venture for a large company to go into because they can test products from many different vendors to see what they might want to consider to be under their umbrella (ownership, distribution, etc.) regardless of the relationship.
- p. It is obvious here that the larger the network the more possibilities and power the owner/operator has.
- q. Products may be tangible and/or virtual.
 - i. It is conceived that a large setup contain a photo opportunity, a music (audio) opportunity, food/beverage/ etc.
- r. It is conceived that government be able to set up such an enterprise on publicly owned property, for the purpose of bringing in additional revenue, displaying information, posting opportunities in the local community etc.
 - i. As part of a sale or rental/lease agreement, the government may make a small business loan available, provide opportunities for minorities, etc.
- s. Said operations may be indoors, outdoors, both.
- t. On-premise storage may be offered.
- u. Parking may be available.
- v. The vending operation may have drive-by and or drive-through offerings as with all parts of this invention.
- w. The vending operation may be located on a moving transportation operation, such as a cruise ship.
- x. The vending operation may be placed in large parking structures, especially subterranean, on flat roof accessible space and/or the like.

- i. In these types of venues you have space that is not generally being used, and considerable traffic passes, especially in a garage.
85. It is an object of the invention to provide gainful employment, with growth potential, to persons whose opportunities elsewhere are limited, by creating opportunities for owning, operating, working in or distributing to vending operate as herein described.
- a. People for whom such a work environment might be appropriate include:
 - i. Those with disabilities or health challenges;
 - (1) Could manage a vending system without being required to perform heavy labor;
 - (2) Could assemble products for vending machines, perhaps off-site.
 - ii. People who have been on public assistance;
 - iii. People with language challenges: either those who do not speak the language of the country wherein they reside, or those with language-related cognitive impairment;
 - iv. Rehabilitated drug addicts;
 - v. Those who have been incarcerated;
 - vi. Those recently discharged from military service;
 - vii. Young adults;
 - viii. Minorities;
 - ix. Retired or elderly people.
 - b. Owning, operating or working in a vending operation would be ideal for such people because:
 - i. Work hours can be flexible;
 - ii. Skilled labor is not required;
 - iii. Such work would not require high visibility or a prestigious appearance, requirements of many other jobs which tend to disqualify such people;
 - iv. There is a low temptation to steal;
 - v. Opportunities would be afforded to them to learn management skills and taking on increasing responsibility in a relatively small business environment;
 - vi. Working for a large, multi-location vending operation would give workers an opportunity to work in a variety of locations;

- vii. Such employment would provide a way to build self-esteem and stimulate a feeling of productivity.
- c. Compensation to those working in or for such a vending operation could be via salary/hourly wage, a percentage of profits, bonus, or a combination thereof.
- d. Such a vending operation could be owned, operated and/or maintained by a partnership of people from a variety of circumstances, including those of limited or compromised circumstances as listed above.
- e. Such a vending operation would provide a market for products produced in job shops for prisoners or former prisoners.
- f. Employing such people in a vending operation provides a novel way for a large company to participate in community outreach or other social responsibility goals.
- g. A government-owned vending system could be used to transition people back into the workforce who were previously unemployable and being managed by the penal system and/or social service agencies.
 - i. Welfare recipients can be employed in almost any capacity in such a vending operation.
 - ii. Prison workers can be employed assembling products for sale in a government-owned vending system.
- h. A vending system could be situated within a government property and a portion of the profit therefrom paid to the government, and then, for example, be used to fund government programs.

An example of an opportunity for someone with limited skills, physical disabilities or any other impediment to holding a steady, full-time job would be a beverage-vending machine:

- which may be a complete vending operation or part of a larger operation or a concession within a large venue;
- which features:
 - physical accessibility of the machine itself (i.e., proximity to parking, on the ground floor) and of the controls and interior of the machine;
 - use of municipal water, so that no heavy bottles need be loaded, or use of bottled water which the bottled water supplier has agreed to stock in the machines as part of its supply agreement; and
 - use of additives in small packets, so no large containers of loose material need be loaded;

- sponsored by a consortium of suppliers of the additives and/or bottled water as part of their community outreach programs
 - who gain advertising and public relations benefits and community good will thereby;
 - who pay a salary to the operator; and
 - who display signage pertaining to their products on or around the machine;
 - which may also have sponsors not related to the products vended but provide a theme, such as a cartoon character.
86. An object of the invention is a machine for vending alcoholic beverages, which includes age-authenticating controls and is capable of identifying customers with dietary restrictions concerning alcohol and prohibiting sale of inappropriate products to such customers.
87. It is an object of the invention to provide alcoholic beverages which have been enhanced with added substances which:
- a. do not naturally occur in the alcoholic beverage;
 - b. provide scientifically proven health benefits; and
 - c. may also alter perception, such as improving flavor and mouth feel.
88. It is an object of the invention to provide alcoholic beverages which have been enhanced with added soluble fiber, both to improve the mouth feel and/or change the viscosity of the beverage while simultaneously providing the health benefits of fiber.
- a. While alcoholic beverages have the potential of being abused, they can also be beneficial.
 - i. Polyphenols in red wine has been shown to be beneficial to heart health.
 - ii. Can be used to reduce tension, especially in elderly for whom tension-relieving medications might be contraindicated but alcohol may not be.
 - b. Focus groups have reported that alcoholic beverages enhanced with soluble fiber have what is called improved "mouth feel" -- that is, they are experienced as smoother, less acidic and less alcoholic-tasting, and have less of the burning sensation often associated inexpensive alcoholic beverage products.
 - c. Improved mouth feel, or viscosity changes such as thickening, can make alcoholic beverages easier to swallow for those who might benefit from them but might otherwise avoid them, such as:
 - i. people with swallowing disorders (dysphasia)

- ii. post-surgical patients, especially oral or facial surgeries
 - d. Inexpensive wines or other alcoholic products can be improved, expanding revenue opportunities for sellers and producers.
 - e. Soluble fiber has been shown to:
 - i. Address obesity and curb appetite;
 - ii. Lower serum cholesterol;
 - iii. Improve stamina and endurance;
 - iv. Stabilize blood sugar; and
 - v. Remove toxins from the body.
 - f. Soluble has been used in bakery and other food products, both for texture enhancement and health benefits, but not in alcoholic beverages.
 - g. Fibers to be used, which are often referred to as "soluble fiber," are between 0.1% and 10% by weight water-soluble indigestible fiber selected from the group consisting of dextrins, maltodextrins, galactomannans, cellulose ethers, inulin, alginates, agar, carrageenan, psyllium, guar gum, gum traganth, gum karya, gum ghatti, gum acacia, gum arabic, partially hydrolyzed products thereof and mixtures thereof.
89. It is an object of the invention, under the customization guidelines of this invention presented, to include that the system have the ability to product custom personal care products to be used topically, such as cosmetics in custom colors, uniquely formulated lotions, soaps, hair care products, perfumes and/or the like.
90. An object of the invention is to provide a multi-vendor venue, such as a shopping center, theme park, swap meet or the like, which features:
- a. An option of using a "smart card":
 - i. Which may act in lieu of a credit card or debit card;
 - ii. Which may be used to record shopper identification information;
 - iii. Which may be used to restrict purchases to certain amounts of money or certain product categories, such as parents restricting children to certain purchases or from seeing movies with an inappropriate rating, or for use as a gift certificate.
 - b. A central check-out system which may optionally be used by any vendor in the venue;
 - c. A central information center which:

- i. Includes a vendor directory for any or all vendors in the venue, which directory may include:
 - (1) Details as to the location of the vendor;
 - (2) Product information at whatever level of detail the vendor chooses, which can certainly be more detailed than what is found on the sort of static, standing directory typically used in shopping centers;
 - (3) Advertising relating to products offered, sales, specials, special events, or whatever else the vendor wishes to advertise.
- ii. May inform shoppers of promotions, sales, special events and the like taking place anywhere in the venue or in any vendor location.
- iii. May inform shoppers of emergencies, such as a fire, the location of the emergency, and the location of the exit nearest each shopper.
- iv. Allows a shopper to design an itinerary and prioritize his/her time within the venue.
- v. Allows a shopper to order from a vendor without actually visiting the vendor's location, such as reserving movie tickets while one is eating lunch, or ordering a forgotten item just before checkout and having it mailed to one's home.
- vi. Can collect marketing and demographic data concerning a shopper's activities and add this data to a database.
- vii. Can accept information from shoppers that they may wish to be kept on record, such as medical information, emergency contact information, family birthdays, or any other data.
 - (1) May interface with a shopper's portable device, such as a Palm Pilot®, or a shopper's home device, such as a personal computer.
- viii. Can consult a database of marketing and demographic data to see if data already exists concerning the shopper currently using the device, and if so, offer a greeting, a record of past purchases, gift reminders, recommendations for appropriate new purchases and other customer-specific messages.
- ix. Can be made available over the Internet so that shoppers can access some or all of these features from a home computer or other Internet-capable device.
- d. A hand-held device which is issued to shoppers upon presenting a credit or debit card, or a "smart card," which device:

- i. Connects to the central information system, providing an input/output means to give shoppers access to the information and capabilities offered to them by the central information system.
 - ii. Must be returned when the shopper leaves the venue to avoid incurring a replacement charge.
 - iii. May be issued in multiples for people shopping together, such as family members.
 - iv. Can incur a usage charge if no purchase is made in the venue.
 - v. Contains a scanner for recording purchases.
 - vi. Accumulates a purchase subtotal both within stores and from store to store.
 - vii. May include an attachment such as a pin or wristband for putting on a child, elderly person or pet, who can then be located using a local positioning system.
 - viii. May be used as a verbal communication device, like a telephone or walkie-talkie, within the confines of the venue.
 - (1) Shoppers may communicate verbally with each other
 - (2) Shoppers may communicate with personnel working in the venue, such as maintenance or security personnel, or personnel in individual vendor locations.
 - (a) Example: For making restaurant reservations, inquire about product availability.
 - (b) Example: Notifying maintenance personnel of safety hazards, rest rooms needing maintenance, etc.
 - (3) Overcomes the problem that many cell phones do not work in certain types of structures for a myriad of reasons.
 - ix. Can record still or video images with sound and transmit them to devices carried by other shoppers in the same shopping group, or to personnel working in the venue.
 - (1) Headphones or other private listening means can be used.
 - x. Can display reminders to a shopper, such as when a movie is about to start, their table is ready for lunch, etc.
- e. Good for center
- i. Enables the center to collect demographic data;

- ii. Builds shopper loyalty;
 - iii. Offers unique position in the market:
 - (1) Security features
 - (2) Convenience
 - f. Benefits for vendor tenants:
 - (1) Can advertise to every consumer that comes in;
 - (2) Can update advertising on a daily basis;
 - (3) May be able to reduce staff;
 - (4) Easier to maintain;
 - (5) Speed of purchasing;
 - (6) Less handling of cash transactions (especially advantageous for vendors who do not accept credit cards, or for swap meets where vendors do not have large amounts of cash on hand).
91. It is an object of the invention to provide for creation of a network of multi-vendor venues having the features described above which can communicate with each other.
- a. Data can be shared among venues, including shoppers' personal data, demographic data and inventory control.
 - b. Analysis of sales data can assist in making inventory decisions and leasing decisions.
92. An object of the invention is a vending system or part of a vending system incorporating the general features of vending systems described herein, specifically directed towards the gardening industry.
- a. Includes the duplication features, customization features, round-the-clock access, flexibility of configuration, etc. of the overall vending system.
 - b. One or more gardening products may be available in the same vending operation, such as seeds, plant food, insecticides, small tools, gloves, etc.
 - c. Plants and plant care products may be vended in small amounts, as for use with a few potted plants, and in sample sizes.
 - i. Allows consumer to test products before committing to large purchases.
 - ii. Allows manufacturers to test-market a new product or formulation.

- d. Uses of customization features:
 - i. Customizing plant care products whereby one can order very broad or specific care products. Products for roses in general or specific varieties such as: baby roses, vs. bush roses vs. climbing roses.
 - ii. With so many variable organisms which might need different insecticides to control small amounts may be ordered according to the needs of a particular classification of plants and or a variety within a classification.
 - iii. With a movement towards more organic gardening and a getting away from harsh chemicals it might be difficult to find a ready made product that will be effective. Therefore it might be necessary to use one or more treatments sequentially or in any combination for one or more specific plants.
 - iv. With many plants developing insect tolerance and the continuing laws reducing toxic insecticides a consumer may now be able to purchase small amounts of approved chemicals to make custom blends. (especially with a focus on organic gardening)
- e. Can aid in landscaping and plant design:
 - i. Can accept specifications from a buyer and inform the buyer of what plants meet those specifications and are compatible with each other, in what combination and arrangement, that are suitable to the climate of the intended locale, and are available either at that vending location or another vending location.
- f. The system may make gardening-related information available, from special to planting suggestions in relating to geographical locations and/or combining elements in the garden for compatibility and/or beauty.
- g. Companies offering specials, discounts etc. also can have posted pages.
- h. Growers or other interested individuals can post notices concerning plants for sale, plants wanted.
- i. The system may offer access to such references as the databases of intellectual properties concerning plants maintained by such entities as Cornell University and California State University/Davis.
- j. Trade publications may sponsor, nurseries, etc. and also cross promotions etc with companies that are not in this industry but close to it (gardening tools, gloves, shoes) and or huge tractors etc. can participate).

93. It is an object of the invention to provide translations from one language into another of audio signals, text and/or images which might have meaning for speakers of one language that would be better expressed with different images for speakers of a different language, by:
- a. Using embedded text, and/or simultaneously broadcasting readable text in one or more languages at the same time which is not visible to the naked eye;
 - b. Providing an interface device, such as glasses, which allows a user to see the translation text in the language of their choice.
94. The object of the invention is to converge the technologies of recorded entertainment material, such as music, music videos, still photos or other material in any combination, with advertising, promotions and/or cross-promotions into a finished product containing both the entertainment recording and the advertising, promotional and/or cross-promotional material, which may accompany some benefit to the consumer.
- a. The recording can be compiled with the advertising material and sold as a finished product.
 - b. The recording can be compiled by the buyer from a selection of entertainment choices.
 - c. The advertising can be for one or more products, from one or more advertiser.
 - d. The advertising can include a charitable message.
 - e. The benefit to the consumer could consist of such things as:
 - i. Reduced price for the recording;
 - ii. No charge to the consumer, if another product is being purchased;
 - iii. Opportunity for the consumer to insert his/her own image into a photo with a featured entertainer, the photo being used on the packaging or included with the recording;
 - iv. Opportunity to dedicate part of purchase price to a charitable donation.

The following claims are thus to be understood to include what is specifically illustrated and described above, what is conceptually equivalent, what can be obviously substituted and also what essentially incorporates the essential idea of the invention. Those skilled in the art will appreciate that various adaptations and modifications of the just-described preferred embodiment can be configured without departing from the scope of the invention. The illustrated embodiment has been set forth only for the purposes of example and that should not be taken as limiting the invention. Therefore, it is to be understood that, within the scope of the appended claims, the invention may be practiced other than as specifically described herein.

What is claimed is:

1. A personalized restricted purchase method comprising the steps of:
providing a wearable or carriable data storage device for storing personal, medical and financial data;
storing at least one of personal data representing identity of an owner individual and purchase restriction, medical data representing medical conditions and restrictions relating to an owner-individual and financial data relating to the owner-individual on said data storage device;
providing an automatic vending unit in communication with a reading apparatus capable of reading said data stored on said storage device; and
having the owner-individual to present said data storage device to the reading apparatus whereby purchase of an item from the vending unit can be made provided the stored financial data authorize the cost of the purchase and provided the stored personal and/or medical data authorize the item.
2. The method according to Claim 1, wherein said data storage device is selected from the group consisting a magnetic data storage device, a microelectronic data storage device, and an optical data storage device.
3. The method according to Claim 1, wherein said data storage device further comprises automatic communication facilities for reporting location and identity of the owner-individual.
4. The method according to Claim 1, wherein medical data are stored and the medical data prescribe medication for the owner-individual and wherein the automatic vending unit dispenses medications appropriate to the individual.
5. The method according to Claim 4, wherein the medications are intended for emergency use.
6. The method according to Claim 5, the vending unit automatically makes an emergency report to authorities providing identifying and medical data from the data storage device in response to dispensing medications intended for emergency use.

7. The method according to Claim 1, wherein the medical data and/or the personal data contain a list restricting consumption of certain foods and beverages and wherein the automatic vending unit will not dispense foods and beverages on the list to the owner-individual.

8. The method according to Claim 1, wherein the medical data and/or the personal data contain a list ranking foods and beverages in terms of healthiness for the owner-individual and wherein the automatic vending unit rewards the owner-individual for selecting foods or beverages with a high healthiness ranking.

9. The method according to Claim 8, wherein the owner-individual receives a free item as a reward.

10. The method according to Claim 8, wherein the owner-individual receives a financial rebate as a reward.

11. The method according to Claim 1, wherein said vending unit further comprises an individual verification device that detects a physical character of an individual presenting the data storage device to verify identity between the individual and the owner-individual.

12. The method according to Claim 11, wherein the physical character is selected from the group consisting of fingerprints, palmprints, retinal scans, iris scans, and voiceprints.

13. An automated vending system for creating a customized graphic design comprising:

means for displaying a plurality of graphic sub-components that can be assembled to create a graphic design;

means for inputting images;

means for displaying inputted images;

means for selecting and manipulating graphic sub-components and inputted images to create a graphic design; and

means for storing the graphic design.

14. The automated vending system of Claim 13, wherein the graphic design is for a personalized version of official government documents and means are supplied to render said official documents to ensure said documents' legal validity.

15. The automated vending system of Claim 14, wherein said official documents are rendered onto special governmentally authorized paper.

16. The automated vending system of Claim 14, wherein the official government documents are selected from the group consisting of postage stamps and currency.

17. The automated vending system of Claim 13, wherein the means for inputting photographs is selected from the group comprising a scanning device, a port to attach a personal digital assistant, a port to attach a personal computer and a digital camera.

18. The automated vending system of Claim 13, wherein the graphic sub-components include celebrity images.

19. The automated vending system of Claim 13, wherein the graphic sub-components are automatically obtained from a network.

20. The automated vending system of Claim 13 further comprising means to render the card design into a physical representation of the graphic design.

21. The automated vending system of Claim 20, wherein the means to render is located remotely from the vending system.

22. The automated vending system of Claim 20, wherein the means to render is selected from a two-dimensional printing device and a three-dimensional printing device.

23. The automated vending system of Claim 13, wherein the graphic design is selected from the group consisting of a greeting card design, a playing card design, a product label design and a T-shirt design.

24. The automated vending system of Claim 20 further comprising means to transmit the card design over the Internet as an electronic greeting card.

25. The automated vending system of Claim 24, wherein the electronic greeting card includes sound.

26. The automated vending system of Claim 20, wherein the system presents preset graphic designs to serve as test marketing for said preset designs.

27. The automated vending system of Claim 20, wherein the system collects customer demographic data.

28. An automated vending system for creating a customized foods or beverages comprising:

means for displaying a plurality of food or beverage components that can be assembled to create a food or beverage;

means for displaying suggested food or beverage recipes;

means for a consumer to select suggested recipes and food and beverage components to create new food or beverage recipes or to modify or keep suggested recipes thereby selecting chosen recipes ; and

means for dispensing components to create food and beverages according to chosen recipes.

29. The vending system according to Claim 28 further comprising means for storing the chosen recipes.

30. The vending system according to Claim 28 further comprising means for transmitting the chosen recipes to third parties with the consumer's permission and in return for a reward.

31. The vending system according to Claim 28, wherein the means for dispensing components are located in a plurality of separate units in data communication with each other.

32. The vending system according to Claim 31, wherein the consumer receives a partial product from each of the separate units and sequentially assembles a final product.

33. The vending system according to Claim 28, wherein beverages are dispensed by combining water and additives.

34. The vending system according to Claim 33, wherein the water is municipal water.

35. The vending system according to Claim 28, wherein the system supplies containers into which the components are dispensed.

36. An automated vending system for creating a customized personal ornament comprising:

means for displaying a plurality of ornament sub-components that can be assembled to create a personal ornament;

means for displaying suggested ornament designs;

means for a consumer to select suggested designs and ornament sub-components to create new ornament or to modify or keep suggested designs thereby selecting a chosen ornament design; and

means for dispensing sub-components to a personal ornament from the chosen ornament design.

37. The vending system according to Claim 36, wherein data derived from consumer selection of the suggested ornamental designs is used to test market those designs.

38. The vending system according to Claim 36 further comprising means for storing the chosen ornament design.

39. The vending system according to Claim 36 further comprising means for transmitting the chosen ornament design to third parties with the consumer's permission and in return for a reward.

40. The vending system according to Claim 36, wherein the means for dispensing ornament sub-components are located in a plurality of separate units in data communication with each other.

41. The vending system according to Claim 40, wherein the consumer receives a partial product from each of the separate units and sequentially assembles a final personal ornament.

42. The vending system according to Claim 36, wherein the personal ornament is selected from the group consisting of jewelry and monograms.

43. The vending system according to Claim 42, wherein the jewelry is a charm bracelet.

44. An automated vending system for creating a customized media collection comprising:

means for displaying and sampling a plurality of audio and video media components

that can be assembled to create a customized media collection

means for a consumer to select and order audio and video media components to create a customized media collection; and

means for delivering the customized media collection to the consumer.

45. The vending system according to Claim 44, wherein the customized media collection is delivered through storage on a tangible medium which is dispensed by said system.

46. The vending system according to Claim 44, wherein the customized media collection is delivered through transmission to the consumer over a network.

47. The vending system according to Claim 44, wherein the customized media collection contains multiple language support allowing consumers speaking different languages to use and enjoy the customized media collection.

48. The vending system according to Claim 44, wherein at least some of the displayed media components contain advertising material and a price paid by the consumer for the customized media collection is lowered or the consumer is otherwise compensated when including media components containing advertising material in the customized collection.

49. The vending system according to Claim 44, wherein demographic data relating the consumer and selection and order of media components are collected.

50. The vending system according to Claim 49, wherein the demographic data are used to test market new artists.

51. The vending system according to Claim 49, wherein suggested media collections are offered the consumer and the demographic data are used to test market such collections.

52. An automated vending system for creating a prototype of a novel machine design comprising:

means for displaying a plurality of design sub-components that can be assembled to create a machine design;

means for selecting and manipulating design sub-components to create a novel machine design;

means for time stamping the novel machine design to prove date and time of invention ;

means for storing the novel machine design;

means for converting the novel machine design into machining and assembly instructions that permit automated conversion of the novel machine design into a physical prototype; and

means for using said instructions to prepare a physical prototype upon payment of a fee;

53. The vending system according to Claim 52, wherein the means for time stamping can be used to prepare a paper copy of the novel machine design for authentication purposes.

54. The vending system according to Claim 52, wherein the means for storing can be used to prepare a machine readable version of the novel machine design.

55. The vending system according to Claim 52 further comprising means to input an earlier produced machine readable version of a novel machine design for modification of said machine readable version.

56. An automated vending system optimized for gardening comprising:
means for displaying a plurality of garden-related tools, compositions, plants and garden-related problems;
means inputting customer selection of tools compositions, plants and garden-related problems;
means for compounding custom compositions and sample compositions in response to said selection of garden-related problems; and
means to dispense tools, compositions and plants in response to said selections of tools, compositions and plants.

57. The vending system according to Claim 56, wherein plants are selected from the group consisting of vegetative plants, seeds, bulbs, tubers, corms, rhizomes and roots.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US 03/32964

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07F11/00 G07F17/00 G07F7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 775 990 A (HITACHI LTD) 28 May 1997 (1997-05-28) the whole document	1-12
X	EP 0 256 768 A (OKI ELECTRIC IND CO LTD) 24 February 1988 (1988-02-24) the whole document	1-12
X	US 5 819 981 A (COX WILEY N) 13 October 1998 (1998-10-13) the whole document	28-43, 56,57
X	WO 93 08535 A (POSTAL BUDDY CORP) 29 April 1993 (1993-04-29) the whole document	52-55
A		13-27
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

* & * document member of the same patent family

Date of the actual completion of the international search

1 March 2004

Date of mailing of the international search report

15/03/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Heselius, P

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/32964

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Form PCT/ISA/210 (continuation of second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US 03/32964

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US 5633839	A	27-05-1997	NONE	

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

07/23/2004 SDIRETA1 00000068 10896287

01 FC:2001	385.00	OP
02 FC:2202	125.00	OP
03 FC:2201	258.00	OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

PATENT APPLICATION FEE DETERMINATION RECORD

Effective October 1, 2003

Application or Docket Number

0896287

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	34	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	34 minus 20 =	* 14
INDEPENDENT CLAIMS	9 minus 3 =	* 6
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

SMALL ENTITY
TYPE ☐

OR OTHER THAN
SMALL ENTITY

RATE	FEE
BASIC FEE	385.00
X\$ 9=	186
X43=	258
+145=	
TOTAL	1769

RATE	FEE
BASIC FEE	770.00
X\$18=	
X86=	
+290=	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus	**
Independent	*	Minus	***
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

SMALL ENTITY

OR OTHER THAN
SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X43=	
+145=	
TOTAL	
ADDITIONAL FEE	

RATE	ADDITIONAL FEE
X\$18=	
X86=	
+290=	
TOTAL	
ADDITIONAL FEE	

10 18 21 24 28 32
33 34
(Column 1)

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus	**
Independent	*	Minus	***
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

RATE	ADDITIONAL FEE
X\$ 9=	
X43=	
+145=	
TOTAL	
ADDITIONAL FEE	

RATE	ADDITIONAL FEE
X\$18=	
X86=	
+290=	
TOTAL	
ADDITIONAL FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus	**
Independent	*	Minus	***
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

RATE	ADDITIONAL FEE
X\$ 9=	
X43=	
+145=	
TOTAL	
ADDITIONAL FEE	

RATE	ADDITIONAL FEE
X\$18=	
X86=	
+290=	
TOTAL	
ADDITIONAL FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

***If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.



Ifw

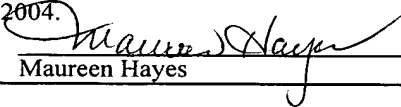
Attorney Docket No. S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Tyler Brooks, et al.
Serial No.: 10/896,287
Confirmation No.: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Not Yet Assigned
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 CFR §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 23rd day of November, 2004.


Maureen Hayes

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

Sir:

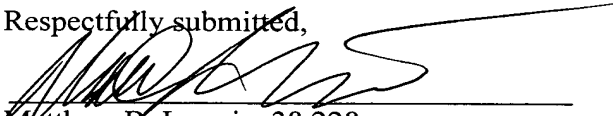
Transmitted herewith are the following documents in connection with the above-identified patent application:

- ☒ Supplemental Application Data Sheet
- ☒ Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch are respectfully requested to contact the undersigned at (617) 395-7000, Cambridge, Massachusetts.

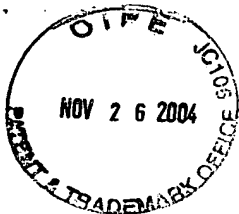
The Commissioner is hereby authorized to charge any deficiencies or overpayment to Deposit Account No. 50/2762, Ref. No. S2019-700019. A duplicate copy of this transmittal is enclosed.

Respectfully submitted,

By: 

Matthew B. Lowrie, 38,228
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street
Cambridge, MA 02142
Telephone: 617-395-7000
Facsimile: 617-395-7070
Attorney for Applicants

November 23, 2004



SUPPLEMENTAL APPLICATION DATA SHEET

Application Information

Filing Date::	July 21, 2004
Application No.::	10/896,287
Application Type::	Regular
Subject Matter::	Utility
Title::	PROGRAMMABLE TICKETING SYSTEM
Attorney Docket Number::	S2013-700019
Request for Early Publication?::	No
Suggested Drawing Figure::	Fig. 2
Total Drawing Sheets::	9
Small Entity?::	Yes
Petition included?::	No
Secrecy Order in Patent Appl.?::	No

Applicant Information

Applicant Authority Type::	Inventor
Primary Citizenship Country::	US
Given Name::	Tyler
Family Name::	Brooks
City of Residence::	Seattle
State or Province of Residence::	WA
Country of Residence::	US
Street of mailing Address::	5220 37 th Ave., N.E.
City of mailing address::	Seattle
State or Province of mailing address::	WA
Country of mailing address::	US

Applicant Authority Type:: Inventor
Primary Citizenship Country:: US
Given Name:: Kevin
Family Name:: McLaughlin
City of Residence:: Charlestown
State or Province of Residence:: MA
Country of Residence:: US
Street of mailing Address:: 22 Mount Vernon St., #3
City of mailing address:: Charlestown
State or Province of mailing address:: MA
Country of mailing address:: US

Applicant Authority Type:: Inventor
Primary Citizenship Country:: US
Given Name:: Helga
Middle Name:: Cecilia
Family Name:: Dahl
City of Residence:: Boston
State or Province of Residence:: MA
Country of Residence:: US
Street of mailing address:: 23 Charter Street, #2
State or Province of mailing address:: MA
Country of mailing address:: US

Applicant Authority Type:: Inventor
Primary Citizenship Country:: US
Given Name:: Edward
Family Name:: Kim
City of Residence:: Seattle
State or Province of Residence:: WA
Country of Residence:: US
Street of mailing Address:: 2314 NW 83rd Street
City of mailing address:: Seattle
State or Province of mailing address:: WA
Country of mailing address:: US
Postal or Zip Code of mailing address::

Correspondence Information

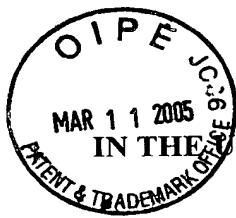
Correspondence Customer Number:: 37462
Phone Number:: (617) 395-7000
Fax Number: (617) 395-7070

Representative Information

Representative Customer Number::	37462

Assignee Information

Assignee name::	Smart Destinations Inc.
Street of mailing address::	240 Commercial Street
City of mailing address::	Boston
State or Province of mailing address::	MA
Postal or Zip Code of mailing address::	02109



Docket No. S2013-700019

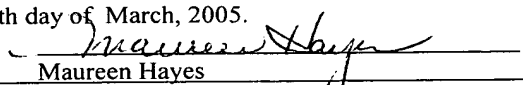
IPW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks, et al.
Serial No: 10/896,287
Confirmation No: 7645
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For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Not Yet Assigned
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 CFR §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to the MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 9th day of March, 2005.


Maureen Hayes

MAIL STOP AMENDMENT

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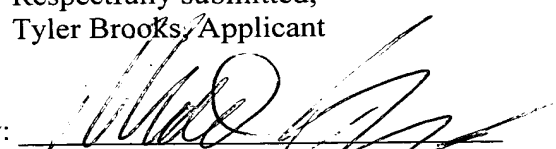
Sir:

Transmitted herewith are the following documents:

- ☒ Supplemental Information Disclosure Statement, PTO-Form 1449 including Cited References; and
- ☒ Return Receipt Postcard.

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 395-7000. A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 50/2762 (ref. S2013-700019). A duplicate of this sheet is enclosed.

Respectfully submitted,
Tyler Brooks, Applicant

By: 

Matthew B. Lowrie, Reg. No. 38,228
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park, One Main Street
Cambridge, MA 02142
Telephone: 617-395-7000
Facsimile: 617-395-7070

Date: March 9, 2005



Docket No. S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks, et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM

Examiner: Not Yet Assigned
Art Unit: 3625

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL STATEMENT FILED PURSUANT TO THE DUTY OF
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, Applicants request consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

PART II: Information Cited

Applicants hereby make of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by Applicants, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

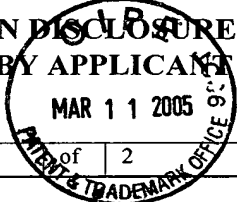
Respectfully submitted,

Tyler Brooks, et al, Applicants

By: 

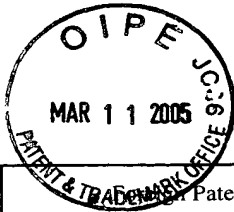
Matthew B. Lowrie, Reg. No. 38,228
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street
Cambridge, Massachusetts 02142
Tel. (617) 395-7000

Date: March 9, 2005

FORM PTO-1449/A and B (Modified)		APPLICATION NO.: 10/896,287	ATTY. DOCKET NO.: S2013-700019
INFORMATION DISCLOSURE STATEMENT BY APPLICANT 		FILING DATE: July 21, 2004	CONFIRMATION NO.: 7645
		APPLICANTS: Tyler Brooks, et al.	
		GROUP ART UNIT: 3625	EXAMINER: Not yet assigned
Sheet	1 of 2		

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
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**FOREIGN PATENT DOCUMENTS**

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/Country	Number	Kind Code			
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	A41	WO	02/01485	A1	Smartclic Corporation	01-03-2002	
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EXAMINER	DATE CONSIDERED

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

* a copy of this reference need not be provided as the reference is a published U.S. Patent or U.S. Patent application and the present application was filed after June 30, 2003..

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(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 November 2001 (15.11.2001)

PCT

(10) International Publication Number
WO 01/86599 A2

(51) International Patent Classification⁷: G07F 7/00

(21) International Application Number: PCT/IB01/00809

(22) International Filing Date: 13 April 2001 (13.04.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/197,775 14 April 2000 (14.04.2000) US
60/264,013 26 January 2001 (26.01.2001) US

(71) Applicant (for all designated States except US): SUPER-COM LTD. [IL/IL]; Hataas Street 25, New Industrial Area, 44425 Kfar Saba (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LANDMAN, Avi [IL/IL]; 99 Hagdud Haivri Street, 26306 Kiriathaim (IL). ROZEN, Eli [IL/IL]; 38 Heleni Hamalka Street, 46768 Herzliya Pituah (IL). HASSAN, Jacob [IL/IL]; 21 Shnat Hayovel Street, 45304 Hod Hasharon (IL).

(74) Agent: BEN-DAVID, Yirmiyahu, M.; Jeremy M. Ben-David & Co. Ltd., P.O. Box 4508, Har Hotzvim Hi-Tech Park, 91450 Jerusalem (IL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

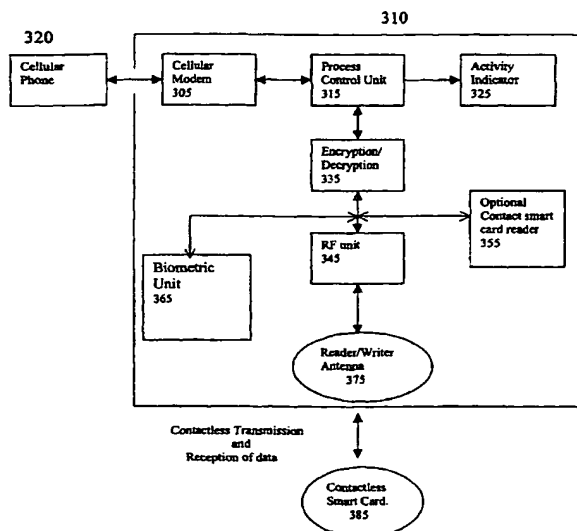
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: SMART COMMUNICATIONS



(57) Abstract: A method and apparatus for providing a wireless device with the ability to have secure e-commerce transactions utilizing a contactless smart card. Additionally, the method and apparatus provide for a wireless smart card transaction system which utilizes biometric identification methods. The system may incorporate at least one biometric input device, such as a fingerprint reader, a camera or micro-camera for iris or face recognition, and/or a standard microphone for voice recognition or any other biometric input device.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

SMART COMMUNICATIONS

This application claims the benefits of United States Provisional Application Nos. 60/197,775, filed April 14, 2000, and 60/264,013, filed January 26, 2001, which are co-
5 pending and are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to wireless communications, and more particularly, to a
10 system suitable to utilize smart card technology with a wireless communication device to provide authorization and security features for wireless communications and transactions.

In addition, the present invention relates generally to the field of authentication of electronic transactions, and more particularly to a non-reputable digital signature that
15 allows authentication of the identity of a user/customer by comparison with an unique biological indicia.

2. Description of the Related Technology

Cellular phones are well known in the prior art. For example, U.S. Patent No. 5,867,795 shows a portable electronic device including a virtual image display positioned
20 within a housing or remote unit. The device is capable of providing an image of information contained on a smart card as well as transactions processed in response to

data transmitted by a two-way voice transceiver between a host database and the portable electronic device. In addition, the above-referenced aptent shows a sensor constructed to have the smart card positioned adjacent thereto in data sensing juxtaposition and electronics connected to the sensor for processing data between the host database and the portable electronic device, and for reading and writing data to the smart card.

US Patent No. 5,821,983 shows a smart card, a non-passive, secure microprocessor-based data storage medium, is used for the storage of a plurality of data messages and is read by a video telephone terminal equipped with a smart card reader to provide transmission of a data message, comprising video image data, either in still frame or full motion format, to a remote video telephone terminal. The use of the smart card for storage of a data message provides a secure, transportable message that is available for transmission from any video telephone terminal having smart card reading capability.

Smart cards are non-passive data storage devices which comprise a microprocessor, memory and I/O circuitry. Smart cards are generally used when a secure and portable means to store data is desired. There are contactless smart cards which do not require physical contact to transfer data between the card and a card reader. There are also smart cards which have electrical contacts to facilitate such data transfer. Prior art U.S. Patent No. 4,480,178 describes a contactless smart card, and U.S. Patent No. 5,120,939 describes the security which smart cards provide when used as data memory devices.

Electronic commerce is a widespread means of conducting business. The Internet and World Wide Web have created new avenues for conducting business. Electronic

business transactions present a number legal and financial problems. These electronic transactions create security concerns because the data is transmitted across public networks and can be intercepted. Encryption methods have been developed which allow data to be read only by the designated receiver. For example, public key encryption
5 allows a first user to send a message to a second user that is encrypted using the second user's public key. The second user's public key can be freely distributed to anyone the second user wishes to communicate with. The message can only be decrypted using the second user's private key. If the message is intercepted it cannot be decoded without the second user's private key.

10 The identity of a party transmitting a message executing an electronic transaction is also of concern, particularly where one of the parties is obliged to perform in the future or is subject to some future liability. In such transactions it is necessary that the parties not be able to repudiate the agreement. Also, the identity of the parties must be clearly established so that each can be assured that the other party is in fact the person it
15 represents to be, and is able to perform. Further, the identity of the parties may need to be established with a high degree of certainty to support a legal claim, should one of the parties later attempt to avoid or repudiate the transaction.

Digital signatures have been developed to provide a means for identifying a party transmitting an electronic message. One method for creating digital signatures is to
20 generate public and private key pairs for each of a group of parties that may wish to exchange digitally signed documents. Each of the parties stores its public decrypting keys in a registry along with identifying information, such as the key owner's name and e-mail

address. The key owners each keep their private encrypting keys secret.

To create a digital signature a party encrypts a message with his private encrypting key that includes the same identifying information that is stored in the registry. The party receiving the encrypted message goes to the registry and retrieves the sending party's public decrypting key and identifying information. The receiving party decrypts the message using the decrypting key from the registry and extracts the identifying information. If the identifying information found in the message matches the information stored in the registry then the receiving party concludes that the message is genuine. Further, there is some assurance that the sending party will not deny that he sent the message since only the sending party's private encrypting key can create a message that the sending party's public decrypting key can decode.

Known digital signature techniques suffer from certain problems. A third party may intercept a signed message and use the signed message to spoof another party. By retransmitting the signed message, the interceptor may be able to convince a recipient that he is the true sender. This is the so-called "man-in-the-middle" attack.

In addition, known digital signatures are subject to repudiation. A party may no longer wish to be bound by a disadvantageous agreement or may be subject to criminal or civil liability if he made the agreement. That party may simply deny sending a particular message. The party may claim that he did not intend to execute a transaction with a particular party but was instead the victim of a man-in-the-middle attack.

With known digital signature techniques, the only information connecting the sender with the message is the database entry in the registry containing his public decrypting key and the identifying information. Thus, the sender may repudiate a

transaction by claiming that his public decrypting key was registered without his authority.

SUMMARY OF THE INVENTION

An object of the invention is to provide a wireless device with the ability to have
5 secure e-commerce transactions utilizing a contactless smart card. It is a further object
of the present invention to provide a wireless smart card transaction system which utilizes
biometric identification methods. The system may incorporate at least one biometric
input device, such as a fingerprint reader, a camera or micro-camera for iris or face
recognition, standard microphone for voice recognition or any other biometric input
10 device.

Another object of the invention is to capture the biometric data of a person
using the device/module. Once the biometric data has been captured, another object of
the invention is to encrypt the biometric data and transmit it to a remote host or server for
authorization. Alternatively, the device/module may perform a local authorization of the
15 biometric data. After the device/module has performed the local authorization, the device
may transmit an encrypted authorization message to a host or service supplier. If either
authorization method fails to approve of a user, the device may deny the user services.

Another object of the invention is to provide a financial information and
transaction system which utilizes wireless communications. In this system, a device is
20 connected to a financial institution via a wireless connection. Smart cards are utilized to
verify authorization for communications and transactions, thereby minimizing potential
security problems which could otherwise result from use of a wireless device.
Alternatively, a smart card is advantageously utilized not only for authorization, but also

to maintain a secure record of available funds. The system not only provides the functionality of an ATM network, but also provides non-financial services, thereby forming an integrated system.

In another embodiment, a wireless communication device may be comprised of a communications interface and a contactless smart card interface, such as a contactless reader/writer, connected to the communications interface. The communications interface may include a controller, transmission/reception subsystem, and/or user interface. The controller may be a microprocessor and the user interface may include a microphone, speaker, key pad/board, micro-camera, display screen, touch screen or any other input/output device.

An object of the invention is to provide a module to upgrade existing wireless devices to include a smart card reader/writer, in particular a contactless smart card reader/writer, in order to communicate with contactless cards.

It is a further object of the invention to provide a smart card transaction system which is integrated with wireless communication devices, including personal digital assistants (PDAs), cellular phones, PCS systems, pagers, etc. The format of the wireless communication is not a limitation to the system. It is a further object of the invention to provide smart card based transactions and token redemption systems. It is a further object of the invention to provide enhanced security to such systems through biometric authentication processes and apparatus. It is a further object of the invention to provide a transaction system integrated with a wireless communication system utilizing either contact based or contactless smart card technologies.

According to an advantageous feature of the invention, a wireless communication

device such as a cellular phone may be utilized to access a communication network. A transaction may be conducted over the communication network, and a token or other indicia of value may be transmitted to the wireless communication device. The wireless communication device may then download the token, or other indicia of value, or other information to a smart card via integrated or add-on contact based or contactless smart card interfaces (such as a reader/writer). The transaction system may include one-to-one security/authentication features or one-to-many security/authentication features, when involving a remote host computer database storage.

In another embodiment, a module may include a contact smart card reader. The module may be used with contact smart cards, contactless smart cards, or both.

These, together with other objects and advantages which will be subsequently apparent, reside in the details of construction and operation as more fully hereinafter described in the claims, with reference to the accompanying drawings forming a part thereof, wherein like numerals refer to like elements throughout.

The present invention is directed to methods and apparatus for storing a digital signature, analyzing a "live" signature and comparing the two to provide positive user authentication and non-repudiation. It is an object of the present invention to store a unique characteristic of the sender, such as biological indicia that can only have come from the user. In a preferred embodiment, a digital signature is stored in the memory of a bioauthentication smart card for comparison to a "live" signature.

Another object of the present invention is to store a digital signature that allows positive identification of the sender which cannot be repudiated.

Another object of the present invention is to analyze a stored digital signature

with a real time signature applied to a smart card.

Another object of the present invention is to provide a method for positively identifying a user during an electronic transaction with a biologically-based digital indicia.

5 The present invention is directed to methods and apparatus for creating and storing a digital for use in electronic commerce. The person requesting the electronic transaction

digital certificate such that the digital certificate provides positive identification of the
10 sender and minimizes the ability of the sender to repudiate the authenticity of the certificate and any transaction embodied in an electronic document appended to the certificate.

 According to an aspect of the present invention, a person, hereinafter called a user, wishing to obtain a bioauthentication smart card visits a local bank or service center
15 and enters a data corresponding to a biological or physical characteristic of himself, for example, his signature into a smart card. Preferably, the data is entered in digital form, but could be entered by optical imaging (e.g. a photograph or a scanned fingerprint, iris, or retina) which is then processed into digital form. The digital representation of the registrant's biological indicia is encrypted using the registrant's private key and sent to
20 the certificate authority along with the registrant's public key. The certificate authority decrypts the digital representation and stores it. The registrant then visits a remote registration terminal in person with the digital representation and other identifying documents. The operator of the remote registration terminal verifies the identity of the

registrant from the identifying documents and transmits the digitized representation to the certificate authority. The certificate authority compares the decrypted digital representation with the representation sent from the remote registration terminal. If a match is found, the certificate authority forms a certificate by signing the digital signature
5 using the certificate authority's encrypting key. The certificate is stored in a database and is sent to the registrant. Preferably, the database is public with no restriction as to who may access the stored certificate data. Alternatively, access to the database may be restricted to, for example, employees of a particular corporation or government department, database subscribers, or members of a stock exchange.

10 According to another aspect of the present invention, the registrant transmits a digital message including the certificate described above. The digital message is then encrypted with the registrant's private encrypting key. The party receiving the encrypted message decrypts the message using the registrant's public decrypting key. The receiving party inspects the message to verify that the appended certificate is valid and that the
15 certificate was prepared by a reputable certificate authority by comparing the certificate with the information stored in the database. The reputation of the certificate authority provides some assurance that the message is genuine and that the sender will not later repudiate the message because his signature and identifying information are part of the certificate stored in the public database.

20 If additional assurance that the registrant actually transmitted the message is desired, the receiving party can transmit the certificate to the certificate authority and request that the certificate be decrypted to extract the digitized representation. The digital representation is then compared with the digital representation originally submitted by

the registrant. If even greater assurance is required, for example, where the registrant later attempts to repudiate the message, the digital representation can be compared with biological indicia of the registrant from which the digital signature was originally formed.

5

BRIEF DESCRIPTION OF THE DRAWINGS

- FIG. 1 shows an embodiment of the invention;
FIG. 2 shows another embodiment of the invention;
FIG. 3 shows another embodiment of the invention;
FIG. 4 shows an embodiment of the invention;
FIG. 5 shows another embodiment of the invention;
FIG. 6 shows another embodiment of the invention.

10

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

15

The smart card market is a rapidly growing market. Smart cards are usually divided into two categories: standard smart cards and contactless smart cards. A smart card is a plastic card, having the size of a regular bank or credit card, that contains a semiconductor chip. The International Standards Organization (ISO) specifies the size and thickness of both credit cards and smart cards. The basic contact smart card standard is the ISO 7816 series, part 1-10, while contactless cards will be governed by the ISO 14443 standard. The invention is not limited to systems that implement these standards. The chip in a contactless smart card can store large quantities of information. The card may also contain a microprocessor, which can process data, turning the smart card into a small computer. The smart card is activated by placing the card in a terminal that can

20

read and write data to/from the card. Standard smart cards must be physically contacted by the terminal for data to be read or written. Contactless smart cards, however, can be accessed without physical contact. Instead, data can be exchanged via radio frequency technology, which is usually 13.56 MHz. To make this possible, a contactless smart card must contain not only a memory and/or a PCU unit but also a transmitter/receiver unit which modulates/demodulates the data and an antenna connected to the chip to transmit/receive the data. The invention is not limited to systems that use the radio frequency bands. The system may use other communication frequency bands.

Wireless communication devices, such as cellular phones and PDAs, are common portable communications devices. There is a need to provide smart card transaction capabilities in these portable devices and to upgrade these wireless communications devices to accommodate smart card transactions. In an embodiment of the invention, a smart card reader/writer module may be provided as an attachment to a standard wireless device. The module may operate at 13.56 MHz high-frequency standard. The module may be appropriately sized to ergonomically match a host wireless device. For example, the module may be approximately 5 cm long, 2-4 cm wide, 4 cm high. The module may be connected to device 220, as shown in FIG. 2, via an interface connector such those used for connecting to regular data modems. In an alternative embodiment, module 210, as shown in FIG. 2, may be integrated into the battery of device 220. In another alternative embodiment, the module may be incorporated into the wireless device 220.

As shown in FIGS. 2 and 3, module 210 may be a separate add-on device for connecting to a wireless communication device 220. Module 210 may be connected to communication device 220 through an external connector and may receive power from

a battery (not shown) in communication device 220. In an alternative embodiment, a power supply (not shown) may be included in module 210. The module power supply may also be used as a reserve power supply for communication device 220.

5 A user may request to receive a biometric authorization smart card from a service center or bank. In a preferred embodiment, the user may visit the service center or bank to initialize the smart card. The user may be required to present at least one form of identification (e.g., driver's license, passport, birth certificate) to the service provider or bank before receiving the smart card. As shown in FIG. 1, the biometric authorization smart card (105) may have a signature scratch pad (110) on the back of the card, which
10 the user may initialize by signing the scratch pad X number of times. For example, the user may be required to sign the scratch pad three times in front of the bank officer. Once the signature has been applied to the back of the smart card, the signature will be stored in a digital form on a microchip in the card. This has the advantage of eliminating the need for a remote storage center for the biometric information of the user.

15 With today's advancing technology, there is a growing concern over the collection of personal information such as biometric information for databases, which can be sold to other companies or the government without an individual's knowledge. The growing concern over Big Brother has provided a need for the invention shown herein, where the biometric information is stored in the card and the individual is always in
20 possession of that card. This embodiment eliminates the concerns regarding the collection of personal biometric information for a centralized database.

After a user has obtained and initialized a biometric authorization smart card, the user or card holder may purchase goods or services using any type of communication

device. A communications device may be a landline telephone, a wireless device, or a computer capable of exchanging data with another communications device. Figure 6 shows a flow chart of a method of using the biometric smart card. A card holder may establish a communication link via a wireless personal device with another party or service provider (605). It should be noted that any type of communication device may be used to establish a communication link with another party. This may include landline telephones, wireless communication devices, and computer related communication devices, so long as the communication device is equipped to read the biometric authorization smart card.

Once the card holder has established communications with a service provider, the card holder will select an action to be taken with the service provider, such as the purchase of goods and services (610). After a user has decided initiate a purchase, the card holder may select a form or method of payment (615). The method of payment may be integrated into the biometric card or separate from the biometric card. For example, the scratch pad may be associated with a bank credit card which may only be used when the correct signature is applied to the scratch pad at the time of purchase.

In an alternative embodiment, the card may be used as a biometric authorization system for different accounts that have been established with different service providers. The card holder may be requested to sign his/her name with an inkless pen or stylus on the electronic scratch pad of the smart card (620). The scratch pad may be electrically connected to a smart card chip integrated within the biometric authorization smart card (625). This may also be seen in FIG. 6.

The smart card chip may read and analyze the data from the pressure-sensitive

area (i.e., the scratch pad) (630). The smart chip may perform a comparison between the signature stored in the smart chip and a “live” signature to provide positive user authentication and non-repudiation.. For security, the signature pattern stored in the smart chip will be encrypted in the chip’s memory. The smart chip internally performs
5 a comparison between the stored signature and the “live” signature of the card holder received from the scratch pad (635).

A threshold level may be set to determine the accuracy of the “match” between the stored signature and the “live” signature. If the comparison yields a result above a pre-defined threshold, the chip may enabled the transaction by transmitting a signal to
10 the vendor. The signal may be as simple as a yes or no response. Alternatively, the signal may be an encrypted form of the signature. Then the card holder will be able to complete the transaction. If the comparison fails to yield a match, the card holder may not be able to complete the transaction.

In an embodiment of the invention, when the comparison fails, a user may either
15 repeat the signature and authentication process or give an alternative identification such as a PIN (using the communications device) or any other method, in order to complete the transaction.

Device 320 may communicate with module 310 via a modem 305. The module may be controlled by central processor unit (PCU) 315, which may be connected to
20 modem 305. PCU 315 may control activity indicators 325 such as transmission/reception activity and on/off status. In addition, PCU 315 may control a display (not shown), which may be located in module 310, in device 320 or both. In another embodiment, module 310 may share a PCU 315 located in device 320.

Module 310 may also be equipped with encryption/decryption unit 335, which may be controlled by the PCU 315. The encryption/decryption unit 335 is used to prevent a third party from intercepting the data transferred to and from the contactless card. The information exchanged between the smart card and the module/device may be encrypted according to various well-documented methods. In one embodiment, the card may authenticate the card reader/writer by generating a random number and sending it to the reader/writer. The reader/writer has to encrypt the random challenge (number) with a shared encryption key and return the result to the card. The card then compares the returned result with its own encryption before agreeing to communicate with the reader/writer. Conversely, the card reader/writer may also authenticate the card's identity by sending a random challenge (number) to the card. The card is then required to sign the number with its own private key, which is part of a private key/public key pair, and return it to the reader/writer for verification.

Furthermore, module 310 may include a radio frequency (RF) unit 345 connected to PCU 335. RF unit 345 may include: (1) a down converter coupled to a low noise amplifier for converting received RF signal waveforms to intermediate frequency (IF) waveforms; (2) an up converter coupled to a high power amplifier for converting modulated analog waveforms from an IF to an RF for amplification and transmission to the antenna; (3) a first analog to digital converter having an input connected to the down converter, for converting the analog IF waveform to a series of digital samples; and/or (4) a first digital to analog converter connected to the up converter for converting modulated digital samples from the processor board to an IF frequency.

The RF section/unit 345 may also be coupled to reader/writer antenna 375. A

variety of reader/writer antennas may be used which allow reading and writing distances up to 100mm, but usually between 0-30mm. Reader/writer antenna 375 should not interfere with the functionality of the device 320. The contactless reader/writer may be provided by companies such as Baltech AG or Tamura Hinchley Ltd.

5 In an alternative embodiment, the module 10 may be incorporated into the wireless device as shown in FIG. 4. The wireless device may be controlled by the PCU 415, which may control activity indicators 425, such as transmission/reception activity and on/off status. In addition, PCU 415 may control a display (not shown). The wireless device may also be equipped with an encryption/decryption unit 435, which may be
10 controlled by the PCU 415. The device may include two RF units 400 and 445 connected to PCU 415. RF unit 445 may be coupled to reader/writer antenna 475 for providing communication with the smart card. RF unit 400 may provide the traditional voice communications circuitry.

 In another alternative embodiment, the module may be incorporated into the
15 wireless device and have only one RF unit. In this embodiment, the voice communications and the smart card transmissions are completed using the same antenna.

 In another embodiment, a biometric unit 365/465 may be provided for security purposes. The biometric unit 365/465 may include a biometric input device, such as a fingerprint reader, camera/micro-camera for iris or face recognition, or a standard
20 microphone for voice recognition, to capture biometric information. The biometric unit 365/465 may encrypt the captured data and send it to a remote server or host that will use the data for authentication. Alternatively, the biometric unit 365/465 may perform local authentication and transmit encrypted messages to a host or server, which may be remote.

In another embodiment of the invention, biometric unit 365 may interface with any other biometric reader or any other biometric authentication device.

5 In another embodiment, when a biometric authentication server receives encrypted biometric data from the device/module the biometric authentication server may be capable of decrypting the data. The biometric authentication server may either identify the owner of the biometric data (one to many) and send the owner's ID data or, when presented 2 sets of biometric data, it replies with either match or no match signal (one-to-one).

10 During operation, module 10 may be capable of conducting many types of transactions. One example is secure wireless financial transactions. More specifically, the operation of the device 20 may initialize a smart card and/or download an increase in value to a value-holding smart card. The device may also operate to debit value or record a credit transaction for the purchase of merchandise or services. In a typical scenario utilizing module 10 in a commercial purchasing transaction, the user may establish communications with a retailer/host. Once communications are established, the user may be able to receive and preview specially formatted graphical advertisements within display, such as for the purchase of a specific consumer good, or the user may define the required items to be purchased. The host may require the user to identify himself. This may be accomplished by authentication (by a PIN or any Biometric method such as voice, finger print, iris, face, etc.). If authorization is completed, the host computer decreases the stored money amount by the price of the item purchased.

20 In an embodiment of the invention, the module 10 may be used to purchase and download tickets or other tokens. A user may purchase tickets or tokens that may be

downloaded onto the smart card for storage. Once the user arrives at an event, the user may use the smart card as the admission ticket eliminating the need for a paper ticket. The user of the card will gain entry permission by presenting the contactless card near a local contactless card reader/writer. One smart card can be used to store at least one
5 ticket or token that may be redeemed at places such as movie theaters, stadiums, airline gates etc. Restrictions may be provided that limit the download of tickets or tokens to a contactless smart card from selected wireless devices. In addition, or alternatively, remotely purchased items may be represented by tokens placed on the smart card (contact or contactless). The tokens may be redeemed at any redemption point, such as a store or
10 other distribution station or delivery services for merchandise or services represented by the token. Once the ticket has been redeemed, the ticket maybe marked as unusable or removed from the memory of the smart chip.

Advantageously, the redemption point may also include a biometric unit which can be used in coordination with the biometric data to authenticate redemption of the
15 ticket, token, or debit of the value from the smart card.

In another embodiment, the contactless smart chip may contain an RF unit to be able to communicate with the wireless device directly via the cellular or wireless communication frequency without utilizing a contactless reader/writer at all. Alternatively, the wireless device or add-on device may be adapted to transmit/receive
20 or read/write commands over its principle antenna at an appropriate frequency for the smart cards. A smart card may be restricted to be used only with a predefined cellular phone or a group of cellular phones or other wireless device or with a predefined user over any device. If an authorization program fails to match a card and a device or a card

and a user, services or data transmission/reception may be denied. Alternatively, the authorization program may allow the card the flexibility to work with a group of wireless devices. This method provides an additional level of security and flexibility. It should be understood that the RF communication between the communication device and the contactless card may be accomplished using the Bluetooth Standard. The present invention may also be incorporated into a contact card.

We claim:

1. A wireless communication device comprising:
 - a communications interface;
 - a contactless smart card interface connected to the communications interface.
2. A wireless communication device according to claim 1 wherein the communications interface further comprising:
 - a controller;
 - a transmission/reception subsystem;
 - a user interface.
3. A wireless communication device according to claim 1 wherein the contactless smart card interface is a contactless smart card read/writer.
4. A wireless communication device according to claim 1 wherein the contactless smart card interface is integrated into the wireless communication device.
5. A wireless communication device according to claim 1 wherein the contactless smart card interface is an add-on module connected to the wireless communication device.

6. A wireless communication device according to claim 1 further comprising:
an authentication subsystem.
7. A wireless communication device according to claim 2 wherein the smart card interface further comprising a reader/writer antenna.
8. A module for a communication device according to claim 6 further comprising a biometric unit.
9. A module for a communication device according to claim 8 wherein the biometric unit further comprising an input unit and output unit.
10. A method for providing wireless communications:
purchasing an item using a wireless communication device and purchasing medium;
providing a security feature to verify a user identification;
delivering the item electronically and storing the item on the purchasing medium.
11. A method for providing wireless communications according to claim 7, further comprising the step of:
redeeming the item stored on the purchasing medium.

12. A method for providing wireless communications according to claim 7, further comprising the step of:

verifying biometric information of the user.

13. A financial information and transaction system comprising:

a host financial computer system, said host system maintaining records of user account information;

a wireless communication device for accessing said host financial computer system, wherein comprising first means for wirelessly transmitting and receiving data, and a contactless smart card reader; and

wherein data corresponding to said user account information is exchanged between said host system and said wireless communication device, such that a user obtains information and performs transactions on said host financial system through a contactless smart card device that is coupled to said contactless smart card reader, said contactless smart card device including means for encrypting data which is exchanged with said host financial system.

14. A method for providing wireless communications comprising the steps of:
capturing biometric data using a wireless device;
performing an authorization to verify a user identification.
15. A method for providing wireless communications according to claim 14 wherein the
contactless smart card interface is a contactless smart card read/writer.

100

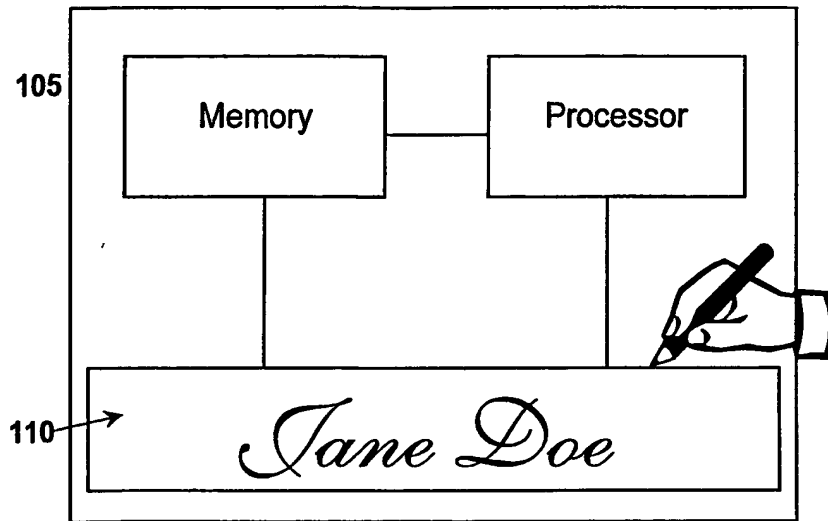


FIG. 1

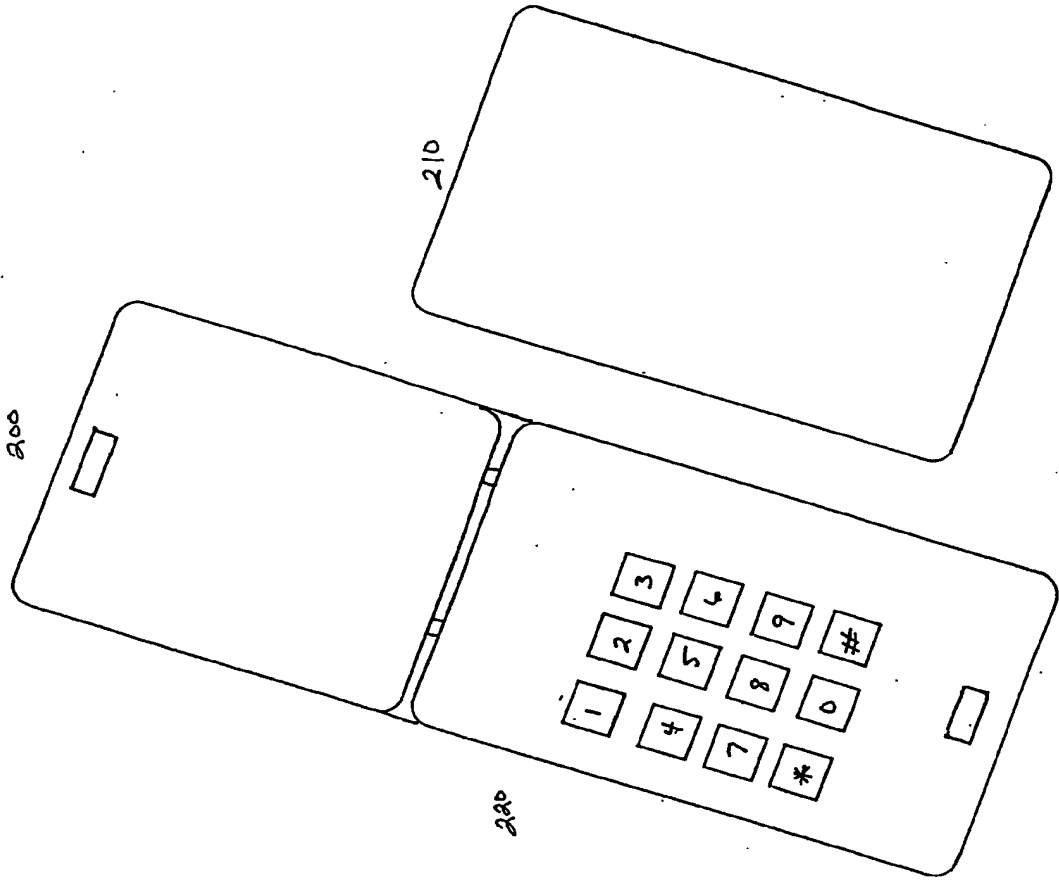


FIG 2

FIG. 3

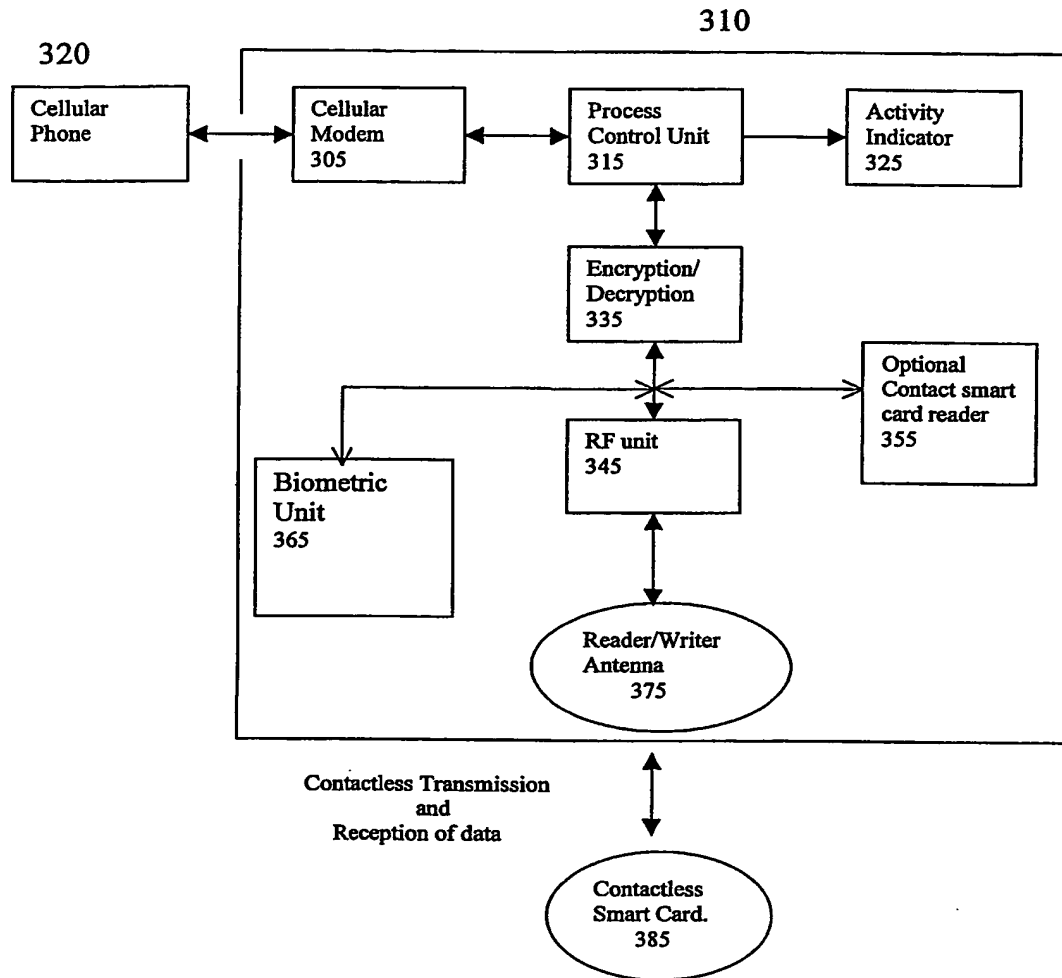
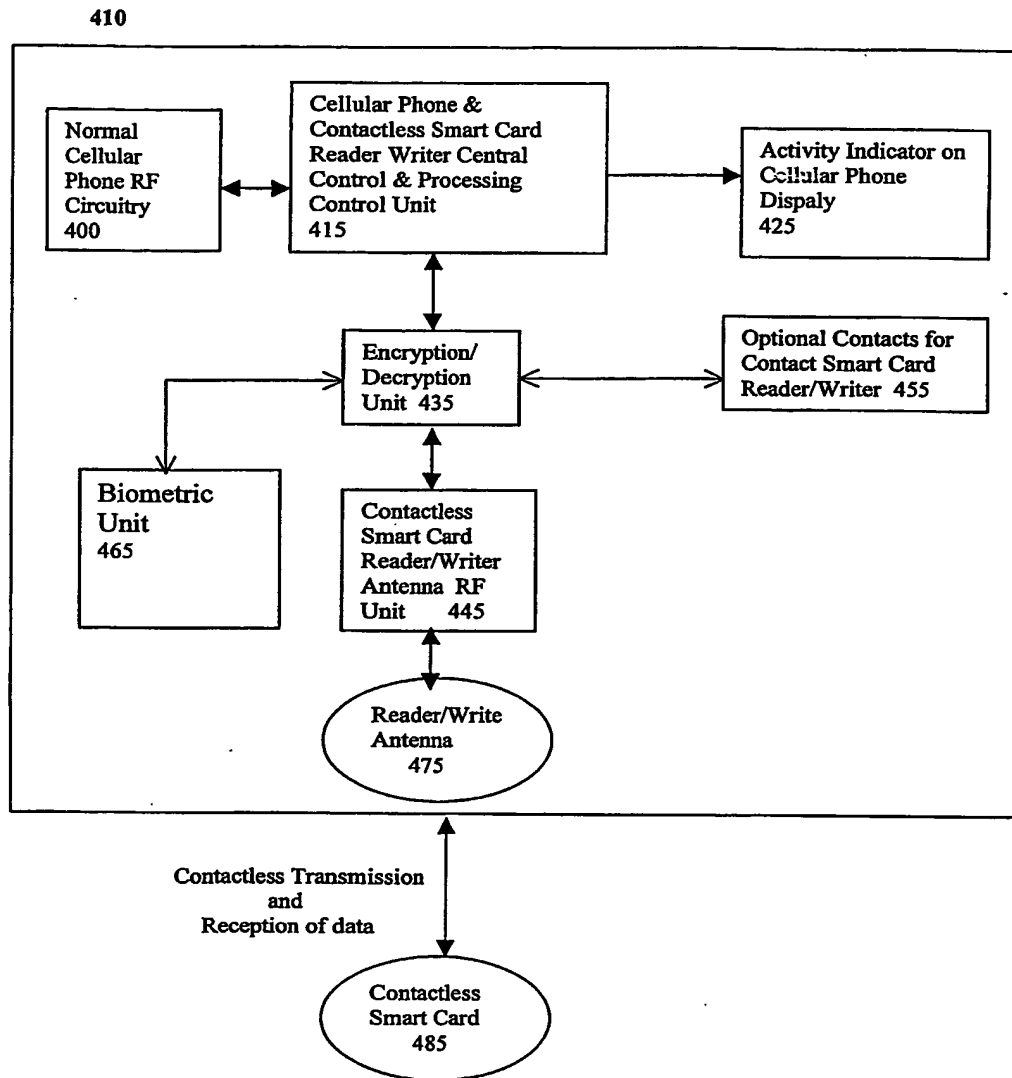


FIG. 4



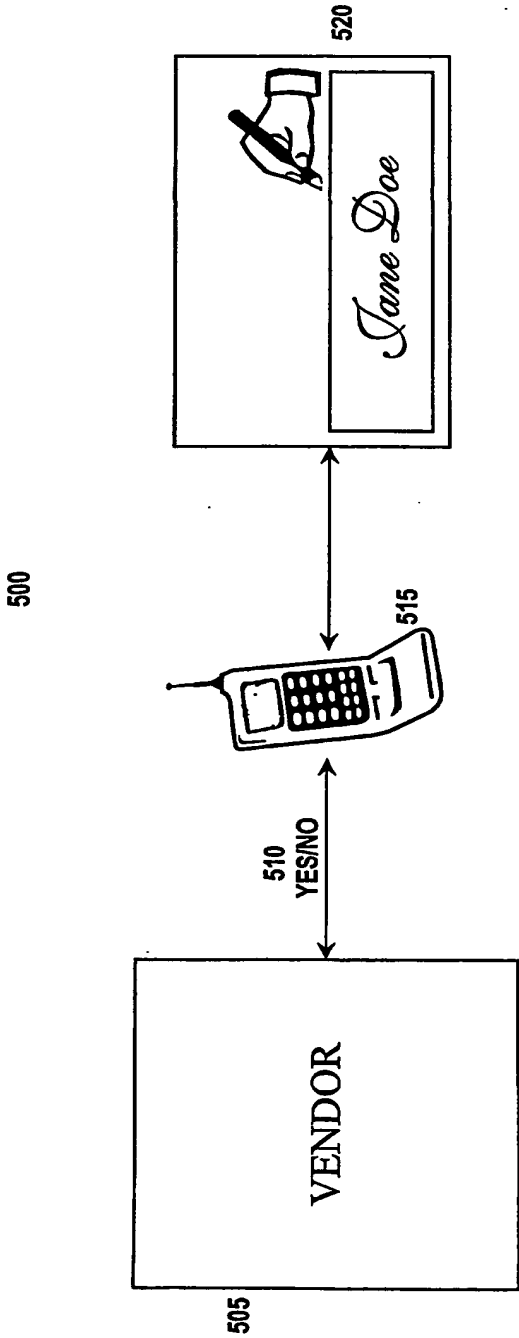


FIG. 5

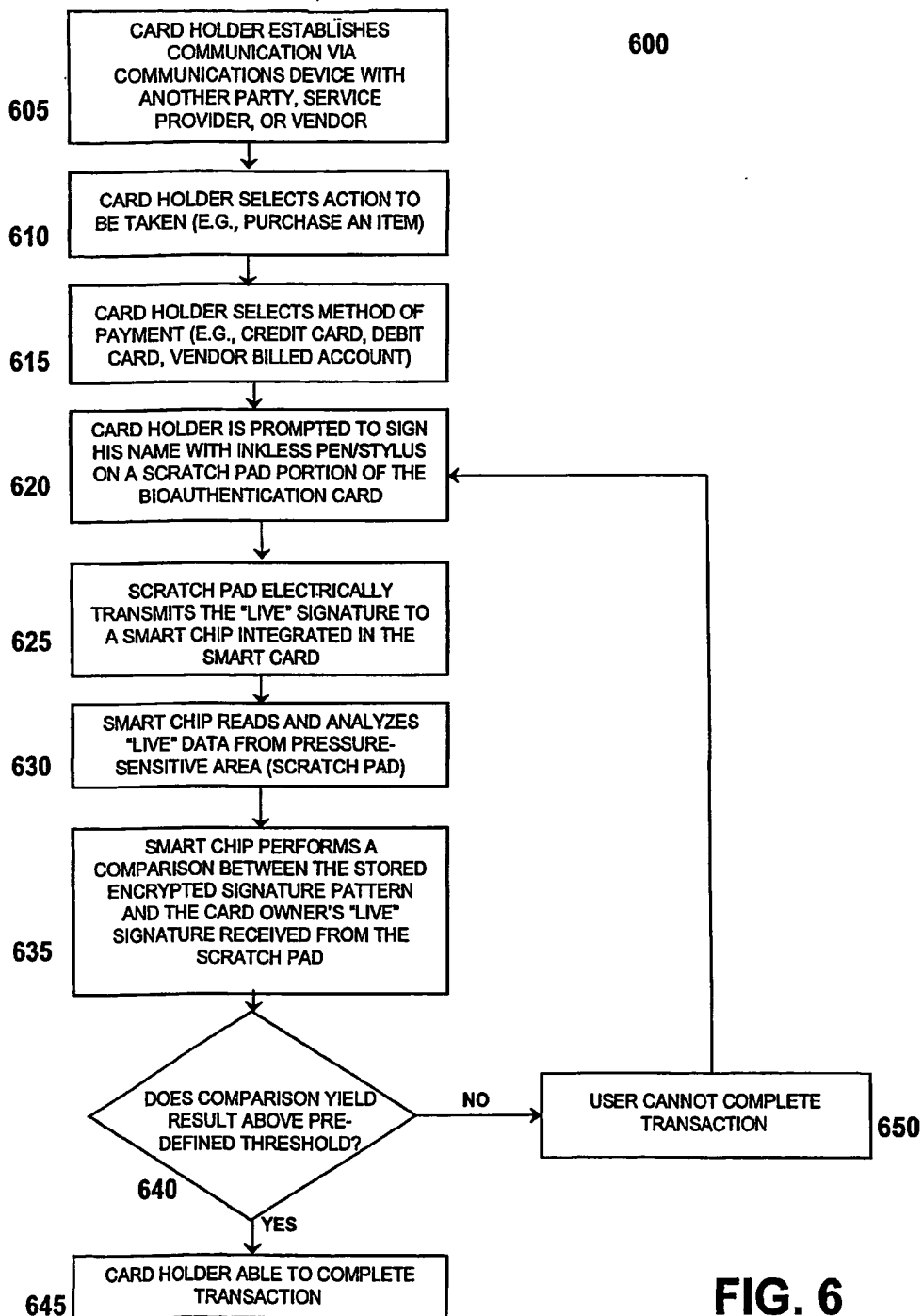


FIG. 6

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 November 2001 (15.11.2001)

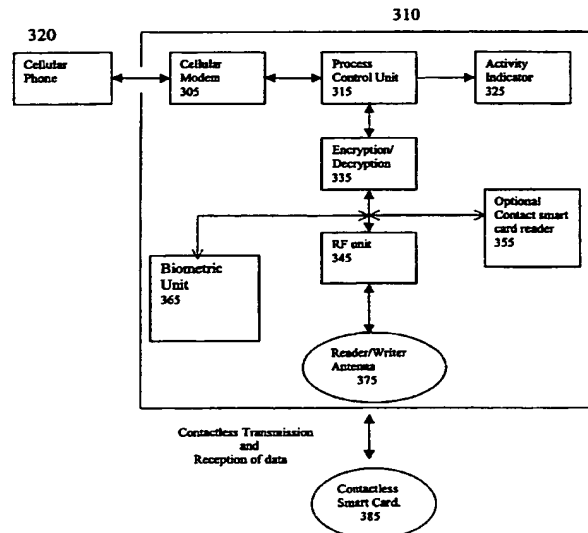
PCT

(10) International Publication Number
WO 01/86599 A3

- (51) International Patent Classification⁷: G07F 7/10
- (21) International Application Number: PCT/IB01/00809
- (22) International Filing Date: 13 April 2001 (13.04.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/197,775 14 April 2000 (14.04.2000) US
60/264,013 26 January 2001 (26.01.2001) US
- (71) Applicant (for all designated States except US): SUPER-COM LTD. [IL/IL]; Hataas Street 25, New Industrial Area, 44425 Kfar Saba (IL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LANDMAN, Avi [IL/IL]; 99 Hagdud Haivri Street, 26306 Kiriathaim (IL). ROZEN, Eli [IL/IL]; 38 Heleni Hamalka Street, 46768 Herzliya Pituah (IL). HASSAN, Jacob [IL/IL]; 21 Shnat Hayovel Street, 45304 Hod Hasharon (IL).
- (74) Agent: BEN-DAVID, Yirmiyahu, M.; Jeremy M. Ben-David & Co. Ltd., P.O. Box 4508, Har Hotzvim Hi-Tech Park, 91450 Jerusalem (IL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: SMART COMMUNICATIONS



(57) Abstract: A method and apparatus for providing a wireless device with the ability to have secure e-commerce transactions utilizing a contactless smart card. Additionally, the method and apparatus provide for a wireless smart card transaction system which utilizes biometric identification methods. The system may incorporate at least one biometric input device, such as a fingerprint reader, a camera or micro-camera for iris or face recognition, and/or a standard microphone for voice recognition or any other biometric input device.

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— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
20 June 2002

INTERNATIONAL SEARCH REPORT

Int. l. Application No

PCT/IB 01/00809

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G07F7/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G07F G06K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

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☒ Further documents are listed in the continuation of box C.

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Date of the actual completion of the international search

23 April 2002

Date of mailing of the international search report

02/05/2002

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

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Papastefanou, E

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Int'l. Application No
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Information on patent family members

International Application No

PCT/IB 01/00809

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(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
3 January 2002 (03.01.2002)

PCT

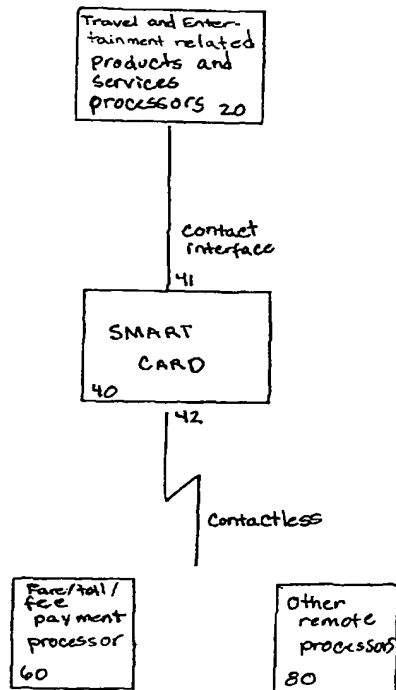
(10) International Publication Number
WO 02/01485 A1

- (51) International Patent Classification⁷: **G06K 5/00**
- (21) International Application Number: PCT/US01/20266
- (22) International Filing Date: 26 June 2001 (26.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/604,117 26 June 2000 (26.06.2000) US
- (71) Applicant: **SMARTCLIC CORPORATION** [US/US];
12050 Jefferson Avenue, Suite 609, Newport News, VA
23606 (US).
- (72) Inventor: **HARRELL, Martha, F.**; 229-A Woodmere
Drive, Williamsburg, VA 23185 (US).
- (74) Agents: **ALBERT, Jennifer, A.** et al.; Hunton & Williams,
1900 K Street, N.W., Washington, DC 20006 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: SMART CARD SYSTEM AND METHOD FOR PROVIDING TRAVEL AND ENTERTAINMENT-RELATED RESOURCES

System
10



(57) Abstract: A smart card system for providing travel and entertainment-related resources and associated methods is provided. The smart card system (10) includes a smart card payment processing facility for communicating with the smart card for automated payments of fares and/or tolls. The smart card comprises a contactless (42) and a contact (41) interface for collecting payments for travel and entertainment-related functions. The smart card system may be used to pay other types of travel and entertainment charges, such as airline fares, bus fares, entertainment park entrance fees and parking fees. The card may further include tools for purchasing travel- and entertainment-related products.

WO 02/01485 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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SMART CARD SYSTEM AND METHOD FOR PROVIDING TRAVEL AND ENTERTAINMENT-RELATED RESOURCES

FIELD OF THE INVENTION

5 The present application relates to smart cards for serving travel-related and entertainment-related functions, and in particular to smart cards useful in facilitating automatic fare, fee, and toll payment.

BACKGROUND OF THE INVENTION

10 Over the past several years, smart card technology has developed to overtake magnetic stripe-only technology for many applications. Smart cards are generally made to match the size of a credit card, but have an embedded microprocessor chip that allows for receipt, processing, storage, and transmission of information. The chip generally allows smart cards to store orders of magnitude times as much data as magnetic stripe technology.

15 In addition to the increased storage capacity, information stored on smart cards can be more readily secured than with magnetic stripe technology. Smart cards are not required to carry information, such as account numbers or names, on the face of the card. Smart cards can store electronic digital signatures or other security information which is invisible to the user. Also, smart cards may be useful to protect a user from having to
20 transmit personal data such as credit card numbers. All data transmitted through smart card technology is encrypted. Through this capability, smart cards provide secure electronic commerce.

Several types of smart cards are now produced. Smart cards can be categorized according to their capabilities and their usage mode. First, with regard to capabilities,
25 smart cards may either be (a) intelligent cards, or (b) memory cards. Intelligent cards or CPU cards contain a central processing unit (CPU) that has the ability to store and secure information, and make decisions. Memory cards are primarily information storage cards that do not process information.

With regard to usage mode, smart cards can either be used as (a) contact cards, or
30 (b) contactless cards. The contact cards need to be inserted in a smart card reader, which touches a conductive module on the surface of the card in order to be read. The contactless card makes use of an electromagnetic signal and an antenna on each smart

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card for communication between the card and the card reader. Reading distances for contactless cards range from one inch to several feet in distance.

Two types of cards capable of operating in both contact and contactless modes have also been developed. Hybrid cards are dual chip cards in which each chip has a
5 respective contact and contactless interface, which are not connected to one another inside the card. Combi cards include a single chip that has both contact and contactless interfaces.

Several prior art systems have been employed to facilitate toll collection. The following are examples of the systems known in the art. U.S. Patent No. 5,424,727 to
10 Shieh discloses a method and system for two-way packet radio-based electronic toll collection. U.S. Patent No. 5,451,758 to Jesadanont discloses a system for collecting tolls through the use of magnetic cards. U.S. Patent No. 5,485,520 to Chaum et al. discloses a system for automatic real time highway toll collection from moving vehicles. U.S. Patent
15 No. 5,602,375 to Sunahara et al. discloses an automatic debiting system suitable for free lane traveling. U.S. Patent No. 5,825,007 to Jesadanont discloses a method of paying tolls with pre-paid cards.

All of these systems suffer from various deficiencies. In particular, the cards employed have limited capabilities and can generally only be used for toll collection.

20 **SUMMARY OF THE INVENTION**

It is accordingly an object of the invention to provide a smart card system and method for providing a smart card for serving travel-related and entertainment-related functions.

A further object of the invention is to provide a smart card that facilitates
25 automatic fare, fee and toll payment for such travel-related and entertainment-related functions.

Yet a further object of the invention is to provide a system and method for using a smart card with contact and contactless interfaces to pay fares, fees and tolls and a contact interface for obtaining information.

30 To achieve the foregoing objects, and in accordance with the purpose of the invention as embodied and broadly described herein, there is provided a smart card system for performing travel and entertainment-related functions. The system comprises a smart card automated payment means within the smart card for providing automated

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payment for at least one of fees, fares and tolls and an automated payment means within a payment facility for communicating with the smart card automated payment means to facilitate payment. The system additionally comprises storage means on the smart card and/or its host system for storing user identification information and available funds, and card transaction information and processing means for updating funds information on the smart card and its host systems. The system additionally comprises means on the smart card for interfacing with a source web site, wherein access to travel and entertainment payment records is provided on the source web site.

In another aspect of the invention, a smart card is provided for communicating with a payment central processing unit for facilitating automatic payment of at least one of fees, fares and tolls. The smart card comprises receiving means for receiving a wakeup signal and a payment amount from the payment central processing unit, storage means for storing user identification data and financial data, information transmission means for transmitting a user identification number and a card balance upon receipt of the wakeup signal, and processing means for processing the payment amount transmitted by the payment central processing unit.

In yet another aspect of the invention a smart card toll payment system is provided comprising a central toll payment processing unit, wherein in a steady state, the central toll payment processing unit emits a signal, the signal maintaining a steady state comprising a red light being illuminated and a toll gate being closed. The central toll payment processing facility comprises infrared transmission means. The smart card toll payment system also comprises a smart card positioned within a vehicle that interrupts the signal, the smart card including storage means for storing user identification and account balance data, processing means for updating account balance data, and transmission and reception means for communicating with the central toll payment processing unit. Upon triggering of an interrupt, the central toll payment processing unit wakes up the smart card, receives smart card data, sends a payment amount, and when the payment amount is satisfied, activates a green light and raises the toll gate.

In yet another aspect, the invention provides a smart card system for performing travel- and entertainment-related functions. The system comprises a smart card automated payment means within a smart card for providing for payment of at least one of fares, fees and tolls for the travel- and entertainment-related functions; an automated payment and an automated payment facility for communicating with the smart card

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automated payment means to facilitate automated payment. The system additionally comprises storage means on the smart card and/or its host system for storing user identification, available funds and card transaction information; and processing means on the smart card for updating financial information on the smart card and its host system(s).

- 5 The smart card automated payment means includes contactless means and contact means for collecting payments for airlines, buses and other travel- and entertainment-related functions.

- In still another aspect, the invention provides a method for collecting payments of at least one of fare, fees and tolls with a payment system comprising a smart card and a payment facility processing unit. The method comprises the steps of creating a steady state condition in which the smart card is in a low power state and the payment facility processing unit is in a wait state and wherein when a photodetector beam is emitted, a red light is activated, and a gate is down. The method further comprises triggering an interrupt when a vehicle breaks the photodetector beam; and transmitting a signal from the payment facility processing unit to the smart card to wake up the smart card. The invention also comprises transmitting identification and balance information from the smart card to the payment facility processing unit and processing the transmitted information and assessing a payment amount. After assessing the payment amount, the payment amount is transmitted to the smart card and subtracted from an initial amount stored within the smart card. The invention further comprises transmitting a verification signal from the smart card to the payment facility processing unit and activating a green light and raising the gate upon receiving the verification signal at the payment facility processing unit.

- These and other features, objects, and advantages of the preferred embodiments will become apparent when the detailed description of the preferred embodiments is read in conjunction with the drawings attached hereto.

BRIEF DESCRIPTION OF THE DRAWING

- Figure 1 is a block diagram illustrating the system for providing travel- and entertainment- related services;

Figure 2 is a block diagram illustrating an embodiment of the smart card of the invention;

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Figure 3 is a block diagram illustrating the details of an embodiment of the payment central processing facility of the invention;

Figure 4 is a block diagram illustrating components of the payment system associated with the payment central processing facility;

5 Figure 5 illustrates travel related services that can be provided to smart card users, and

Figure 6 is a flow chart illustrating a method of collecting payments according to one embodiment of the invention.

10 **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Reference will now be made in detail to the present preferred embodiments of the invention, examples of which are illustrated in the accompanying drawings in which like reference numerals refer to corresponding elements.

Figure 1 is a block diagram illustrating an embodiment of a smart card 40 system 15 10 for travel- and entertainment-related services. The system 10 comprises a smart card 40, which preferably includes a contact interface 41 and a contactless interface 42. The details of these interfaces will be described in greater detail with reference to Fig. 2. Through the use of the contactless interface 42, the smart card 40 is preferably able to communicate with a payment processor 60 and other remote processors 80. Through the 20 use of contact interface 41, the smart card 40 communicates with other remote processors 80 that dispense travel- and entertainment-related services, information, and/or products. The smart card 40 interfaces through contact interface 41 with other travel- and entertainment-related products and services processors 20.

Figure 2 illustrates additional details of the smart card 40. The smart card 40 is of 25 the intelligent type including a microcontroller 45 for processing. In one preferred embodiment, the microcontroller is a microchip PIC processor having a reduced instruction set computer (RJSC) architecture. An electrically erasable programmable read only memory (EEPROM) 44 stores user identification data and account data on the smart card 40. A transmission/reception mechanism 46 communicates with external processors 30 such as the payment processor 60. The smart card 40 is powered by power supply 43, which in a preferred embodiment comprises a lithium cell. Microcontroller 45 preferably includes a contact interface such that the smart card 40 can be read through direct insertion into a smart card 40 reader. Alternatively, the smart card 40 could be provided

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with a magnetic stripe for providing a contact interface 41. The data I/O connection 45a and reset/wakeup connection 45b function in conjunction with contactless interface 42 to receive data and bring the smart card 40 from a low power state to an operating state as will be explained in greater detail with respect to the method of the invention.

5 In a first preferred embodiment of the apparatus of Fig. 2, an infrared smart card 40 is provided. The contactless interface 42 preferably operates with a transmission/reception mechanism 46 that comprises a light emitting diode (LED) for transmission and a phototransistor for detection. Using the aforementioned components, the smart card 40 should have an effective transmission/reception range of about twenty-
10 five feet and a high power consumption of approximately 50 milliamps.

In a second preferred embodiment of the apparatus of Fig. 2, the transmission/reception mechanism comprises a micron microstamp communications engine integrated circuit that operates based on radio frequency (RF) communications. The preferred operating frequency is a 1.44 GHz Spread Spectrum Mode. Using the
15 above-identified components, the effective transmission/reception range of the smart card 40 is approximately 40-60 feet. The smart card 40 will have a low power consumption of approximately five microamps in the low power state and 2 microamps during the operating state. A disadvantage of the second preferred embodiment is its higher overall cost.

20 Figure 3 illustrates the payment processor 60 to be used in connection with contactless interface 42. This embodiment is particularly directed to the payment processor 60 but can be adapted for other types of fare, fee or toll payment or processing. The payment processor 60 preferably comprises a microcontroller 62 that interfaces with a payment facility that may comprise toll gate through connection 62c. A
25 transmission/reception mechanism 63 is provided for communicating through mechanism 63a with the smart card 40. The transmission/reception mechanism 63 transmits data between the smart card 40 and through data I/O connection 62b and operates to serve the reset and wakeup functions so as to convert from a wait or low power state to an operating state. The payment processor 60 is powered by power supply 61.

30 In the embodiment of the payment processor 60 corresponding to the first embodiment of the smart card 40, the payment processor 60 comprises an IR transmission and reception mechanism 46. In the second embodiment of the invention, the payment

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processor 60 comprises a transmission/reception mechanism that is an RF micron microstamp communications engine integrated circuit.

Figure 4 illustrates an application in which the payment processor 60 is linked to a payment facility interface 70 that may comprise a toll gate interface. The payment
5 facility interface 70 sends signals directly to facility 71 that may comprise a toll gate that can be raised and lowered. The payment facility interface 70 further connects with accounting processor 72, which is used to manage accounting for the toll gate system.

Figure 1 also depicts the contactless interface 42 communicating with other remote processors 80. Such remote processors 80 could include parking fee processors,
10 airline fare processors or entertainment fee and/or fares and/or tolls processors. The smart card 40 could be linked with participating processors to pay predetermined fees for all of the aforementioned items.

Figure 5 illustrates additional entertainment and travel-related products and services processors 20. Card reading units 21a and 21b may be provided such that users
15 can access tourist traveler assistance and traveler information through an Independent service provider. The processors 20 would check for valid smart card 40 identification data (i.e., verification that the user is authorized to access the processors 20) prior to providing the requested products and/or services. As shown in connection with card reading systems 21a and 21b, the service providers can provide highway advisory radio
20 information 31, traffic monitoring information 32, and commercial vehicle database information 33. The card readers 21a and 21b may be of the type generally known to those skilled in the art.

By interfacing with multiple types of processors 20, the smart card 40 can perform such functions as paying for bus and airline fares and parking fees and providing
25 paperless receipts.

Phone connection 23 illustrates the use of the smart card 40 to notify a transit agency dispatcher 22 that a ride is required. Transit agency dispatcher 22 dispatches vehicle 24 to the appropriate location.

The smart card 40 can further be used to interface with an entertainment processor
30 that allows payment of usage fees or entry fees for an amusement or theme park. Preferably, through insertion into a card reader associated with a computer and interaction with processors over the Internet, the smart card 40 allows for reading and downloading of smart card 40 account records online. The Internet connection also allows for adding

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cash, credit or debit value to the smart card 40. Furthermore, through Internet interaction, the smart card 40 can access technical support and travel information regarding roads, weather, airlines, and flights. Additional functionality can be provided by allowing smart card 40 to be used over the Internet to purchase goods and services of company clients
5 from the smart card 40 provider web site and to purchase goods and services from companies linked to the smart card 40 provider's web site. Additional functionality can include the ability to receive general smart card 40 information and the sending of electronic mail to the smart card 40 company and its linked partners. Alternatively, the smart card 40 can be inserted into a suitable wireless device having a smart card reader
10 and enabling Internet access.

The aforementioned objectives may be achieved through provision of a variety of software packages for use in connection with external processors 20, 60 and 80. A first software package includes a set of wireless communication functions allowing for two-way vehicle communication capabilities, wireless network access and messaging,
15 integration of a phone with a vehicle dashboard computer function and inter-vehicle communication. The wireless communication software package may further comprise an operating system for a vehicle dashboard computer and integration of a CD-ROM with appropriate electronic subsystems.

A second software package that may be used in conjunction with the smart card
20 40 is a map package that provides enhancements to vehicle dashboard navigation systems. The map package can provide capability to receive real time data from RF towers, roadside sensors, satellites, and other computers. The map package can further provide capability to communicate real time or stored data via audio or audiovisual means. The package may also provide a hand help map navigation system for use by
25 non-drivers.

A third software package may be provided for enhancing vehicle dashboard vehicle diagnostics. This package can help avoid vehicle break downs by enabling systems check-ups. It can further provide insurance and vehicle sales related records messaging.

30 Finally, payment processing software may be provided for facilitating automatic payment. This software is described below in accordance with the method of the invention.

A method of collecting payments in accordance with the smart card system 10 of the invention is depicted in Figure 6. The method of collecting payments as depicted in Figure 6 employs the smart card 40 and payment system 60 shown in Figs. 2 and 3, respectively.

5 In a steady state, prior to payment, the smart card 40 is in a low power state. The payment processor 60 is in a wait state. A photodetector beam emanates across the path of oncoming vehicles and is associated with the payment processor 60. The facility 71 as depicted in Fig. 4 is a toll gate and is in a down position and a red light is illuminated.

10 The method of collecting payments begins when a vehicle interrupts the photodetector beam. The interruption of the photodetector beam triggers an interrupt in the payment processor 60 in step 100. The interrupt causes the payment processor 60 to send a wake up pulse to smart card 40 in step 105. The payment processor 60 waits for a response from the smart card 40 and checks for the response in step 110. If no response is detected in step 110, the processor 60 will return to step 105 and continue to send wake
15 up pulses until a predetermined number of pulses has been sent in step 115. When the predetermined number of pulses has been sent and no response has been received from the smart card 40, the processor 60 displays an appropriate message and ends the payment process.

20 If in step 110, a response is detected, it is received in step 120 and should correspond to an identification number. In step 125, the payment system 60 attempts to verify the identification number and balance. If verified in step 130, a signal containing data related to the amount of the payment is transmitted to the smart card 40 in step 140. If the identification information provided by the smart card 40 is determined to be invalid in step 130, a corresponding message is displayed in step 135, which preferably instructs
25 the vehicle to pull out of the lane. The payment process then ends when the vehicle pulls out of the lane.

30 If the identification information is determined to be valid in step 130, the signal including the payment amount is transmitted to the smart card 40 in step 140. If the payment amount is not received by the smart card 40 in step 145, it returns to a low power state in step 150. If the payment amount is received by the smart card 40 in step 145, the payment amount is subtracted from the stored value balance on the smart card 40 in step 155 and the smart card 40 sends its new balance to the payment processor 60 in step 160. If the new balance signal is not received by the payment processor in step 165,

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payment processor 60 times out in step 170 and displays an appropriate message. If the new balance, or in the alternative a verification signal, is received by the payment processor 60 in step 165, the green light is turned on and the gate is opened in step 175. In step 180, the system 60 returns to a steady state.

- 5 It will be apparent to those skilled in the art that various modifications and variations can be made in the system and method of the present invention without departing from the spirit and scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided that they come within the scope of the appended claims and their equivalents.

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WHAT IS CLAIMED IS:

1. A smart card system for performing travel- and entertainment-related functions, the system comprising:
 - a smart card automated payment means within a payment facility for providing
 - 5 automated payment of at least one of fees, fares and tolls;
 - automated payment means within a payment facility for communicating with the smart card automated payment means to facilitate payment;
 - storage means on the smart card and/or its host system for storing user identification, available funds, and card transaction information;
 - 10 processing means for updating funds information on the smart card and its host system(s); and
 - means on the smart card for interfacing with a source web site, wherein access to travel and entertainment payment records is provided on the source web site.
2. The smart card system of claim 1, wherein the smart card automated
- 15 payment means and the automated payment means within the payment facility comprise contactless payment means.
3. The smart card system of claim 1, wherein the smart card automated payment means and the automated payment means within the payment facility comprise contact payment means.
- 20 4. The smart card system of claim 2, wherein the contactless payment means comprises light emitting diodes and phototransistors.
5. The smart card system of claim 2, wherein the contact means and the contactless means within the smart card are provided on a single chip.
6. The smart card system of claim 2, wherein the contact means and the
- 25 contactless means within the smart card are provided on two separate chips.
7. The smart card system of claim 1, wherein the contact means comprises a magnetic stripe.
8. The smart card system of claim 1, wherein the storage means comprises an electrically erasable programmable read only memory.
- 30 9. The smart card system of claim 1, wherein the contact means for accessing a source web site comprises means for accessing travel information including at least one of road conditions, weather conditions, and airline schedules.

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10. The smart card system of claim 1, wherein the contact means for accessing a source web site comprises means for changing the stored value on the smart card.

11. The smart card system of claim 10, wherein the means for changing the stored value comprises means for adding a cash, credit or debit value to the smart card.

5 12. The smart card system of claim 1, wherein the contact means for accessing a source web site comprises means for providing access to technical and customer support.

13. The smart card system of claim 1, wherein the storage means stores card transaction information.

10 14. The smart card system of claim 1, wherein the smart card comprises means for wireless communication with the source web site.

15. The smart card system of claim 1, wherein the smart card comprises contact means for interfacing with the source web site through the use of a card reader.

15 16. A smart card for communicating with a payment central processing unit for facilitating automatic payment of at least one of fees, fares and tolls, the smart card comprising:

receiving means for receiving a wakeup signal and a payment amount from the payment central processing unit;

storage means for storing user identification data and financial data;

20 information transmission means for transmitting a user identification number and a card balance upon receipt of the wakeup signal; and

processing means for processing the payment amount transmitted by the payment central processing unit.

25 17. The smart card of claim 16, wherein the storage means comprises an electrically erasable programmable read only memory.

18. The smart card of claim 16, wherein the information transmission means and the receiving means each comprise contactless means.

19. The smart card of claim 16, wherein the information transmission means and the receiving means each comprise contact means.

30 20. The smart card of claim 16, wherein the storage means additionally stores card transaction data.

21. A smart card toll payment system comprising:

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a central toll payment processing unit, wherein in a steady state, the central toll payment processing unit emits a signal, the signal maintaining a steady state comprising a red light being illuminated and a toll gate being closed, the central toll payment processing unit including infrared transmission means; and

5 a smart card positioned within a vehicle that interrupts the signal, the smart card including storage means for storing user identification and account balance data, processing means for updating account balance data, and transmission and reception means for communicating with the central toll payment processing unit;

wherein, upon triggering of an interrupt, the central payment processing unit
10 wakes up the smart card, receives smart card data, sends a payment amount, and when the payment amount is satisfied, activates a green light and raises the toll gate.

22. The smart card system of claim 21, wherein the signal is an infrared signal, such that the vehicle interrupts a photodetector beam.

23. The smart card system of claim 21, wherein the signal is a radio frequency
15 signal.

24. A smart card system for performing travel- and entertainment-related functions, the system comprising:

a smart card automated payment means within a smart card for providing for payment of at least one of fares, fees and tolls for the travel- and entertainment-related
20 functions;

an automated payment facility for communicating with the smart card automated payment means to facilitate automated payment;

storage means on the smart card and/or its host system for storing user identification, available funds and card transaction information; and

25 processing means on the smart card for updating financial information on the smart card and its host system(s),

wherein the smart card automated payment means includes contactless means and contact means for collecting payments for airlines, buses and other travel- and entertainment-related functions.

30 25. A method for collecting payments of at least one of fares, fees and tolls with a payment system comprising a smart card and a payment facility processing unit, the method comprising the steps of:

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- creating a steady state condition in which the smart card is in a low power state, the payment facility processing unit is in a wait state and wherein when a photodetector beam is emitted, a red light is activated and a gate is down;
- triggering an interrupt when a vehicle breaks the emitted photodetector beam;
- 5 transmitting a signal from the payment facility processing unit to the smart card to wake up the smart card;
- transmitting identification and balance information from the smart card to the payment facility processing unit;
- processing the transmitted information and assessing a payment amount;
- 10 transmitting the payment amount to the smart card;
- subtracting the payment amount from an initial amount stored within the smart card;
- transmitting a verification signal from the smart card to the payment facility processing unit; and
- 15 activating a green light and raising the gate upon receiving the verification signal at the payment facility processing unit.

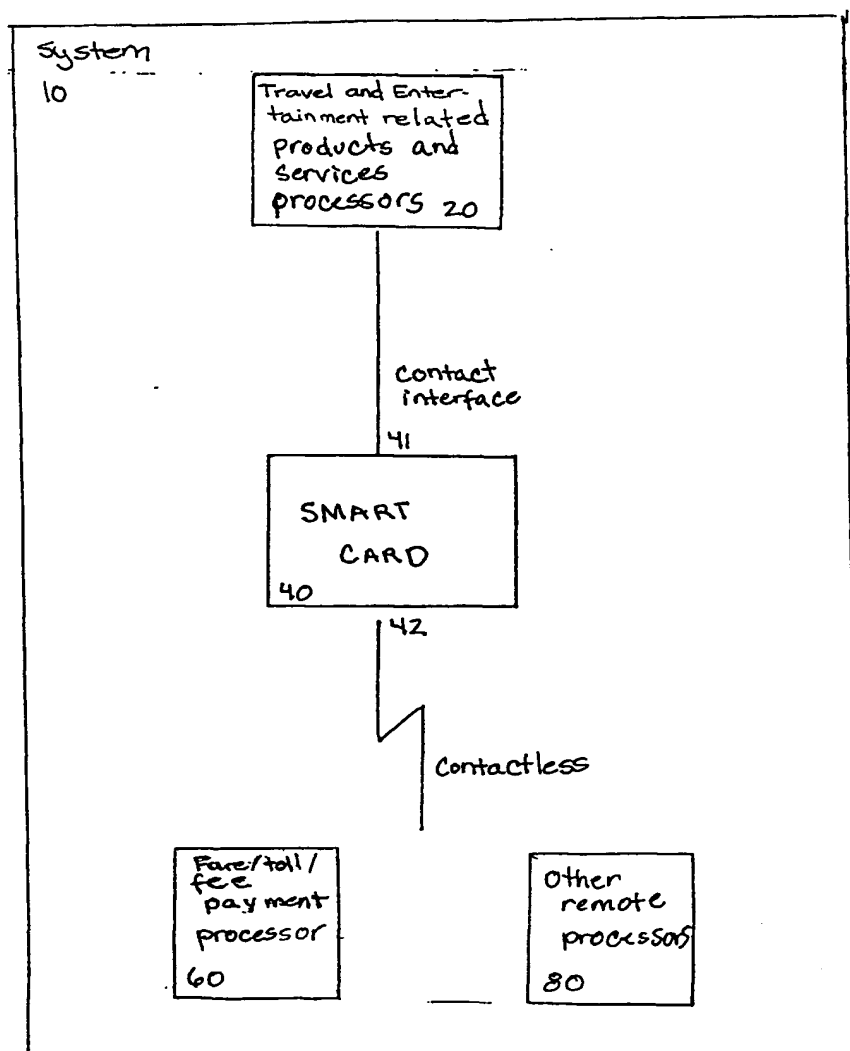


FIG 1

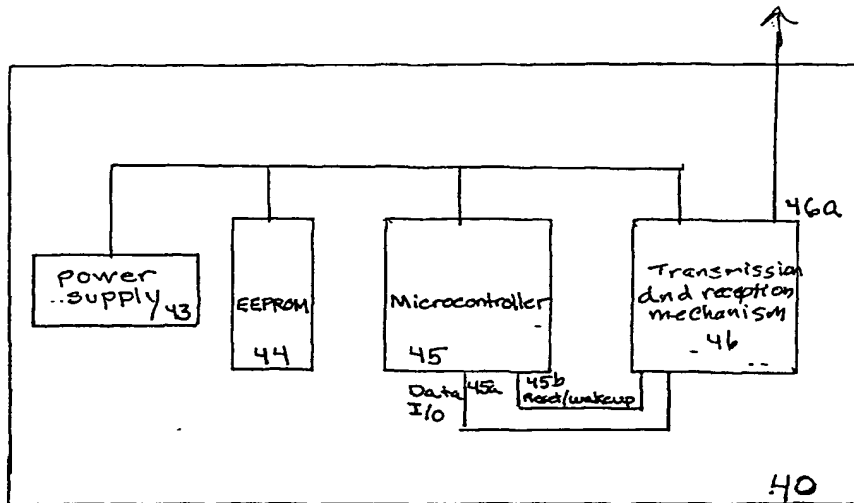


FIG 2

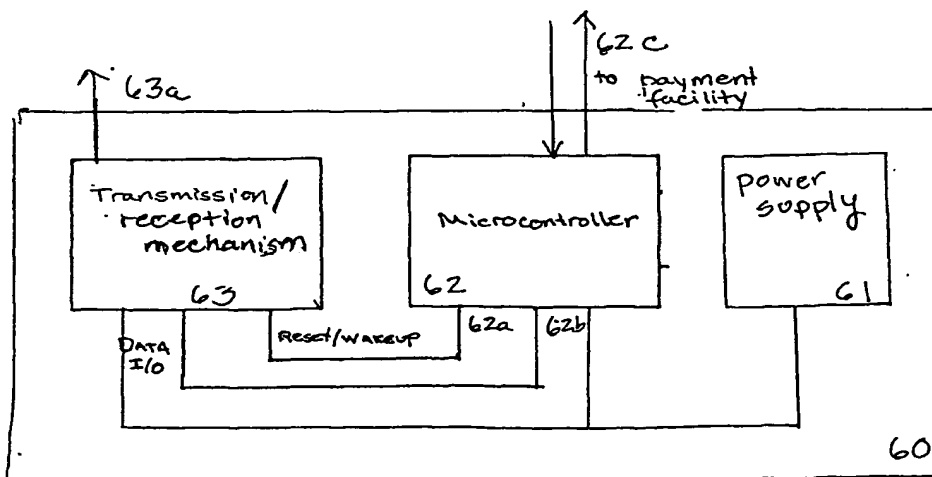


FIG 3

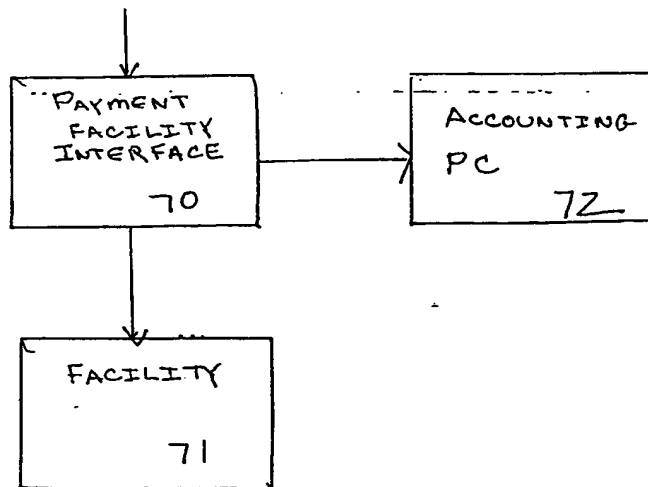


FIG. 4

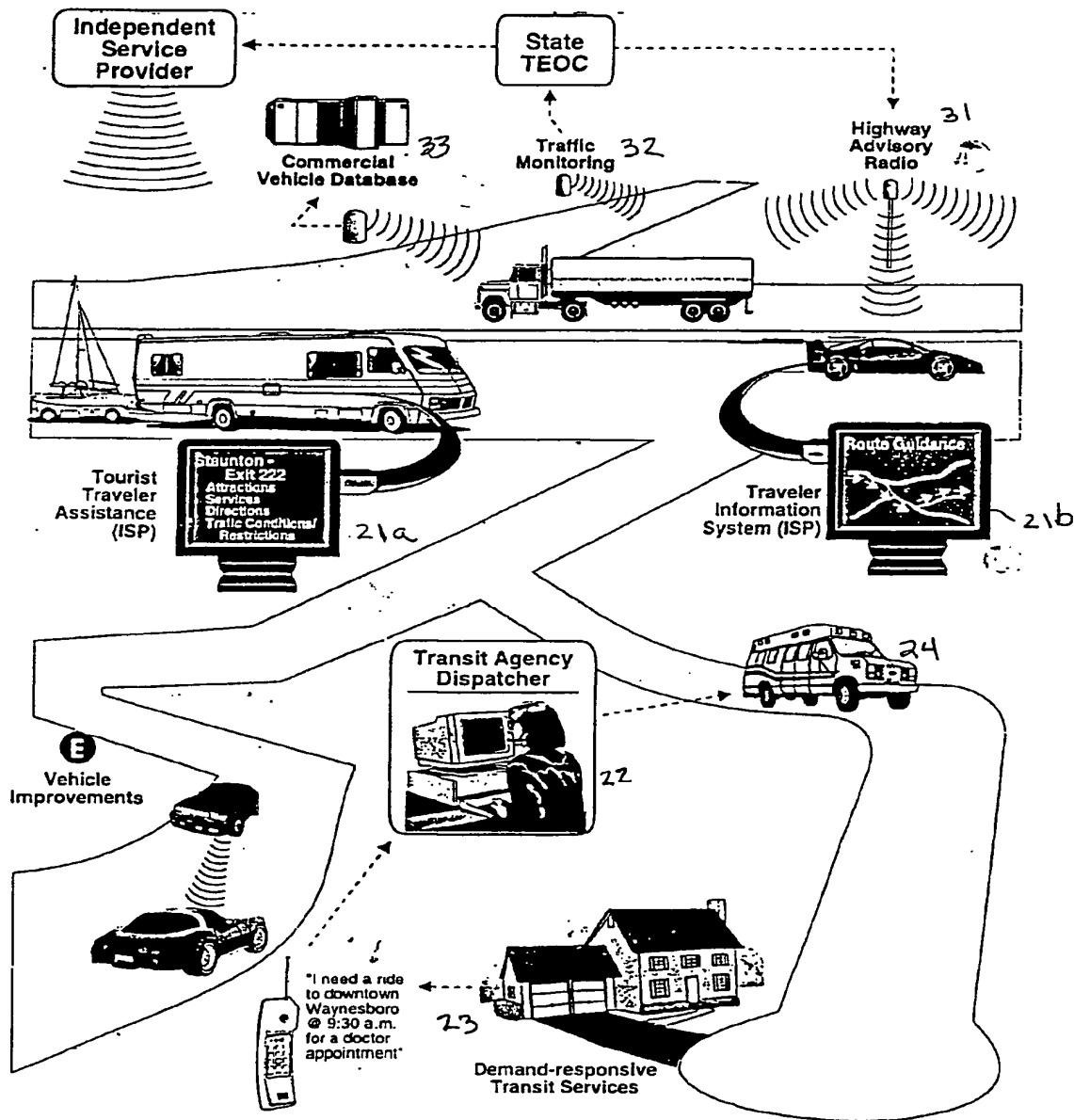


FIG 5

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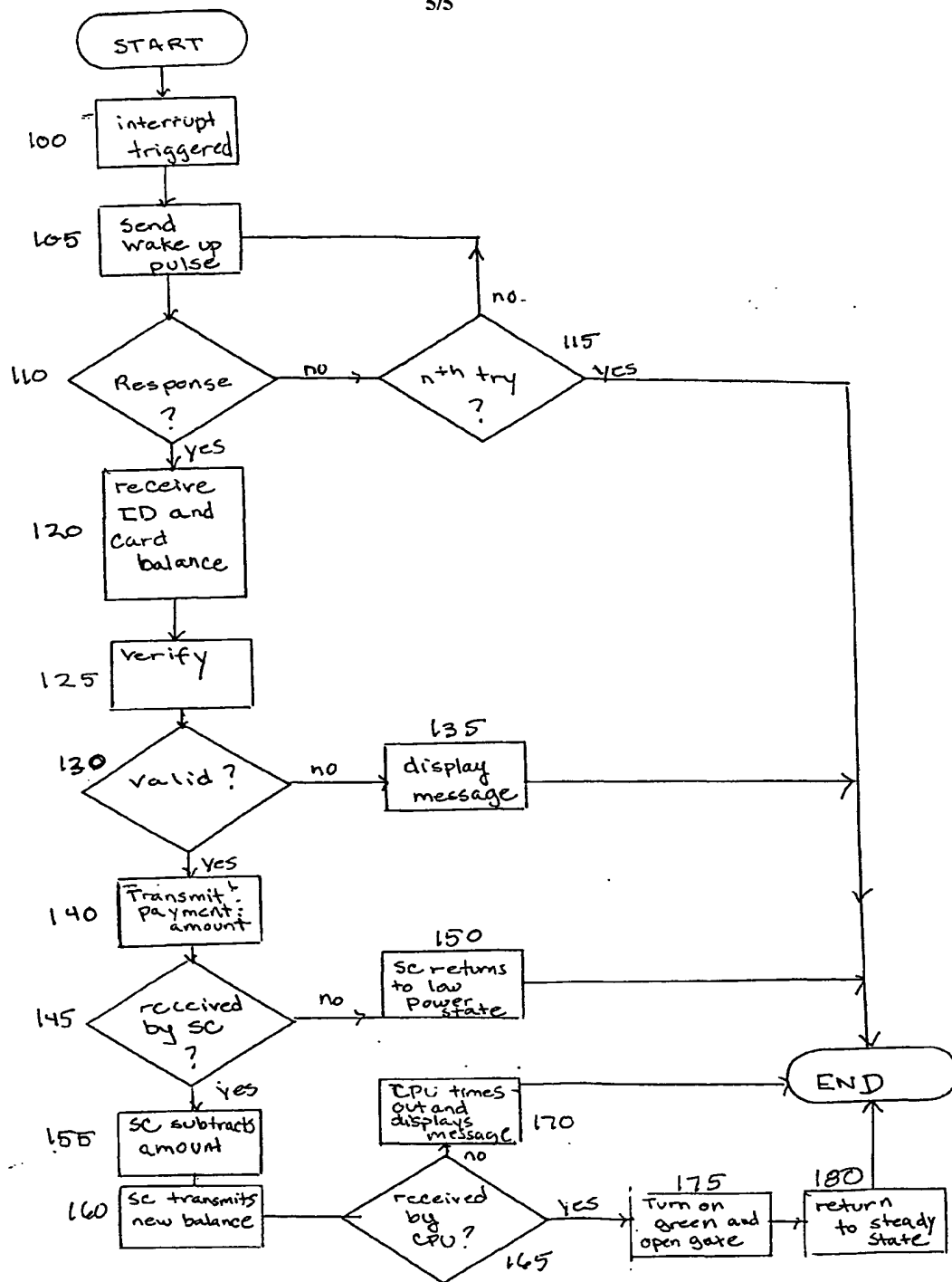


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/20266

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06K 5/00

US CL : 235/380, 381, 492

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 235/380, 381, 492

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
NONE**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,594,233 A (KENNETH et al) 14 January 1997 (14.01.1997), see entire document.	1-25
Y,P	US 6,246,985 B1 (KANEVSKY et al) 12 June 2001 (12.06.2001), see entire document.	1-25
Y	US 5,819,234 A (SLAVIN et al) 06 October 1998 (06.10.1998), see entire document.	1-25
Y	US 4,963,723 A (MASADA) 16 October 1990 (16.10.1990), see entire document.	1-25

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

13 AUGUST 2001

Date of mailing of the international search report

31 AUG 2001

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

SEUNG H. LEE

Telephone No. (703) 308-5894

Benjamin F. Fruton

Form PCT/ISA/210 (second sheet) (July 1998)*

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number
WO 2004/003651 A1

(51) International Patent Classification⁷: **G02F 1/225**,
1/35, H04B 10/18, H04J 14/02

(21) International Application Number:
PCT/US2003/020337

(22) International Filing Date: 26 June 2003 (26.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/184,591 27 June 2002 (27.06.2002) US

(71) Applicant: **INTEL CORPORATION [US/US]**; 2200
Mission College Boulevard, Santa Clara, CA 95052 (US).

(72) Inventor: **BHOWMIK, Achintya**; 3353 Cortese Circle,
San Jose, CA 95127 (US).

(74) Agents: **STEFFEY, Charles, E. et al.**; Schwegman, Lund-
berg, Woessner & Kluth, P.A., P.O. Box 2938, Minneapolis,
MN 55402 (US).

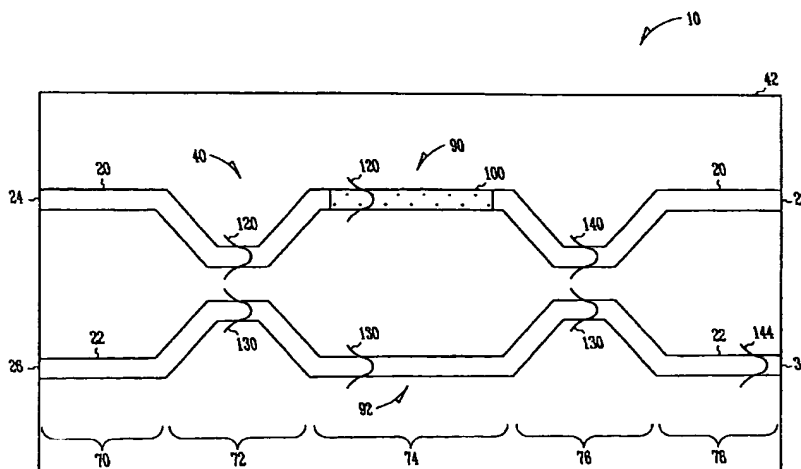
(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **PASSIVE OPTICAL CHANNEL EQUALIZER APPARATUS, METHODS OF PASSIVE OPTICAL CHANNEL EQUALIZATION, AND SYSTEM COMPRISING SUCH AN APPARATUS**



(57) Abstract: Passive optical channel equalizer apparatus includes first and second waveguides arranged to form a Mach-Zehnder interferometer. A non-linear optical medium section is formed in one of the waveguides and is capable of self-phase modulating each channel of an N-channel multiplexed lightwave to produce an output lightwave having improved channel power uniformity.

WO 2004/003651 A1

PASSIVE OPTICAL CHANNEL EQUALIZING APPARATUS, METHOD OF PASSIVE OPTICAL CHANNEL EQUALIZATION, AND SYSTEM COMPRISING SUCH AN APPARATUS

5

Technical Field

The field of the invention relates to optical channel equalizers such as those used in optical networks.

10

Background Information

First-generation optical networks employed a single-channel, in which an optical signal was carried by a single wavelength of light. The next-generation optical networks employed two channels, in which two optical signals were carried by two different wavelengths of light. Presently, optical networks employ multiple or N channels, in which N optical signals are carried by N different wavelength of light.

The N different wavelengths of light for the N channels are typically generated by N different laser sources (e.g., distributed feedback or "DFB" lasers) at different physical locations in the network. Each channel is individually modulated to create the optical signal for the channel. The N different channels are then multiplexed with an N-channel wavelength division multiplexer to send the channels over a single optical fiber, e.g., for long-haul optical communications

The nature of N-channel optical networks is such that the power carried by the different channels naturally becomes increasingly non-uniform. There are three main factors that contribute to channel power non-uniformity. The first is light source non-uniformity, wherein the N different light sources associated with the N different channels have slightly different power outputs even if they are otherwise identical. Variable optical attenuators (VOAs) are typically used to uniformize the output powers of the different light sources.

The second factor contributing to channel power non-uniformity is called "wavelength-dependent attenuation," wherein each channel (i.e., wavelength) is attenuated to a different degree when traveling over the optical network.

The third factor is called "wavelength-dependent amplification," wherein each channel is amplified to a different degree when the signals pass through the optical amplifiers in the network.

In an N channel optical network, the channel power non-uniformity must be controlled to within a certain tolerance (e.g., within a few percent), or the network performance will suffer. This is because at one or more points in the optical network, the N channels are demultiplexed and fed to N different detectors. Each detector is designed to detect optical power between a maximum power P_{MAX} and a minimum power P_{MIN} . If the power in the channel exceeds P_{MAX} , the detector saturates and cannot detect the bits in the optical signal. Likewise, if the power in the channel is below P_{MIN} , the detector is not sensitive enough to detect the bits in the optical signal. The failure to detect bits present in an optical signal leads to an increase in the bit-error rate (BER) and thus diminished network performance.

Because the channel power must be within a select tolerance, the channel power non-uniformities must be compensated, i.e., the channel power must be "equalized." To this end, N channel optical networks typically include one or more channel equalizers in the form of dynamic gain equalization filters (DGEFs) that equalize the channel powers. Each DGEF includes optical taps and detectors that tap and detect a small amount (e.g., 1%) of power from each channel of a demultiplexed signal to measure the power in each channel. Each channel is then passed through a corresponding VOA, which selectively attenuates the channel power in proportion to the measured power. The power-equalized channels are then re-multiplexed, and they continue their journey over the network.

While effective, this dynamic approach to channel equalization is complex and expensive because it requires VOAs and DGEFs. Future N channel optical networks would benefit from less complex and less expensive channel equalization devices and methods.

Brief Description of the Drawings

FIG. 1 is plan view of an example embodiment of a passive optical channel equalizer (POCE) apparatus;

FIG. 2 is a plot of an example channel power spectrum for a multiplexed lightwave, wherein the vertical axis is the input power P_0 in dBm ($\text{dBm} = 10\log P$ in milliwatts) and the horizontal axis is the wavelength λ in nm;

FIG. 3 is a plot of an example transmission function T_N of the POCE apparatus of FIG. 1 as a function of optical power P_0 in dBm wherein the non-linear optical (NLO) medium is PDA-PTS;

FIG. 4 is the same plot as FIG. 2, except that the vertical axis is the output power P_T and the channel power spectrum has been equalized by passing the multiplexed lightwave through an example embodiment of apparatus of FIG. 1 having the example transfer function of FIG 3; and

5 FIG. 5 is a schematic diagram of an example embodiment of an N-channel optical network that includes the passive optical channel equalizer apparatus of FIG. 1.

Detailed Description

10 In the following detailed description of the embodiments of the invention, reference is made to the accompanying drawings that form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice them, and it is to be understood that other embodiments may be utilized
15 and that changes may be made without departing from their scope. The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present invention is defined only by the appended claims.

FIG. 1 is a plan view of an example embodiment of a passive optical channel equalizer (POCE) apparatus 10. POCE 10 includes spaced apart waveguides 20 and 22
20 having respective input ends ("ports") 24 and 26 and respective output ends ("ports") 28 and 30. Waveguides 20 and 22 are arranged to form a Mach-Zehnder interferometer (MZI) 40. In an example embodiment, waveguides 20 and 22 are formed on a substrate 42, as illustrated in FIG. 1. In another example embodiment, waveguides 20 and 22 are optical fibers. In example embodiments, substrate 42 is made of an inorganic substance,
25 such as gallium arsenide (GaAs) or other III-V semiconductors, or guest-host systems such as glass doped with non-linear active molecules.

MZI 40 includes an input section 70, a first coupling section 72, a central section 74, a second coupling section 76, and an output section 78. In the first and second coupling sections, waveguides 20 and 22 are spaced close enough together to allow for
30 evanescent coupling between the waveguides. In an example embodiment, each coupling section is designed to provide 3 dB (decibel) coupling.

The section of waveguides 20 and 22 in central section 74 constitute respective arms 90 and 92 of MZI 40. The output state of the MZI (i.e., the relative amounts of

optical power exiting output ports 28 and 30) is a sinusoidal function of the phase difference $\Delta\Phi$ between arms 90 and 92.

In a "balanced state" MZI (also called the "cross-state"), when $\Delta\Phi = 0$ all of the inputted optical power P_0 inputted to waveguide 20 at input port 24 is outputted at output port 30 of waveguide 22. When $\Delta\Phi = \pi$, all of the inputted power is outputted at output port 28 of waveguide 20.

In an "unbalanced state" MZI (also called the "bar state"), when $\Delta\Phi = 0$ all of the inputted optical power inputted to waveguide 20 at input port 24 is outputted at output port 28 of waveguide 20. When $\Delta\Phi = \pi$, all of the inputted power is outputted at output port 30 of waveguide 22.

In one example embodiment, MZI 40 operates in the balanced state. In another example embodiment, MZI 40 operates in the unbalanced state.

MZI 40 includes in one of the arms (say, arm 90 as shown in FIG. 1) a section 100 of waveguide 20 that includes a highly non-linear optical (NLO) material. A NLO material has a refractive index that changes with the intensity I of light incident thereon. Section 100 of NLO material is referred to hereinafter as "NLO section 100."

In an example embodiment, the NLO material includes a polymer, and further in the example embodiment the NLO material includes an organic polymer. Additionally in the example embodiment, the NLO material is polydiacetylene-para-toluene-sulfonate (PDA-PTS), which has a highly non-linear refractive index due to a one-dimensional confinement of the delocalized π -electrons in the polymer chain. The non-linear refractive index n_2 of PDA-PTS has been measured to be $\sim 10^{-5}$ square centimeters per milliwatt (cm^2/mW) which is five orders of magnitude larger than that of silica.

In other example embodiments, the NLO material includes at least one of polydiacetylene 4-butylcarboxymethylurethane (PDA-BCMU), polythiophene, polycarbonate, polyphenylene vinylene, polypyrrole, or other non-linear optical polymers.

In the operation of MZI 40 in the balanced state, a multiplexed lightwave 120 made up of N channel lightwaves ("N-channels") is inputted into waveguide 20 at input port 24. The N channels each have respective optical powers P_N and thus respective optical intensities I_N .

FIG. 2 is a plot of an example channel power spectrum for multiplexed lightwave 120. The vertical axis is the input power P_0 in dBm ($\text{dBm} = 10\log P$, where P is the power in milliwatts), while the horizontal axis is the wavelength λ in nm. The channel power

spectrum of FIG. 2 represents a typical 6-channel WDM non-uniform spectrum exiting a C-band erbium-doped optical amplifier.

Lightwave 120 passes through first coupling section 72, which is designed to couple a portion (e.g., half, in the case of a 3 dB coupler) of the optical power P_0 inputted into waveguide 22. The result is the formation of a second multiplexed lightwave 130 traveling in waveguide 22. The remaining portion of lightwave 120 enters central section 74 and encounters NLO section 100 of arm 90.

NLO section 100 imparts a phase difference $\Delta\Phi_N$ to the Nth channel in lightwave 120 relative to lightwave 130. The phase difference $\Delta\Phi_N$ is given by:

$$\Delta\Phi_N = [2\pi/\lambda_N](n_2 I_N L) \quad (\text{Eq. 1})$$

wherein λ_N is the wavelength of the Nth channel, n_2 is the non-linear refractive index of the NLO material in NLO section 100, I_N is the optical intensity (e.g., mW/cm^2) of channel N, and L is the length of NLO section 100.

The presence of NLO section 100 thus leads to self-phase modulation of the different channels in lightwave 120 by virtue of the different intensities I_N associated with each channel. The result is a phase-altered lightwave 140, which proceeds to second coupling section 76 and interferes with lightwave 130 traveling in waveguide 22. In an example embodiment, the result is an N-channel lightwave 144 that is outputted from output port 30.

The total amount of power P_{TN} outputted from output port 30 for each channel is a function of the phase $\Delta\Phi_N$. This output can be expressed as an optical transmission function T_N for a given channel N as:

$$T_N = P_{TN}/P_{0N} = \frac{1}{2} (1 + \cos \Delta\Phi_N) \quad (\text{Eq. 2})$$

wherein P_{0N} is the optical power for channel N inputted to waveguide 20 and P_{TN} .

FIG. 3 is a plot of an example transmission function T_N of the POCE apparatus of FIG. 1 as a function of optical power P_0 (in dBm), wherein the NLO medium is PDA-PTS. The plot in FIG. 3 indicates that the phase difference $\Delta\Phi_N$ arising from the self-phase modulation of each channel leads to a power-dependent transmission at output port 30,

with a higher power (or intensity) leading to a greater attenuation. This power-dependent transmission results in a “uniformized” (i.e., more uniform) power spectrum for the N channels as compared to the inputted channel power spectrum.

FIG. 4 is the same plot as FIG. 2, except that the vertical axis is the output power P_T and the channel power spectrum has been equalized by passing the multiplexed lightwave 120 through an example embodiment of apparatus of FIG. 1 having the example transfer function of FIG. 3. FIG. 4 plots the output power P_T after lightwave 120 has passed through MZI 40, with the latter having a transmission function T_N defined by Equation 2. As is seen from FIG. 4, the outputted channel power spectrum shown therein is more uniform than the inputted channel power spectrum of FIG. 2.

The analysis for an unbalanced MZI parallels that for the balanced MZI set forth above.

An advantage of POCE 10 is that NLO section 100 has an ultra-fast response, i.e., on the order of femtoseconds. Another advantage is that the multichannel lightwave does not need to be demultiplexed in order to perform channel power equalization. A further advantage is that POCE 10 is a simple passive device that does not require electrical power input for operation.

FIG. 5 is a schematic diagram of an example embodiment of an N-channel optical network 200 that includes the passive optical channel equalizer apparatus of FIG. 1. Network 200 includes N light sources 202A, 202B,...202N optically coupled to a multiplexer 210 via N optical fibers 216A, 216B,...216N. Light sources 202A, 202B,...202N may be, for example, diode lasers each designed to emit light at a different wavelength. A first optical amplifier 224 is optically coupled to multiplexer 210 via an optical fiber 232. An optical switch or cross-connect 240 is optically coupled to amplifier 224 via an optical fiber 234 and to a second optical amplifier 250 optically downstream from the optical switch/cross-connect. Optical switch/cross-connect 240 is coupled to optical fibers 254 that carry lightwaves from a different part of the network.

A POCE such as POCE 10 is optically coupled to second amplifier 250 via an optical fiber 260 and is also optically coupled to a demultiplexer 270 via optical fiber 272. The demultiplexer is optically coupled to N detectors 280A, 280B, ... 280N via N optical fibers 282A, 282B,...282N. In an example embodiment, first and second optical amplifiers are fiber amplifiers, such as erbium-doped fiber amplifiers. Further in an

example embodiment, N detectors 280A, 280B,...280N are PIN (p-type/intrinsic/n-type) photodetectors.

In an example embodiment, network 200 operates as follows. Light sources 202A, 202B,...202N emit N different lightwaves 290A, 290B,...290N at N different wavelengths
5 corresponding to N different channels. The N different lightwaves travel over optical fibers 216A, 216B, ...216N and are combined by multiplexer 210 to form a multiplexed lightwave 300. Lightwave 300 then travels over optical fiber 232 to first optical amplifier 224, which amplifies each of the channels in lightwave 300. The amplified lightwave 300 then travels over optical fiber 234 to optical switch/ cross-connect 240, where channels
10 may be dropped from or added to lightwave 300 via optical fibers 254. Lightwave 300 then proceeds to second optical amplifier 250 via optical fiber 236 where it is amplified. The amplified lightwave 300 then proceeds over optical fiber 260 to POCE 10.

At this point, lightwave 300 almost certainly has a non-uniform channel power spectrum by virtue of the three main sources of channel non-uniformity, namely source
15 non-uniformity, wavelength-dependent attenuation and wavelength-dependent amplification. However, POCE 10 acts to equalize the power in the N channels in the manner described in detail above, thereby forming an N channel lightwave 310 having a uniformized channel power spectrum.

Once the channel powers are equalized by POCE 10, the channel-equalized
20 lightwave 310 travels over optical fiber 272 to demultiplexer 270, where the lightwave is demultiplexed into N different lightwaves 320A, 320B...320N corresponding to the N channels. Lightwaves 320A, 320B,...320N then travel over respective optical fibers 282A, 282B,...282N and are received and detected by respective detectors 280A, 280B,...280N. Detectors 280A, 280B,...280N are adapted to generate corresponding
25 electrical signals 284A, 284B,...284N in response to detecting light from the N channels. The electrical signals are then available to be electronically processed.

An advantage of network 200 is that it does not require any VOAs or DGEFs to accomplish channel power equalization. Rather, the functions of the VOAs and the DGEFs are accomplished entirely by POCE 10. This leads to a simplified and less-costly
30 multichannel optical network as compared to prior art optical multichannel optical networks.

The various elements depicted in the drawings are merely representational and are not drawn to scale. Certain proportions thereof may be exaggerated, while others may be

minimized. The drawings are intended to illustrate various implementations of the invention, which can be understood and appropriately carried out by those of ordinary skill in the art.

5 It is emphasized that the Abstract is provided to comply with 37 C.F.R. §1.72(b) requiring an Abstract that will allow the reader to quickly ascertain the nature and gist of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims.

10 In the foregoing Detailed Description, various features are grouped together in a single embodiment for the purpose of streamlining the disclosure. This method of disclosure is not to be interpreted as reflecting an intention that the claimed embodiments of the invention require more features than are expressly recited in each claim. Rather, as the following claims reflect, inventive subject matter lies in less than all features of a single disclosed embodiment. Thus the following claims are hereby incorporated into the Detailed Description , with each claim standing on its own as a separate preferred
15 embodiment.

While the present invention has been described in connection with preferred embodiments, it will be understood that it is not so limited. On the contrary, it is intended to cover all alternatives, modifications and equivalents as may be included within the spirit and scope of the invention as defined in the appended claims.

CLAIMS

What is claimed is:

1. An apparatus comprising:
first and second waveguides arranged to form a Mach-Zehnder interferometer
5 (MZI); and
a non-linear optical (NLO) medium section formed in the first waveguide and
capable of performing self-phase modulation of channels of an input multichannel
lightwave traveling in the first waveguide such that the MZI is capable of producing a
multichannel output lightwave having reduced channel power non-uniformity as compared
10 to the input multichannel input lightwave.
2. The apparatus of claim 1, wherein the NLO medium section includes a polymer.
3. The apparatus of claim 1, wherein the polymer includes polydiacetylene-para-
toluene-sulfonate (PDA-PTS).
4. The apparatus of claim 1, wherein the NLO medium section includes at least one
15 NLO medium selected from the group of NLO media comprising polydiacetylene-para-
toluene-sulfonate (PDA-PTS), polydiacetylene -
4-butylcarboxymethylurethane (PDA-BCMU), polythiophene, polycarbonate,
polyphenylene vinylene, and polypyrrole.
5. The apparatus of claim 1, wherein the first and second waveguides are formed on a
20 substrate.
6. The apparatus of claim 1, wherein the first and second waveguides comprise optical
fibers.
7. An apparatus comprising:
first and second waveguides arranged to form a Mach-Zehnder interferometer
25 (MZI) having a central section;

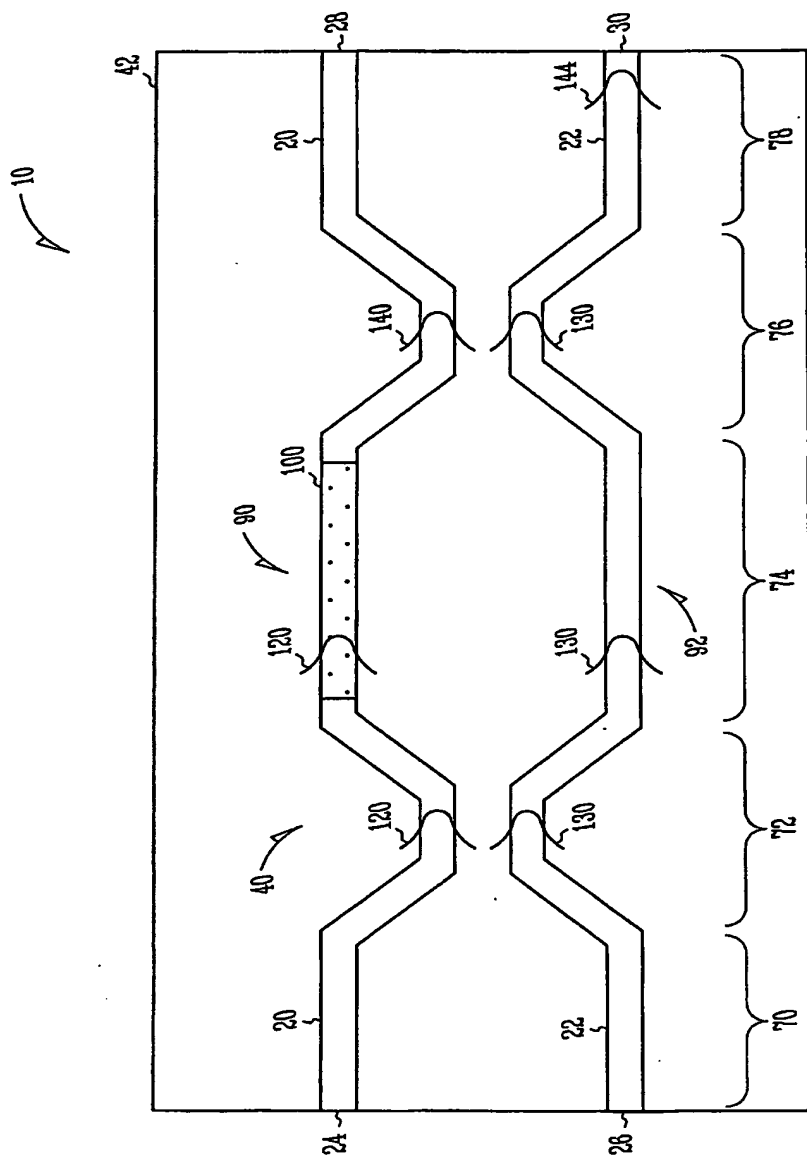
a non-linear optical (NLO) medium formed in one of the first and second waveguides in the central section to impart an intensity-dependent phase change to an N-channel lightwave traveling through the NLO medium so as to reduce channel power non-uniformity in the N-channel lightwave.

- 5 8. The apparatus of claim 7, wherein the NLO medium includes one of polydiacetylene-para-toluene-sulfonate (PDA-PTS), polydiacetylene – 4-butylcarboxymethylurethane (PDA-BCMU), polythiophene, polycarbonate, polyphenylene vinylene, and polypyrrole.
9. The apparatus of claim 7, wherein the first and second waveguides comprise
10 optical fibers.
10. A system including:
 a plurality (N) of light sources to emit light at N different wavelengths corresponding to N channels;
 a multiplexer optically coupled to the N light sources to multiplex the N channels
15 into a multiplexed lightwave;
 a first optical amplifier optically coupled to the multiplexer to amplify each channel in the multiplexed lightwave;
 a passive optical channel equalizer (POCE) having first and second arms, with a non-linear optical (NLO) medium in at least one of the first and second arms to induce an
20 intensity-dependent phase change in each of the N channels to reduce channel power non-uniformity in the multiplexed lightwave.
11. The system of claim 10, further including:
 a demultiplexer coupled to the POCE to demultiplex the N channels in the multiplexed lightwave.
- 25 12. The system of claim 11, further including N detectors coupled to the demultiplexer to detect the N channels and generate N corresponding electrical signals.
13. The system of claim 11, wherein the N detectors include PIN photodetectors.

14. The system of claim 11, further including an optical switch or cross-connect optically coupled to the first amplifier.
15. The system of claim 14, further including a second optical amplifier optically coupled to the optical switch or cross-connect and the POCE.
- 5 16. The system of claim 10, wherein the NLO medium includes at least one of polydiacetylene-para-toluene-sulfonate (PDA-PTS), polydiacetylene – 4-butylcarboxymethylurethane (PDA-BCMU), polythiophene, polycarbonate, polyphenylene vinylene, and polypyrrole.
- 10 17. The system of claim 10, wherein the system does not include a variable optical attenuator.
18. The system of claim 10, wherein the system does not include a dynamic gain equalization filter (DGEF).
19. A method comprising:
inputting a first multiplexed lightwave having N channels into a first waveguide;
15 forming a second multiplexed lightwave with the N channels in a second waveguide from the first multiplexed lightwave;
passing the first multiplexed lightwave through a non-linear optical (NLO) medium in the first waveguide to induce a phase change in each of the N channels relative to the N channels in the second multiplexed lightwave; and
20 interfering the first multiplexed lightwave with the second multiplexed lightwave to produce a multiplexed output lightwave having a reduced channel power non-uniformity compared to that of the inputted first multiplexed lightwave.
20. The method of claim 19, including outputting the output lightwave from the second waveguide.

21. The method of claim 19, including forming the NLO medium from at least one of polydiacetylene-para-toluene-sulfonate (PDA-PTS), polydiacetylene – 4-butylcarboxymethylurethane (PDA-BCMU), polythiophene, polycarbonate, polyphenylene vinylene, and polypyrrole.
- 5 22. The method of claim 19, including:
forming the second multiplexed lightwave by passing the first lightwave through a first coupling section of the MZI; and
interfering the first and second multiplexed lightwaves at a second coupling section of the MZI.
- 10 23. The method of claim 19, including forming the first and second waveguides from optical fibers.
24. A method comprising:
generating a plurality (N) of guided lightwaves at N different wavelengths thereby forming first N channel lightwaves;
15 multiplexing the first N channel lightwaves into a guided multiplexed N channel lightwave; and
forming a channel-power-uniformized lightwave by passing the multiplexed N channel lightwave through a passive optical channel equalizer (POCE) having a waveguide with a non-linear optical (NLO) medium formed therein to induce an intensity-
20 dependent phase change in each of the N channel lightwaves to reduce channel power non-uniformity in the multiplexed N channel lightwave.
25. The method of claim 24, further including amplifying the multiplexed N channel lightwave prior to passing the multiplexed N channel lightwave through the POCE.
26. The method of claim 25, further including demultiplexing the channel-power-uniformized lightwave to form second N channel lightwaves.
25

27. The method of claim 26, further including detecting each of the second N channel lightwaves and generating N corresponding electrical signals in response thereto.
28. The method of claim 24, further including forming the first and second waveguide from respective first and second optical fibers.
- 5 29. The method of claim 24, further including forming the NLO medium from at least one of polydiacetylene-para-toluene-sulfonate (PDA-PTS), polydiacetylene – 4-butylcarboxymethylurethane (PDA-BCMU), polythiophene, polycarbonate, polyphenylene vinylene, and polypyrrole.

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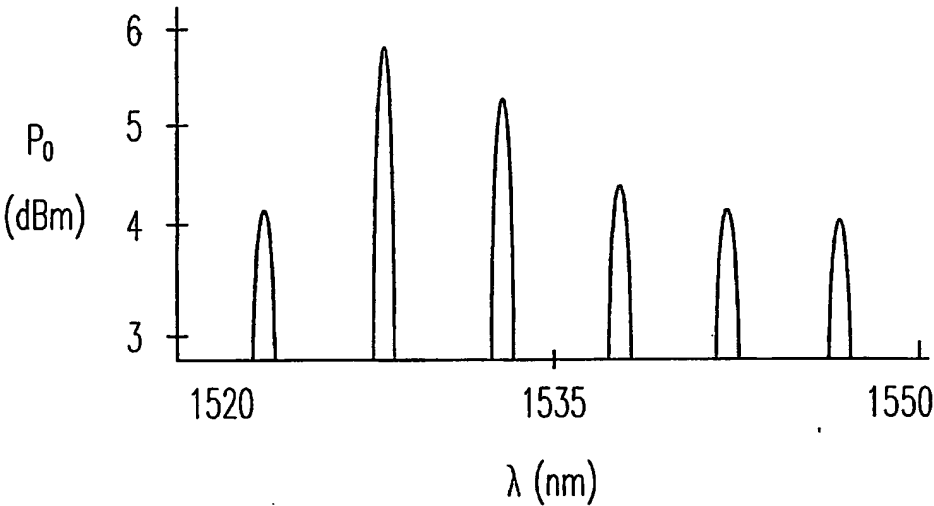


Fig. 2

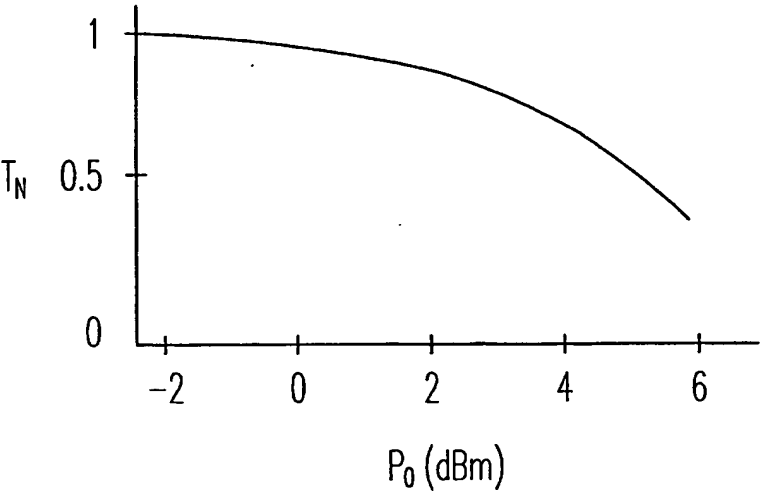


Fig. 3

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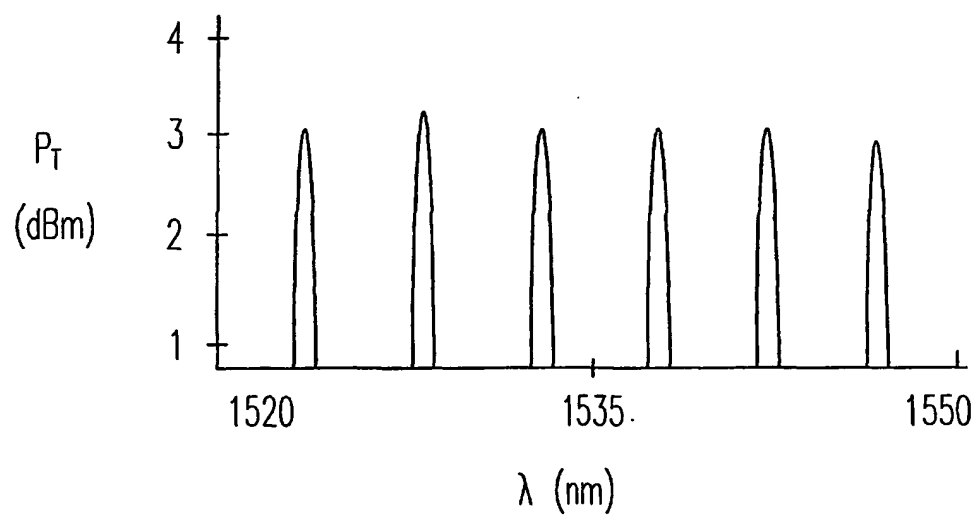


Fig. 4

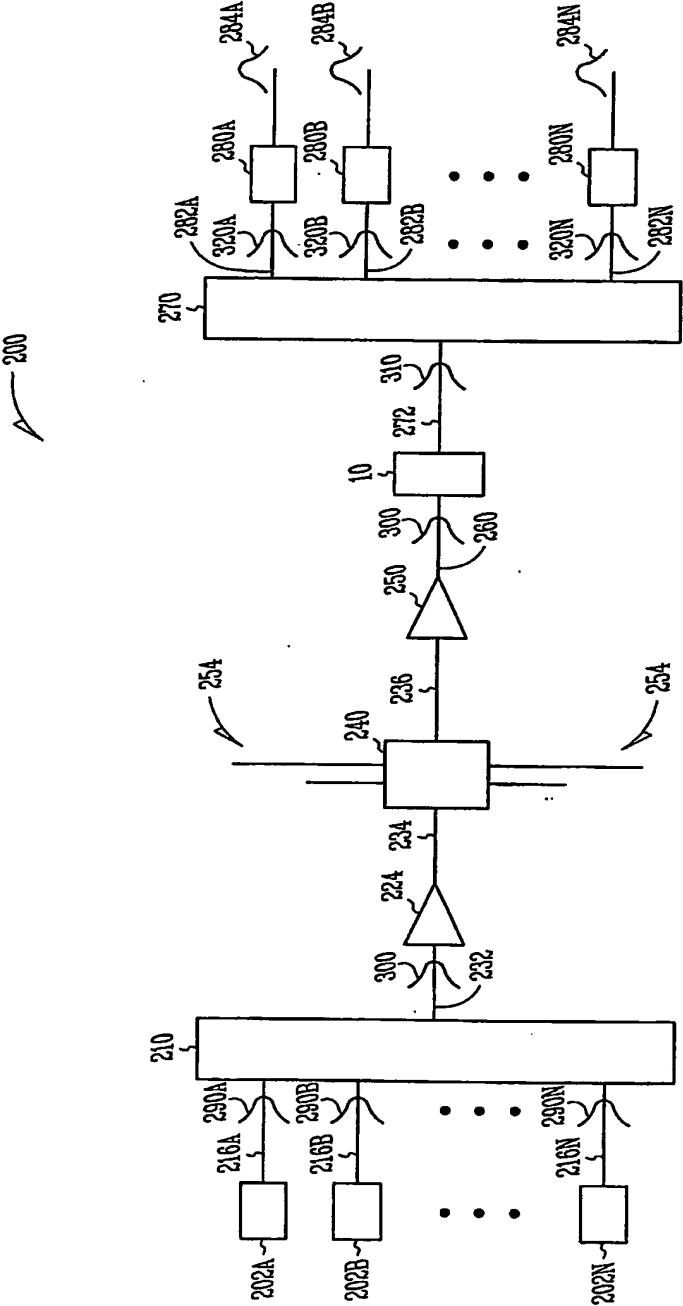


Fig. 5

INTERNATIONAL SEARCH REPORT

Internat	Application No
PCT/US	03/20337

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G02F1/225 G02F1/35 H04B10/18 H04J14/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G02F H04B H04J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 787 714 A (GREENE BENJAMIN I ET AL) 29 November 1988 (1988-11-29) column 2, line 64 -column 3, line 7 column 9, line 1 - line 31 figure 9	1-9, 19-23
A	KYO INOUE ET AL: "TUNABLE GAIN EQUALIZATION USING A MACH-ZEHNDER OPTICAL FILTER IN MULTISTAGE FIBER AMPLIFIERS" IEEE PHOTONICS TECHNOLOGY LETTERS, IEEE INC. NEW YORK, US, vol. 3, no. 8, 1 August 1991 (1991-08-01), pages 718-720, XP000223738 ISSN: 1041-1135 whole document	1-9, 19-23



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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8 document member of the same patent family

Date of the actual completion of the international search

17 October 2003

Date of mailing of the international search report

24/10/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

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INTERNATIONAL SEARCH REPORT

Internati	Application No
PCT/US	03/20337

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Form PCT/ISA/210 (continuation of second sheet) (July 1992)

page 2 of 2

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Form PCT/ISA/210 (patent family annex) (July 1992)

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 November 2001 (08.11.2001)

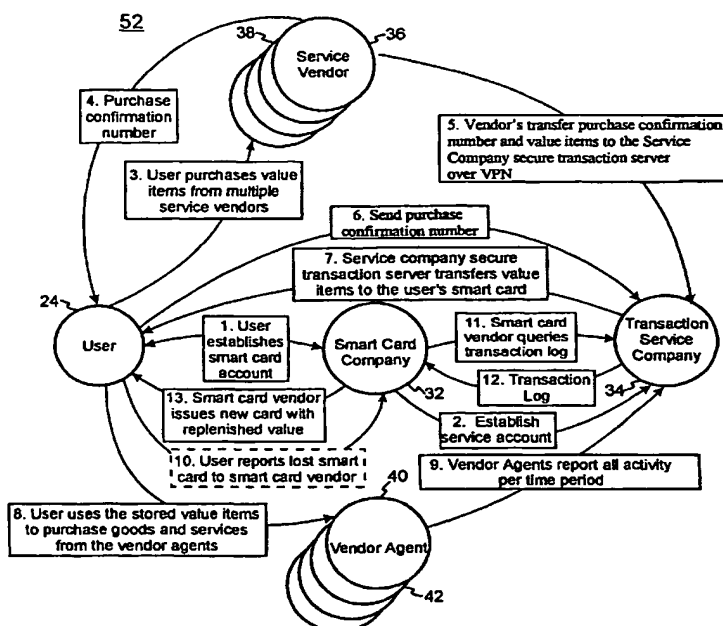
PCT

(10) International Publication Number
WO 01/84474 A2

- (51) International Patent Classification⁷: G06K 7/00 (74) Agents: NIXON, Dale, B. et al.; Sidley Austin Brown & Wood, Suite 3400, 717 N. Harwood, Dallas, TX 75201 (US).
- (21) International Application Number: PCT/US01/14058
- (22) International Filing Date: 1 May 2001 (01.05.2001) (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/562,795 2 May 2000 (02.05.2000) US
- (71) Applicants: CMA BUSINESS CREDIT SERVICES [US/US]; 40 East Verdugo Avenue, Burbank, CA 91502 (US). COCOTIS, Thomas, A. [US/US]; Apt. C, 17111 Ash Street, Huntington Beach, CA 92647 (US). VON KAENEL, Tim, A. [US/US]; 12 Lake View Drive, Coto de Caza, CA 92679 (US). (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: STORED ELECTRONIC VALUE METHOD FOR SMART CARDS



(57) Abstract: A smart card is used within a system for the loading of value items sold by vendors and for the purchase of goods or services from vendor agents. The user of the smart card purchases value items from multiple vendors who identify the transaction by a purchase confirmation number. The user logs onto a centralized transaction service company and submits through a secure channel the confirmation number. The service company then contacts the one or more vendors to obtain the value items electronically. These value items are then transmitted via the secure channel to the user for loading into the user's smart card. The user can then apply the value items at each of a plurality of vendor agents because each of the agents utilizes the same application program for reading and using the data on the smart card. The smart card itself has one universal application program with a data field that is divided into groups for each of the vendors who supply value items to the user. Each time the smart card is used, the value items removed are

reported back to the transactional service company for updating the account of the user. Should the smart card be lost, the service company can identify the remaining balance in the card and have remaining value unit items loaded in a replacement card that is provided to the user.

WO 01/84474 A2



Published:

— without international search report and to be republished
upon receipt of that report

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STORED ELECTRONIC VALUE METHOD FOR SMART CARDS**TECHNICAL FIELD OF THE INVENTION**

The present invention pertains in general to electronic stored value systems and in particular to the storing and accounting of value in such systems.

5 BACKGROUND OF THE INVENTION

Smart cards have a processor and memory incorporated into a thin plastic device that is essentially the size of a credit card. These devices have highly developed security provisions to limit access to only those parties who are authorized to have access. Smart cards store value items electronically such that the user can purchase
10 goods or services by transferring electronic value from the card to the merchant or provider who can then redeem the electronic value for cash or other value. However, the limited memory available in smart cards restricts the extent of use of these cards because each independent application used by the cards requires a separate application program which consumes much of the card memory space and limits the memory
15 available for storing the data for defining value items.

A further problem is that the loading of value items into a smart card requires a highly secure communication channel requiring specialized software and procedures. The implementation of such software and procedures poses a substantial operating cost to each of the individual vendors of goods and services using smart card distribution.

20 A still further problem with the widespread implementation of smart cards is that the possibility of loss of theft of the card poses a detriment to the use of the cards. Since the value itself is stored on the card, a user could suffer a loss much like that of having cash stolen or destroyed. A primary advantage of credit cards is that the liability of the user can be limited so the user is encouraged to widely employ the card
25 for almost any kind of goods or services. Thus, there exists a need for a process to make possible the replacement of value in a lost or stolen smart card.

SUMMARY OF THE INVENTION

A selected aspect of the present invention for use of smart cards is the organization, programs and data in the smart card memory as well as application programs for the smart card. The memory structure in the smart card has a single
5 application program for storing and accessing a plurality of value units that are stored in the memory of the card. A data field comprises a plurality of groups of value units with each group corresponding to a different vendor for the value units. Each group of value units has an identification character for defining the vendor associated with the group. A further aspect is that each of the vendor agents which receive the value items
10 in return for goods and services utilizes a common algorithm in the application program for reading and operating the smart card, thereby making possible use of the smart card by an unlimited number of unassociated providers.

A further aspect of the present invention is directed to the loading of value items into a smart card. A plurality of vendors sell value items to users and these value items
15 are transmitted to a common secure server. This server establishes a secure communication channel to a processor which has the smart card connected thereto. The server then transmits the value items via the secured channel for loading into the smart card.

A still further aspect of the present invention pertains to the replacement of lost
20 or stolen smart cards. A smart card is loaded with a predetermined set of value items and a record of these value items is loaded into a secure server. The smart card is used at a venue and one or more of the value items is removed. A report of the value items removed is transmitted to the secure server. Upon receiving a request for a replacement card, a determination is made for the value items which have not been reported
25 removed from the smart card by use of the record of the items previously loaded and the list of removed items reported to the secure server. A replacement set of value items is then stored in a replacement smart card that is provided to the user.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following description taken in conjunction with the accompanying drawings in which:

5 Fig. 1 is a schematic illustration of a network for utilization of the present invention showing a user, service vendors, a smart card vendor, a transaction services company and multiple venues for use of the smart card,

Fig. 2 is a state diagram illustrating the dataflow and functions performed with respect to each of the entities shown in Figure 1,

10 Fig. 3 is a memory structure for a prior art smart card,

Fig. 4 is a memory structure for a smart card as utilized in accordance with the present invention, and

Fig. 5 is a schematic illustration of the application programs involved in the use of smart cards in accordance with the present invention.

15 DETAILED DESCRIPTION

A "smart card" is a product having essentially the dimensions of a credit card but having fixed within the body of the card electronic circuitry generally including a microprocessor and memory. A representative embodiment of a smart card is described in U.S. Patent No. 6,050, 494 entitled "Smart Card", which is incorporated
20 herein by reference.

A principle existing application for a smart card is to serve as a portable money transference device. A smart card is provided with very powerful security features to ensure that access to the device is limited only to those parties who are authorized to have such access. Monetary value is stored in a smart card in a secure fashion such that
25 the card can be presented to a merchant and the merchant can withdraw value from the card for the purchase of goods or services. The merchant can then electronically process the funds received to transfer them into its own account. The value stored on the card is reduced by the amount withdrawn by the merchant. The user of the smart card can return to a terminal connected to his bank and connect the smart card to the
30 terminal and command that additional value be transferred into the card from his

account. Since the smart card must be extremely small, and in particular, thin, there is only a limited amount of storage space on the card. The storage must be non-volatile because smart cards typically do not include a battery, but only obtain power when connected to a device for conducting a transaction.

5 A network 20 configuration for utilization of a smart card in accordance with the present invention is shown in Figure 1. The network 20 includes Internet 22 which provides communication between the various entities. A user 24 has a conventional personal computer 26 that is connected to the Internet 22. The user 24 is provided with a smart card 28 that can be inserted into a card reader 30 that is connected to the
10 computer 26. A smart card company 32 issues the card 28 and provides services with respect to this card. A transaction service company 34 is connected to the Internet 22 and provides services for use of the smart card 28. A service vendor 36 supplies value items that can be purchased by the user 24 and stored in the smart card 28. A service vendor 38 also provides value items for the smart card 28. The value items supplied by
15 the service vendors 36 and 38 can be converted to goods or services by vendor agents 40 and 42, which have respective card readers 44 and 46 that are also connected to the Internet 22. The readers 44 and 46 include processors for interacting with the smart cards and communicating through the Internet 22.

The present invention is now described generally in reference to Figure 1, but is
20 described in more detail below in reference to Figures 2-5. The user 24 establishes an account with the smart card company 32, who then physically transfers the smart card 28 to the user 24. The company 32 also provides the user 24 with the card reader 30, which is connected to the computer 26 and operates by use of software provided by the company 32. The smart card company 32 establishes a service account for the user 24
25 at the transaction service company 34.

The user selects a service vendor, such as 36 and makes a connection between his computer 26 with the service vendor 36 through the Internet 22. The user selects certain value items such as a ticket, gift certificate, or other electronically storable value item from the service vendor 36. Payment can be made through a conventional credit
30 card payment or other means. The vendor sends a purchase confirmation number to the user. User 24 then logs onto the transaction service company 34 where an account has

been previously established. The user 24 establishes a secure communication channel with the transaction service company. The user sends to the transaction service company 34 the purchase confirmation number which was provided by the service vendor 36. The service vendor 36 sends the purchase confirmation number and the value items purchased by the user 24 to the transaction service company 34. The transaction service company 34 transfers these value items through the secure connection channel to the user computer 26 where the software within this computer loads the value items through the card reader 30 to the smart card 28.

An inventory of the value items for the user 24 is also maintained at the transaction service company 34. The user 24 can purchase value items from other vendors, such as 38, and these items are similarly transferred to the transaction service company 24 in a similar process for downloading to the smart card 28.

When the user 24 desires to use a value item stored on the card 28, he must physically take the card 28 to a vendor agent 40 where it is inserted into the card reader 44. The user enters a PIN number at the reader 44 and the value items for the vendor agent 40 are transferred from the card 28 to the vendor agent 40. This could, for example, be two tickets for admission to a concert. The vendor agent 40 then reports back at a maximum time period, such as 24 or 48 hours, to the transaction service company 34 providing information that specific tickets have been redeemed by the user 24. The service company 34 then updates the user 24 account to remove these tickets from the inventory for the user 24.

Should the user 24 lose the smart card 28, he can apply to the smart card company 32 for replacement. The smart card company 32 determines from the transaction service company 34 the content that is not been consumed for the account of the user 24. Smart card company 32 can then either load a replacement content in a new smart card and ship it to the user 24 or can send a replacement value items to the transaction service company 34 to be loaded into the smart card 28, as done previously.

A state diagram 58 is shown in Figure 2 for representing a detailed embodiment of the processes of the present invention. The entities illustrated are the same as shown in Figure 1. The processes shown in sequential steps are as follows:

1. User establishes smart card account – The user 24 can establish an account with the company 32 on-line, through mail or other means, but in each case must provide identification as well as set up an account with the company 32. In some cases, the smart card is also used for billing, and may comprise a credit card. After the
5 account is established, the company 32 sends the smart card 28 to the user 24 together with the reader 30 and appropriate software for use with the user's computer system 26.

2. Establish service account – After the user 24 establishes an account with the smart card company 32, the company 32 sets up a user 24 account with the transaction service company.

10 3. User purchases value items from multiple service vendors – The user 24 can log onto a vendor web site such as service vendor 36 for the purchase of value items such as concert tickets, travel tickets, coupons, etc. Through the on-line connection the user 24 can select the particular value items desired and make payment through a conventional credit card purchase or through a secured payment connection.

15 4. Purchase confirmation number – Upon completion of a purchase by a user 24, the service vendor 36 transfers a purchase confirmation number for the order to the user 24.

5. Vendor's transfer purchase confirmation number and value items to the service company secure transaction server over VPN – The vendor 36 transfers the
20 purchase confirmation number and the value items purchased by the user 24 to the secure transaction server of the transaction to the service company 34 via a VPM (virtual private network). In the present example, the value items comprise tickets to a concert that were purchased by the user 24 from the service vendor 36.

6. Send purchase confirmation number – To complete the payment process and
25 obtain the value items purchased, the user 24 establishes a secure communication channel with the service company 34 and sends the purchase confirmation number to the service company 34.

7. Service company secure transaction server transfers value items to the user's smart card – Through a secure transaction channel, the transaction service company 34
30 transmits the value items (concert tickets) electronically to the computer 26 of the user 24 wherein the multiple value items are entered by a reader 30 into the smart card 28.

8. User uses the stored value items to purchase goods and services from the vendor agents – The user then physically transports the smart card 28 to the vendor agent 40. The smart card 28 is inserted into the reader 44 and the user 24 enters a PIN for verification. The terminal finds the two tickets for the concert at this time and
5 verifies the digital signatures and validity of the tickets. The tickets are electronically removed from the smart card 28 and the consumer is granted entry to the concert.

9. Vendor agents report all activity per time period – At some time, but no later than a predetermined time, after the smart card is read and the tickets are unloaded, the ticket redemption transaction is transmitted from the vendor agent 40 to the transaction
10 service company 34 for account reconciliation. The maximum time allowed could be 24 hours from the time of the event.

10. User reports lost smart card to smart card vendor – Should the smart card 28 be lost or stolen from the user 24, the user can report this loss to the smart card company 32 for receiving a replacement. This is an important service for consumers
15 because the smart card itself carries the value. Should replacement not be available, consumers would be substantially deterred from using the smart card.

11. Card vendor queries transaction log – The smart card vendor makes a query to the transaction service company 34 for the transaction log of the user 24.

12. Transaction log – The transaction service company 34 reads the account for
20 user 24 and produces a transaction log that indicates the value items that have not been reported as used. This list is transmitted to the smart card company 32.

13. Smart card vendor issues new card with replenished value – The smart card vendor loads replenished value into a new smart card based on the received list of value items and mails this card to the user 24 for subsequent use. The replacement value will
25 be the value items originally purchased from the service vendor 36 less the value items that were removed by vendor agent 40. The smart card company 32 will not load the replacement smart card until the time period for reporting the consumed items has elapsed. Optionally, the smart card company 32 can request that the transaction service company 34 load the replacement smart card through the user computer 26 in the
30 method described above in step 7.

The smart cards have limited storage capability because of the required small physical size. Contemporary smart cards have a capacity of 16k bytes which will soon become 32k bytes. However, in any case this is a limited amount of storage space compared to space used by typical application programs and data storage in computer systems. The layout of application programs in a conventional smart memory card is shown in Figure 3. Each vendor utilizes a separate application for the value items associated with that vendor. For example, if the service vendor 36, shown in Figures 1 and 2, is a seller of concert tickets, it would require the development and installation of an application for loading and using those value items that it sells for the smart card. Likewise, the vendor agents that accept the value items from service vendor 36 would have corresponding proprietary software for interfacing with the application of this particular vendor.

As shown in Figure 3, the memory 70 used in a conventional smart card has 6 different application programs representing vendors of 6 different products. The applications with their corresponding value item data are programs 72, 74, 76, 78, 80 and 82. Each of the application programs A-F consumes a substantial portion of the memory, but is necessary for processing the value items associated with that application. As can be seen in Figure 3, the multiple application programs create a substantial overhead that reduces the space available to the value item data entries.

Referring now to Figure 4, there is shown the memory organization and application program configuration for the present invention. The memory 90 includes a single universal loading/using application 92. This is used in common by all vendors. Further, only one common algorithm is used in the application program that is required by each of the vendor agents to read and interact with the application program 92 in the memory 90. The value item data units are stored in the memory in association with each of the vendors by use of an identification number corresponding to the vendor. The data set 94 corresponds to a vendor identified by the number "1." Likewise, the value item data sets 96-112 corresponds to respective vendors 2, 3, 4, 5, 6, 7, 8, 9 and 10. Thus, the memory 90 configuration of the present invention utilizes a much smaller proportion of the memories for the application program, thereby leaving a much larger portion of the limited memory space available to value item data units.

A further description of the present invention is in reference to Figure 5 which shows the relationships of the application program software involved in the storing and use of value items through a smart card, as previously described. The entities shown in Figure 5 include a user 130, a reader application A1 program 132, transaction service
5 company 134 having an application A program 136, a group of smart cards 138, 142 and 146 having respective application A2 programs 140, 144 and 148. There are further included a vendor agent 156 having a reader application A 3 program 158 and a vendor agent 160 having a reader application A 3 program 162.

The application programs A, A1, A2 and A3 are integrated to provide support
10 for multiple vendors through one transaction service company 134. Each of the smart cards 138, 142 and 146 has a similar application program, which represents the program 92 shown in Figure 4, for interacting with the reader application A1 as well as the reader application A3 at each vendor agent.

Although several embodiments of the invention have been illustrated in the
15 accompanying drawings and described in the foregoing Detailed Description, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications and substitutions without departing from the scope of the invention.

WHAT IS CLAIMED IS:

1. A memory structure for a smart card having an electronic memory and associated processor for storing electronic value units, comprising,
a single application program for storing and accessing a plurality of value units stored in said memory,
5 a data field comprising a plurality of groups of said value units, each group corresponding to a different vendor of said value units, and
each said group of value units having an identification character for defining the vendor associated with the group.

2. A method for storing value items in a smart card, comprising the steps of:
receiving value items at a secure server from each of a plurality of vendors which have sold the value items to a user,
establishing a secure communication channel between said server and a processor
5 which has said smart card connected thereto, and
transmitting said value items to said processor for loading into said smart card.

3. A method for use of a smart card, comprising the steps of:
establishing a secure channel from a server having value items stored therein to a processor having said smart card connected thereto, said value items provided by at least one vendor,
5 transmitting said value items to said processor for loading into said smart card,

applying said smart card at a first vendor agent, wherein said smart card is connected to a processor having a selected application program therein for reading said smart card to remove certain of said value items therefrom, and

applying said smart card at a second vendor agent, which is unrelated to said first
10 vendor agent, wherein said smart card is connected to a processor having said selected application program therein for reading said smart card to remove certain other of said value items therefrom.

4. A method for replacement of a smart card, comprising the steps of:
- loading a first smart card with a predetermined set of value items,
- storing a record of the value items loaded into said first smart card at a secure server,
- removing one or more of said value items from said first smart card,
- 5 reporting to said secure server a list of the ones of said value items removed from said first smart card,
- determining said value items not reported removed from said first smart card by reference to said record and use of said list of removed value items to produce a replacement list of value items, and
- 10 storing value items corresponding to said replacement list in a second smart card.

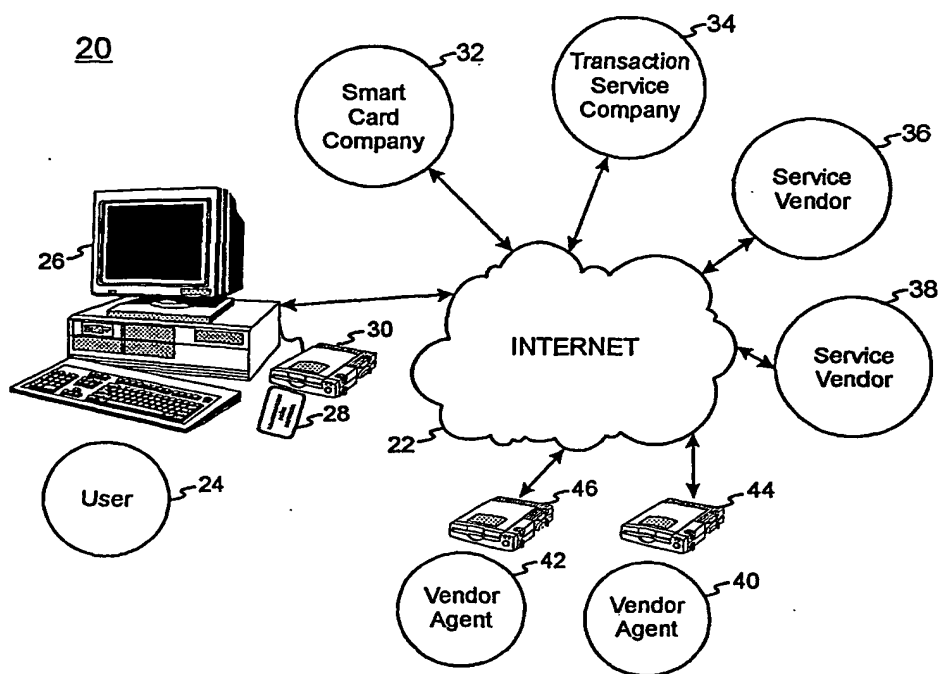


Fig. 1

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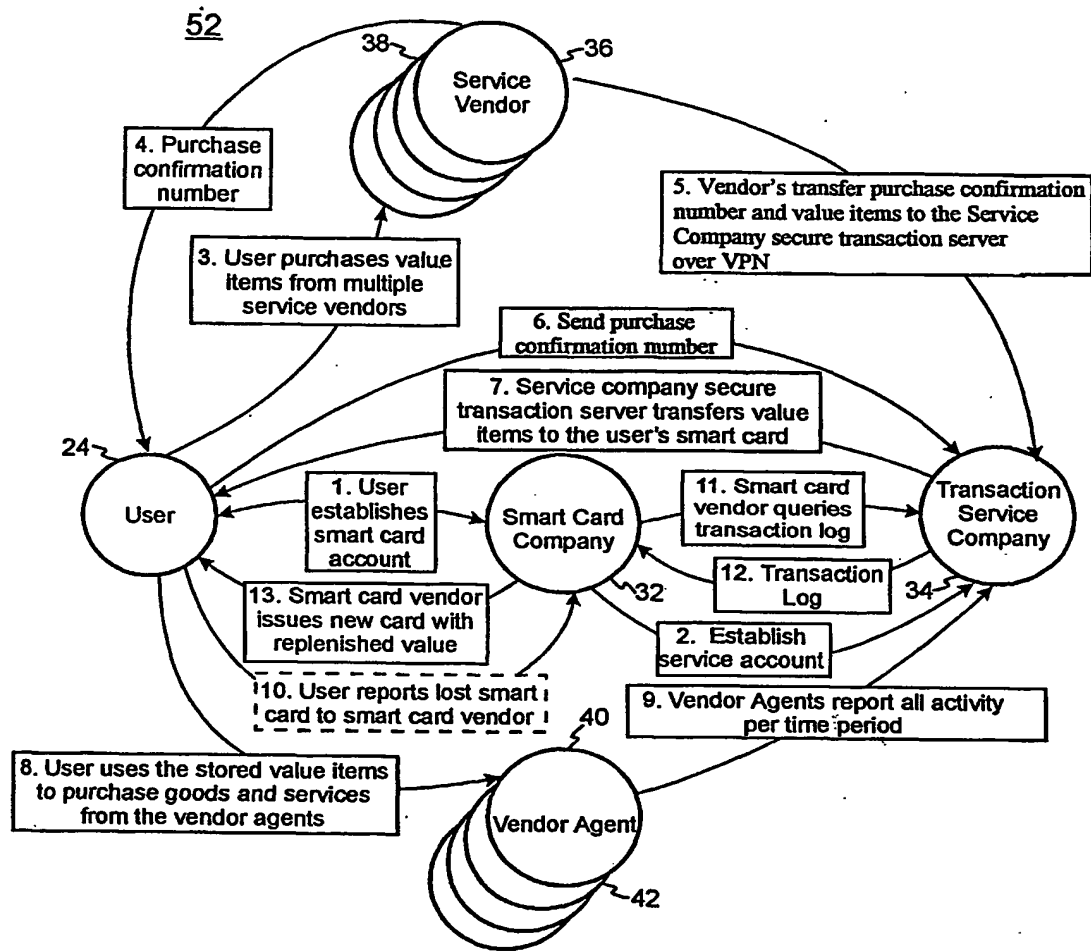


Fig. 2

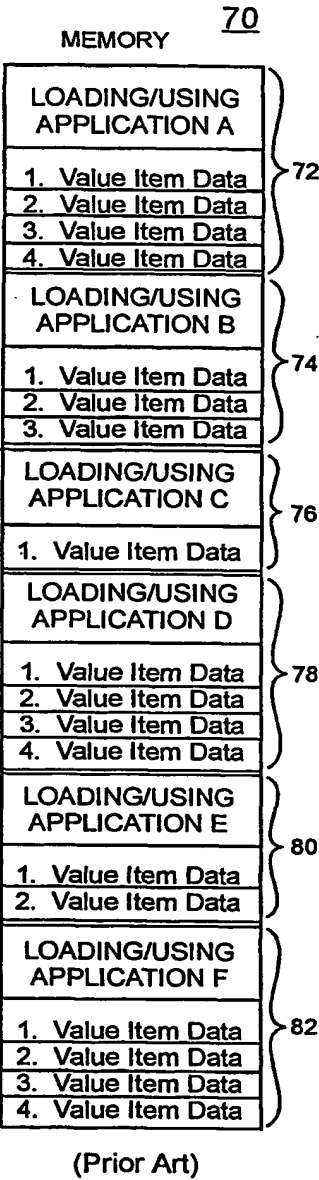


Fig. 3

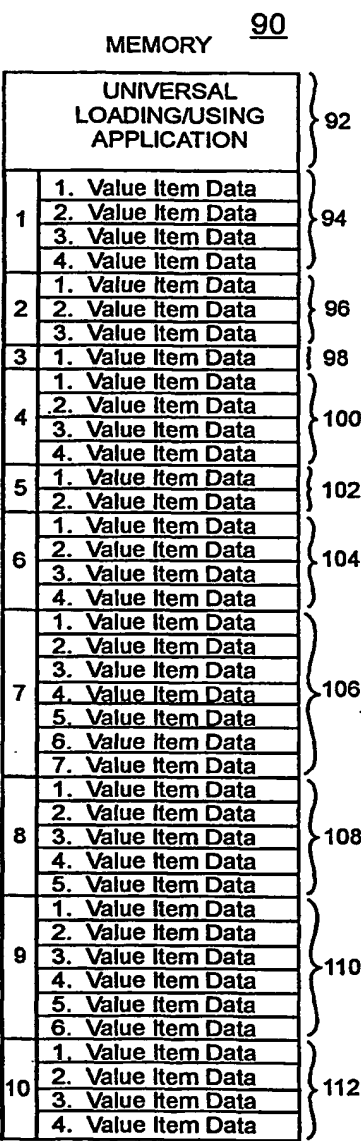


Fig. 4

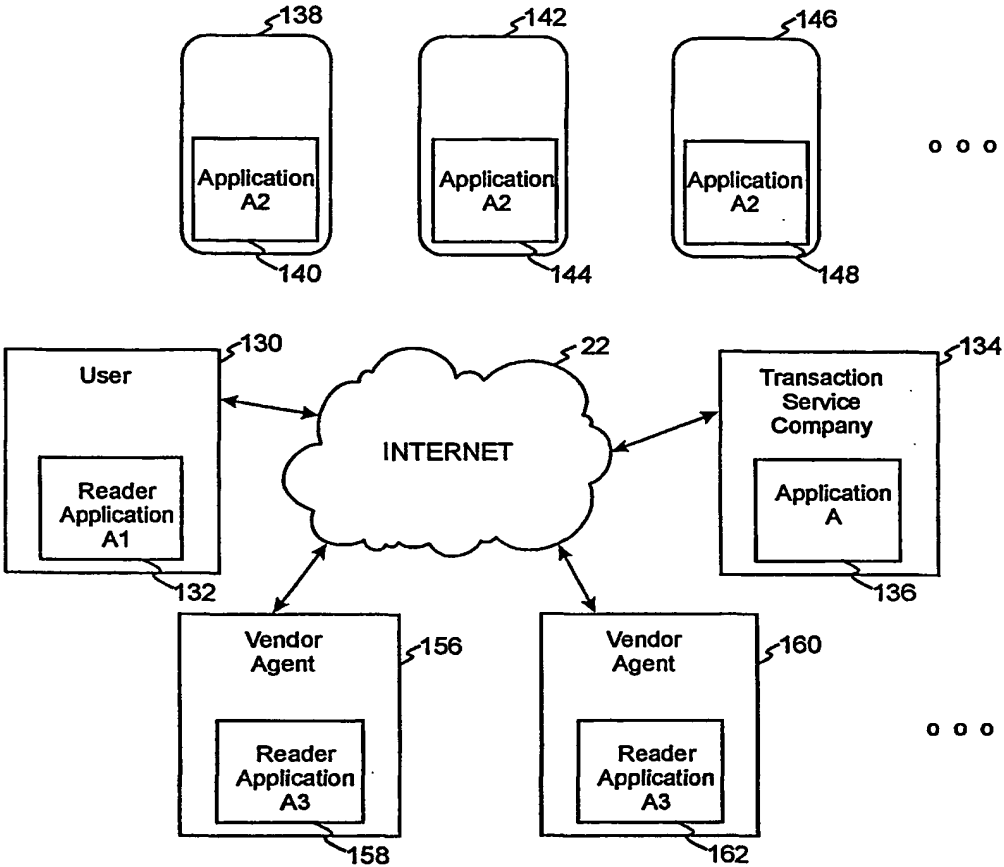


Fig. 5

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



INTERNATIONAL PATENT COOPERATION TREATY (PCT)

(43) International Publication Date
8 November 2001 (08.11.2001)

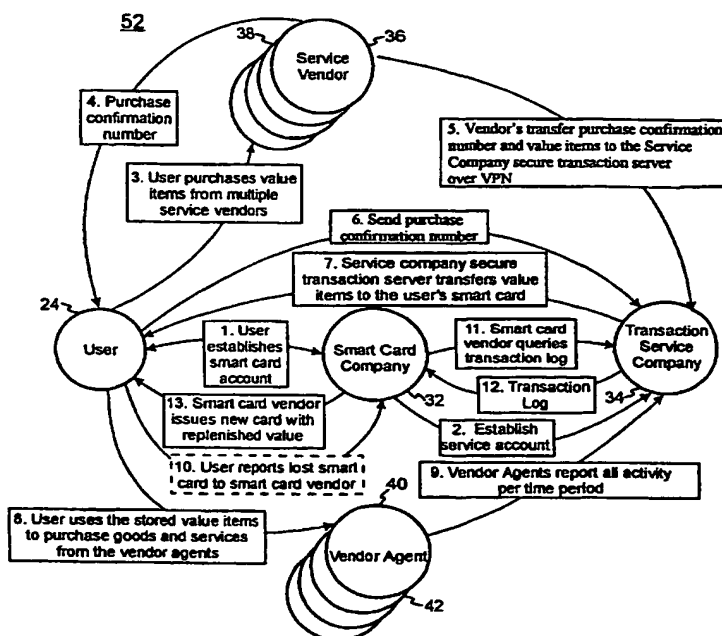
PCT

(10) International Publication Number
WO 01/84474 A3

- (51) International Patent Classification⁷: G07F 7/10, 19/00, G06K 19/073, G07F 7/08
- (72) Inventors: COCOTIS, Thomas, A.; Apt. C. 17111 Ash Street, Huntington Beach, CA 92647 (US). VON KAENEL, Tim, A.; 12 Lake View Drive, Coto de Caza, CA 92679 (US).
- (21) International Application Number: PCT/US01/14058
- (22) International Filing Date: 1 May 2001 (01.05.2001)
- (74) Agents: NIXON, Dale, B. et al.; Sidley Austin Brown & Wood, Suite 3400, 717 N. Harwood, Dallas, TX 75201 (US).
- (25) Filing Language: English
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (26) Publication Language: English
- (30) Priority Data: 09/562,795 2 May 2000 (02.05.2000) US
- (71) Applicant: CMA BUSINESS CREDIT SERVICES [US/US]; 40 East Verdugo Avenue, Burbank, CA 91502 (US).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: STORED ELECTRONIC VALUE METHOD FOR SMART CARDS



(57) Abstract: A smart card is used within a system for the loading of value items sold by vendors and for the purchase of goods or services from vendor agents. The user of the smart card purchases value items from multiple vendors who identify the transaction by a purchase confirmation number. The user logs onto a centralized transaction service company and submits through a secure channel the confirmation number. The service company then contacts the one or more vendors to obtain the value items electronically. These value items are then transmitted via the secure channel to the user for loading into the user's smart card. The user can then apply the value items at each of a plurality of vendor agents because each of the agents utilizes the same application program for reading and using the data on the smart card. The smart card itself has one universal application program with a data field that is divided into groups for each of the vendors who supply value items to the user. Each time the smart card is used, the value items removed are

reported back to the transactional service company for updating the account of the user. Should the smart card be lost, the service company can identify the remaining balance in the card and have remaining value unit items loaded in a replacement card that is provided to the user.

(88) Date of publication of the international search report:
11 April 2002

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

In: International Application No
PCT/US 01/14058

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G07F7/10 G07F19/00 G06K19/073 G07F7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	paragraphs '0013!-'0026!	4
A	paragraphs '0043!-'0054! claims 1-4,16,20-26; figures 1,2,4,5	2
Y	EP 0 949 595 A (CITICORP DEV CENTER INC) 13 October 1999 (1999-10-13)	4
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	claims 1,12,17	
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

7 January 2002

Date of mailing of the international search report

11/01/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

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Paraf, E

INTERNATIONAL SEARCH REPORT

Int .tional Application No
PCT/US 01/14058

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 859 419 A (WYNN SOL H) 12 January 1999 (1999-01-12) column 10, line 5 - line 16 ----	4
A	US 5 902 981 A (DETHLOFF JUERGEN) 11 May 1999 (1999-05-11) claims 12-15; figures -----	4

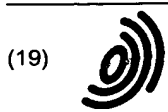
INTERNATIONAL SEARCH REPORT

Information on patent family members

In ternational Application No
PCT/US 01/14058

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Form PCT/ISA/210 (patent family annex) (July 1992)



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European Patent Office
Office européen des brevets



(11) **EP 1 039 403 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
27.09.2000 Bulletin 2000/39

(51) Int. Cl.⁷: **G06F 17/60**

(21) Application number: **00200964.5**

(22) Date of filing: **17.03.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **Kogen, Mark**
Lawndale, CA 90260 (US)
• **Munoz, Ramiro M.**
Santa Monica, CA 90402 (US)

(30) Priority: **19.03.1999 US 125353 P**

(74) Representative: **Hynell, Magnus**
Hynell Patenttjänst AB,
Patron Carls väg 2
683 40 Hagfors/Uddeholm (SE)

(71) Applicant:
Citicorp Development Center, Inc.
Los Angeles, California 90066 (US)

(54) **System and method for point of use reward determination**

(57) A system and method that allows a group of organizations, e.g. a group of transit agencies, to provide their users with a stored value smart card payment method that rewards them for actual use. The system and method include a card interface device and a smart card for storing respective reward applications, wherein the card interface device reward application retrieves transaction and reward data from the smart card and processes the data within the card interface device in order to determine a transaction reward.

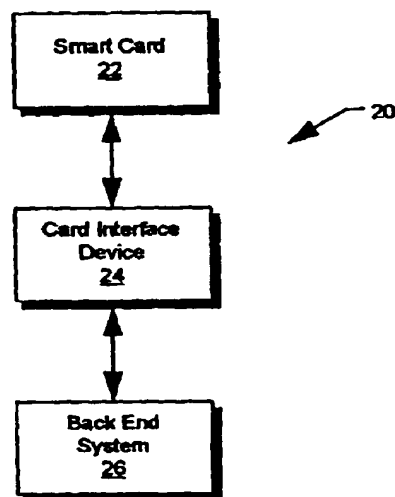


Fig. 1

EP 1 039 403 A2

DescriptionCROSS-REFERENCE TO RELATED APPLICATIONS

- 5 [0001] The present application claims priority to, and incorporates herein, provisional patent application serial no. 60/125,353 filed March 19, 1999.

BACKGROUND OF THE INVENTION10 Field of the Invention

[0002] The present invention relates to a system and method for determining a reward, and more particularly, to a point-of-use reward determination system and method.

15 Description of the Related Art

[0003] Many providers of goods and services offer rewards to those with whom they interact. The rewards may take many forms, such as discounts off of the normal price of a good or service, free goods or services, or other special offers. These rewards are most prevalent in consumer-oriented industries, where the consumer has a multitude of choices among competing products and services. The entities within these industries utilize reward-type programs to attract, maintain and expand their consumer base. It is believed that the reward applications modify consumer behavior, resulting in increased consumer loyalty. For example, in the transportation realm, monthly passes can be purchased at a price lower than the cumulative price of paying for the service on a daily basis. Thus, reward applications are key components of many providers of goods and services.

25 [0004] There are a number of disadvantages, impacting both providers and consumers, in current implementations of these types of programs. From the stand-point of the provider, the management and operation of these programs can require a tremendous investment. Many reward programs utilize a central computer system to track and update the reward status of the consumers participating in the program. The centralized tracking is inherently inefficient, as it requires the plethora of transaction information related to the reward program, from numerous transaction sources associated with a multiplicity of consumers, to be routed to one location for sorting and tracking. The complexity of such a system is further increased by the checks and balances that must be implemented to audit and account for each step of the process flow. This requires a large investment in both capital goods and human resources.

[0005] Further, the traditional reward system requires the development and classification of various product categories that must be managed throughout the system. For example, in transportation services, pass products as rewards may be offered for daily, weekly, monthly and other specially-defined periods or for other type services, like transfers. As such, the variety of product categories requires consumers to search through and choose the most appropriate product category that the customer wishes to have associated with the current purchase. This can be especially cumbersome and frustrating when implementing product purchasing through self-service terminal devices.

40 [0006] Additionally, with regard to prepaying for a good or service, the provider is often required to implement special accounting rules in allocating and tracking the money associated with such goods or services. The provider may have to allocate the money to a special prepaid pool. Then, the provider may need to track actual usage of the good or service associated with that prepaid pool to reconcile the prepayment with the usage. This requires additional investment in time, manpower and equipment for the provider.

45 [0007] From the consumer aspect, many times the benefit of the reward is outweighed by the cost of obtaining the reward. In the case of the monthly pass discussed above, for example, the customer is required to commit an up-front investment in order to obtain the reward. Typically the up-front investment is substantially greater than the near-term cost of the product or service. For example, the METRO system in Washington D.C. costs at a minimum \$1.15 per ride and a customer, if they choose, can purchase a METRO card for exactly \$1.15. But, the METRO offers a reward of 10% for METRO card purchases in excess of \$20 and \$30, respectively. Consequently, although a customer may need only \$1.15 in METRO fare for his/her immediate use, if the customer fronts in excess of \$20 he/she will be rewarded with an additional \$2.00 on the purchased METRO card. Obviously, this reward system requires the customer to forecast their expected usage in order to determine whether or not the up-front investment exceeds the cumulative total of the expected usage. Further, the up-front investment may discourage many consumers from participating in the program. Even though a consumer may have an expected usage that would justify the up-front investment, the consumer may not be able to afford such a large investment. Additionally, these types of rewards offer little incentive to infrequent users.

55 [0008] Finally, many conventional reward programs implement the reward application through the customer's device (e.g., smart card microprocessor). This is disadvantageous for a numerous reasons. It is cumbersome to fly and

update or alter the reward application due to the number of devices that need to be updated. Further, assuming that a customer does not update his/her reward application, he/she could miss out on possible rewards.

[0009] Thus, the current systems and methods for implementing typical reward programs are often inefficient from the perspective of both the provider and the consumer.

BRIEF SUMMARY OF THE INVENTION

[0010] Embodiments of the present invention include a system and method that allows a group of organizations, e.g. a group of transit agencies, to provide their users with a stored value smart card payment method that rewards them for actual use.

[0011] An embodiment of the present invention includes a system for processing a transaction. The system includes a card interface device having a first memory for storing software programs and a first processor for running software programs, wherein the software programs include at least one reward application program with at least one rules file, a payment application, and a transaction log file, the reward application program determining a transaction award and a smart card capable of communicating with the interface device, the smart card having a second memory for storing software programs and a second processor for running software programs, the second memory including a main software program having an electronic purse application integrated with a reward application, wherein the reward application includes at least one file utilizable by the card interface device to determine the transaction reward.

[0012] An embodiment of the present invention includes a method for performing a transaction including determining a transaction-based award and facilitating payment for the transaction. The method includes reading reward data from a smart card reward application on a smart card via a card interface device, entering the reward data into a reward application program on the card interface device, applying rules from a rules file within the reward application program to the reward data to determine the transaction-based award, calculating a transaction amount, reading payment data from a purse application on a smart card via a card interface device, entering the payment data into a payment application on the card interface device, processing the payment data to determine the availability and source of the transaction amount, deducting the transaction amount from the purse application, updating a purchase transaction log on the smart card, and updating a transaction log file on the card interface device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Fig. 1 is a schematic representation of one embodiment of a system according to the present invention;
Fig. 2 is a schematic representation of one embodiment of a card interface device ("CID") according to the present invention;
Fig. 3 is a schematic representation of the file structure of one embodiment of a CID application file according to the present invention;
Fig. 4 is a schematic representation of one embodiment of a smart card according to the present invention;
Fig. 5 is a schematic representation of the file structure of one embodiment of a smart card applications file according to the present invention;
Fig. 6 is a flow chart representing one embodiment of the process flow according to the present invention;
Fig. 7 is a schematic representation of local system embodiment according to the present invention;
Fig. 8 is a schematic representation of broad system embodiment according to the present invention;
Fig. 9 is a schematic representation of a remote system embodiment according to the present invention; and
Fig. 10 is a schematic representation of another remote system embodiment according to the present invention;

DETAILED DESCRIPTION OF THE INVENTION

[0014] According to one embodiment of the present invention, **Fig. 1**, is a point-of-use method and system 20 for rewards comprising a smart card 22 performing a transaction with a card interface device (CID) 24. CID 24 comprises hardware and software and/or firmware programming for determining at the time of the transaction whether or not the transaction qualifies for a reward. CID 24 makes the reward determination based on data read from smart card 22 using the software programming. A reward comprises either a discount applied to the current transaction, a credit for a future free transaction, access to a special offer, and any other similar type of benefit that accrues to the owner of smart card 22. CID 24 then determines the transaction amount, taking into account whether or not a reward applies and updates and debits smart card 22 for the applicable transaction amount. Further, CID 24 updates the reward application file and transaction log file on smart card 22, while maintaining its own transaction log file. CID 24 communicates with back end systems 26 to transfer the transaction log file data for settlement purposes.

[0015] Additionally, back end systems 26 may provide CID 24 with updated software programming to initiate changes or start new reward applications. For example, if no reward application file exists on the card for a program supported by CID 24, CID 24 will check to see if there is space to add additional files and adds the reward program file accordingly. Alternatively, CID 24 gives the owner a listing of the current reward programs so that a consumer can select
 5 to overwrite a reward program file they no longer use. CID 24 is capable and authorized to overwrite an existing reward program file in the card data file and add a new program to the card. Thus, system 20 of the present invention advantageously provides a point-of-use reward by maintaining the software programming for determining the reward within CID 24 while keeping the relevant data used in the reward determination on smart card 22.

[0016] All communications between the smart card 22, CID 24 and back end system 26 will be handled with appropriate security to ensure the integrity, validity and privacy of the information being moved. This technology will change
 10 over time as the sophistication of interlopers and their access to technology increase. As one skilled in the art as defined by today's security technology recognizes, all messages would be signed and all files MAC'ed. Additional security provisions are included to ensure that proper devices are used in critical dialogs such as updating program characteristics on the CID or in the case of the smart card, using techniques such as independent mutual authentication for
 15 those operations.

[0017] Referring to Fig. 2, CID 24 comprises a terminal for housing microcomputer 28, contact interface 30 and contactless interface 32 for performing a point-of-use transaction. For example, CID 24 may comprise a terminal/gateway used to gain access to and/or exit from a service. Similarly, CID 24 may comprise or connect to a point-of-sale (POS) merchant terminal. Contact interface 30 or contactless interface 32 may be utilized to establish a communications channel with a corresponding interface on smart card 22. For example, contact interface 30 may comprise an
 20 interface meeting the specifications of International Standards Organization (ISO) standard number ISO-7816. Similarly, contactless interface 32 may comprise an interface meeting the specifications of ISO standard number ISO-14443.

[0018] Additionally, CID 24 further comprises audio component 34, such as a speaker, display component 36, such as a monitor, and input device 38, like a key pad or a touch-screen monitor when it is combined with display component 36 in one embodiment. Audio component 34 and display component 36 are used to provide feedback to those interacting with CID 24. Further, display component 36 and input device 38 allow an interactive transaction to be performed.

[0019] Microcomputer 28, in combination with contact interface 30 and contactless interface 32, comprises interface circuitry that advantageously provides CID 24 with an integrated contact and contactless functionality. Microcomputer 28 further comprises memory 40, a central processing unit (CPU) 42 that manages data and runs application programs, and a co-processor 44 that provides additional processing capability. For example, co-processor 42 may be a Triple-DES (Data Encryption Standard), a crypto-public key (PK) co-processor, and/or another similar encryption capable co-processor that provides security for communications utilizing both contact interface 30 and contactless interface 32. In one embodiment CID 24 interfaces with back end systems 26 via input/output (I/O) channel 43 managed
 30 by CPU 42. Also, memory 40 comprises standard memory units known in the art, such as memory units in the form of random-access memory (RAM), read-only memory (ROM) and electrically-erasable programmable read-only memory (EEPROM). Microcomputer 28 operates under firmware controlled by its internal read-only memory and formats data and interprets commands between contact interface 30 and contactless interface 32. A suitable microcomputer 28 having the above-mentioned capabilities is the MIFARE[®] PRO microprocessor manufactured by Philips Semiconductors.
 35 Similarly a dual interface chip is available from Siemens.

[0020] CPU 42 and memory 40 are capable of respectively processing and storing data and signals representative of algorithms, such as CID operating system 46 and software programs such as CID applications 48. CID operating system 46 and applications 48 may be utilized with either contact interface 30 or contactless interface 32. Operating system 46 may comprise standard operating systems or platforms, such as the Java[®] platform, or proprietary solutions.

[0021] Referring to Fig. 3, CID applications 48 comprise service/purchase transaction payment and reward application programs 50, such as payment application 51 and reward application 53, and its associated transaction log file 52 and rules file 54 used to run the payment and reward applications. Payment application 51 comprises methods and security associated with authenticating the payment application, such as an open or closed purse, on card 22 and processing for the collection of value for a transaction. Reward application 53 comprises methods and security associated with authenticating the reward application on card 22 and adding or subtracting reward value as appropriate for the transaction being processed. Payment application 51 and reward application 53 may pass information between each other (as denoted by the dashed line) in a controlled manner, such as under the management of reward application program 50 or operating system 46.
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[0022] Further, reward application program 50 comprises the software that manages the selection and interaction of the application or service between smart card 22 and CID 24 in performing a reward, transaction amount, and/or payment determination. The service may comprise an application program that provides services and/or manages all of the other applications on a card, such as a security service or update service. The programming in rules file 54 for CID applications 48 is associated with provider 56, who is the entity such as a merchant or operating authority that imple-
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ments and controls the service/purchase and reward application. CID applications 48 may be set up such that there are multiple rules files 54, each corresponding to a different provider 56, and a single reward application 53 that interacts with each of the multiple rules files 54. Alternatively, CID applications 48 may be set up with a separate reward application 53 and rules file 54 for each provider 56. As such, a single CID 24 may comprise applications for: multiple providers 56 each having individual reward application 53 and rules files 54; multiple rules files and a single reward application for a single provider; and/or a single rules file and reward application for multiple providers. One embodiment of the single reward application program for multiple providers, for example, allows local merchants to compete with larger, national merchants.

[0023] Transaction log file 52 comprises a detailed data record of the specific information associated with each transaction performed between CID 24 and smart card 22. This detailed information includes the data typically utilized in the settlement process performed by back end system 26, such as card number, date, amount of transaction, etc. Further, transaction log file 52 may comprise additional information specific to reward application 53 and used in the reward and transaction amount determination process. TABLE 1 below is a schema according to an embodiment of the present invention for recording transaction payment information within the transaction log file 52. The CID will retain the electronic purse purchase transaction and append to it as discretionary data the information to be tracked for statistical analysis. For example the following data would be appended to a purchase record in the purchase batch maintained on the CID.

TABLE 1

Card Number	Uniquely identifies the card
Merchant Transit Agency ID	The merchant/transit agency for which this loyalty record applies. Could be an identifier for a group of merchants/transit agencies. Same as the Loyalty program ID.
Txn ID	Unique ID for this transaction posted on this loyalty record. Could contain authentication mechanisms to prevent tampering.
Terminal ID	Uniquely identifies the device, hence the merchant, that performed this transaction on this loyalty record.
Txn Date	The date of this transaction
Price or Fare \$ charged	Actual amount deducted from the card.
Txn Time	The time stamp for the transaction.
\$ Discount Granted	Discount from the normal fare that would have been applicable to this route, card, time of day had not discounts applied.
Basis For Discount	Code that indicates the reason for granting the discount Could be because of \$ volume reached, or number of transactions reached. Further it would indicate over what period (day, week, month, year).
Level Reached	The level reached (\$ or #) that entitled the card to a discount.

[0024] Similar to the schema of TABLE 1, the transaction log file 52 of the CID 24 also contains a database that includes data and logic necessary to perform reward calculations (e.g., discount calculations). TABLE 2 sets forth a schema for storing and tracking rewards calculation data.

TABLE 2

Loyalty Program	The loyalty program applicable to the card data
ID	
Merchant/Transit Agency ID	The merchant/transit agency for which this loyalty record applies. Could be an identifier for a group of merchants or transit agencies.
Terminal ID	Uniquely identifies the device, hence the merchant, that performed the last transaction on this loyalty record

TABLE 2 (continued)

5	Txn \$	The \$ amount to charge for a non discounted transaction. This will be actually several registers since different types of card, etc. incur different transaction charges.
	Txn Date	Today's Date
	# Txns this week	The number of transactions that the card needs to achieve with this group of merchants this week to qualify for a discount.
10	# Txns this month	The number of times that the card needs to be used with this group of merchants this month to qualify for the discount.
	# of Txns this year	The number of times that the card needs to be used with this group of merchants this year to qualify for the discount.
15	TOT \$ this week	Total \$ amount spent on this merchant or group of merchants this week or even this day to qualify for a discount.
	TOT \$ this month	Total \$ amount spent on this merchant or group of merchants this month to qualify for a discount.
20	TOT \$ this year	Total \$ amount spent on this merchant or group of merchants this year to qualify for a discount.
	\$ Discount for # Txns this week	The actual discount (or applicable fare) if the card qualifies for a discount based on the # of transaction this week.
25	\$ Discount for # Txns this month	The actual discount (or applicable fare) if the card qualifies for a discount based on the # of transaction this month.
	\$ Discount for # of Txns this year	The actual discount (or applicable fare) if the card qualifies for a discount based on the # of transaction this year.
30	\$ Discount for TOT \$ this week	The actual discount (or applicable fare) if the card qualifies for a discount based on the \$ of transaction this week.
	\$ Discount for TOT \$ this month	The actual discount (or applicable fare) if the card qualifies for a discount based on the \$ of transaction this month.
35	\$ Discount For TOT \$ this year	The actual discount (or applicable fare) if the card qualifies for a discount based on the \$ of transaction this year.

[0025] TABLE 2 is one embodiment of a schema for tracking reward data according to the present invention. One skilled in the art recognizes that different data structures may be used for different types of programs. A database according to the schema of TABLE 2 is kept for each merchant/transit agency ID that participates. As each of the CID applications 48 may comprise proprietary solutions, the type of additional information stored according to any number of different schema is limitless. Further, as mentioned above, the information contained in transaction log file 52 is typically batched, or gathered together in some manner, and transferred to back end systems 26 for data collection and processing purposes.

[0026] Rules file 54 comprises the rules used by reward application 53, which is the software engine that evaluates the applicability of a reward. Depending on the sophistication of the program and the associated hardware, rules file 54 comprises: linear programming; table-driven, relational programming, such as with a relational database; and heuristic rules, such as by utilizing fuzzy logic or artificial intelligence. Back end system 26 supplies CID 24 with an updated rules file 54 when the parameters associated with reward application 53 change. For example, when a reward is increased, decreased, or eliminated, then rules file 54 is updated. A number of methods may be utilized for updating rules file 54, as is discussed in more detail below in reference to alternate system embodiments. Also, rules file 54 comprises rules based on time, transaction amount, transaction number, etc. that are utilized to selectively implement the rules so that less frequent updates from back end system 26 are required. Additionally, CID 24 is capable of turning on or off the use of rules file 54. The turning on and off of rules file 54 may be advantageously utilized for: the temporary suspension of a program; disabling one program if multiple programs are active on CID 24; and for retaining multiple files such that a new set of rules may be verified, and if a problem is encountered, permitting fallback to an earlier version of the rules.

[0027] Referring to Fig. 4, smart card 22 comprises a plastic, credit-card-sized card with an imbedded microcomputer 58, contact interface 60 and contactless interface 62 used in performing a financial transaction. Microcomputer

58, in combination with contact interface 60 and contactless interface 62, comprise interface circuitry that advantageously provide smart card 22 with an integrated contact and contactless functionality. Microcomputer 58 further comprises memory 64 for storing data and programs, a central processing unit (CPU) 66 that manages data and runs application programs, and a co-processor 68 that provides additional processing capability. Microcomputer 58 is basically similar to microcomputer 28 discussed above in reference to CID 24, although microcomputer 58 is programmed for smart card 22.

[0028] CPU 66 and memory 64 are capable of respectively processing and storing data and signals representative of algorithms, such as card operating system 70 and software programs such as smart card applications 72. Card operating system 70 and applications 72 may be utilized with either contact interface 60 or contactless interface 62. Card operating system/platform 70 includes proprietary solutions or standard solutions, such as the Java[®] platform or the Multos[®] operating system.

[0029] Referring to Fig. 5, smart card application 72 comprises a master file 74 for managing and organizing one or more directory files 76. Each directory file 76 comprises a separate application program within memory 64 of smart card 22. Each directory file 76 comprises data and information for managing, organizing and controlling the application, such as application identification information and an application directory. Associated with each directory file 76 is at least one elemental file 78. Elemental file 78 holds the data and information that is utilized by and generated from the application program.

[0030] For example, in one embodiment of the present invention, directory files 76 may comprise electronic purse application 80 and smart card reward application 82. Electronic purse application 80 may comprise a program enabling the use of electronic value in a smart card transaction. Electronic purse application 80 uses multiple elemental files to store state and configuration data, such as purse data 85, and load and purchase transaction logs, such as purchase transaction log 96. One suitable electronic purse application 80 is VISA CASH, for example. Smart card reward application 82 may comprise a loyalty program that provides discounts or other benefits based on transactions performed with provider 56 supporting the reward application. Under smart card reward application 82, elemental files 78 may comprise application personality 84, cardholder personality 86, loyalty records 88, product list 90, a plurality of product records 92 and application transaction log 94, for example.

[0031] Application personality 84 comprises data particular to each application, such as pointers to authentication key sets and the application name, revision number, and dates of operation or expiration, for example. Cardholder personality 86 comprises profile data associated with the cardholder, such as: name, identification number, senior citizen, disabled, youth, student, age, level in school, and other potential classifications which might be used to determine eligibility for certain types of discounts. The use of this record is program specific. Also, the present invention advantageously allows each provider 56 to independently define the definition of what is included in each of these classes.

[0032] Loyalty records 88 may comprise at least one, and preferably a plurality of, records specific to each provider 56 participating in the reward application. Each loyalty record 88 is preferably a free-form data record that may be individually defined by each provider 56. To organize each loyalty record 88, the first byte of data in each loyalty record may be an index number associated with a particular provider 56, which also correlates to a position in the file for the particular provider's record. In an alternative embodiment, each loyalty record 88 additionally comprises data relevant to the product offering of the particular provider 56, as well as authentication information that may be required. In performing a transaction, CID 24 searches for the index number associated with the particular provider 56 that operates the CID 24. Advantageously, CID 24 is the only device that needs to know the free-form data structure within the record. Similar to the schema shown in TABLE(s) 1 and 2, TABLE 3 is an example of a schema for structuring data within the card's loyalty record 88 according to an embodiment of the present invention.

TABLE 3

Loyalty Program ID	Identifies the merchant/transit agency for which this loyalty record applies
Transaction ID	Unique ID for the last transaction posted on this loyalty record. Could contain authentication mechanisms to prevent tampering.
Terminal ID	Uniquely identifies the device, hence the merchant, that performed the last transaction on this loyalty record.
Txn \$	The \$ amount for the last transaction posted on this record.
Txn Date	The date the last transaction was posted on this record.
# Txns this week	The number of times that this card has been used with this group of merchants this week.
# Txns this month	The number of times that this card has been used with this group of merchants this month

TABLE 3 (continued)

# of Txns this year	The number of times that this card has been used with this group of merchants this year.
TOT \$ this week	Total \$ amount spent on this merchant or group of merchants this week or even this day.
TOT \$ this month	Total \$ amount spent on this merchant or group of merchants this month.
TOT \$ this year	Total \$ amount spent on this merchant or group of merchants this year.

[0033] Product list **90** is a file comprising a list of unique products or services offered in association with reward application **82**. Product list **90** is used to index into product records **92**. Product records **92** are files comprising definitions of individual product characteristics and the associated detailed information about each product associated with reward application **82**. For example, product records **92** integrate reward application **82** by offering tokens, prepaid passes, etc. As one skilled in the art will realize, product list **90** and product records **92** may vary by reward application **82** and by industry. Additionally, product list **90** and product records **92** files comprise pointers to and a data manager interactive with electronic purse application **80**. This enables a transaction to be performed to fully take advantage of all of the applications within card **22**. For example, using a transit application, when a consumer goes to add value to a transit application, product list **90** and product record **92** note the type of product purchased by the consumer, such as a prepaid pass, and keep a record of this information. When the consumer uses the transit application in a transaction, card **22** interacts with CID **24** to let it know what transit applications are loaded on the card. Within card applications **72**, CID **24** recognizes the transit application and the closed purse value, such as the prepaid pass, stored within that application, as identified by the product list and the product record. CID **24** then analyzes the other related applications to determine if other discounts may apply. CID **24** then executes the transaction and updates the application transaction log and loyalty records on the card. Alternatively, if CID **24** finds no closed purse value, then it looks to purse application **80**, in conjunction with analyzing reward application **82** and its associated applications to determine the most appropriate transaction amount. CID **24** then executes the transaction and updates the application transaction log, the purse transaction log and the loyalty records on the card. A further example of such interaction between open and closed purse systems may be found in U.S. Patent Application Nos. 09/500,163 entitled "System, Method And Apparatus For Value Exchange Utilizing Value-Storing Applications" and 09/276,823 similarly titled "System, Method And Apparatus For Value Exchange Utilizing Value-Storing Applications," and assigned to the present assignee. Thus, the system advantageously is flexible enough to utilize prepaid products or the open purse application and loyalty records to complete the transaction.

[0034] Application transaction log **94** comprises a record of data relevant to reward application **82** for the most recent transactions. This data may comprise information similar to the transaction information held in purse transaction log **96**, such as transaction date, time, amount, merchant identification and other data relevant to performing settlement of the transaction. Additionally, application transaction log **94** may comprise data relevant to reward application **82**. Typically, application transaction log **94** comprises a circular buffer holding the most recent n transactions, where n may comprise capacity for a minimum of about 10 transactions and a maximum limited only by the available memory allocated to this record. Further, application transaction log **94** has capacity for a minimum number of transactions so that the information from those transactions may be utilized by CID **24** in reward determinations associated with shared offerings. Shared offerings are transactions with one provider that may be recognized by the reward application **53** of another provider. Similarly, in the transit realm, a shared offering may be a transfer pass from one operator (i.e. bus) to another operator (i.e. train). Thus, application transaction log **94** provides flexibility for smart card reward application **82**.

[0035] In operation, referring to Fig. 6, a load device adds value to purse application **80** on smart card **22** in exchange for funds from a funding source, such as cash or debit, credit, checking and savings account numbers (**Block 100**). Also, CID **24** is loaded with reward application program **50** (**Block 102**) for provider **56**. Smart card **22** is utilized to perform a transaction with CID **24** (**Block 104**). CID **24** and smart card **22** mutually interrogate and authenticate each other (**Block 106**). If the authentication process fails, then the transaction is aborted (**Block 108**). If the authentication succeeds, then CID **24** searches smart card applications **72** for reward application **82** associated with provider **56** that loaded reward application program **50** onto the CID (**Block 110**). There may be just one reward application **82** that is compatible with multiple providers **56**, or there may be a plurality of reward applications **82** where each reward application is specific to one, or a specified group of, providers. CID **24** retrieves the relevant files from reward application **82** (**Block 112**). The relevant files preferably comprise application personality **84**, cardholder personality **86**, loyalty records **88** and application transaction log **94**. Reward application program **50**, running reward application **53** in combination with rules file **54** on CID **24** utilizes application personality **84** and cardholder personality **86** to determine whether or not an application-based and/or classification-based reward or discount applies to the current transaction (**Block 114**). Then, reward application **53** in combination with rules file **54** on CID **24** utilizes data in loyalty records **88** and application transaction log **94** to determine if a reward based on usage or a reward based on a shared offering has been earned (**Block 116**).

[0036] For example, loyalty records **88** comprise free form data that includes information relevant to the particular program offered by provider **56**. Examples of typical free form data comprises usage history data, such as number of transactions, value of transactions, and other similar data (see **TABLE 3**). And, since loyalty record **88** is free form, the structure of the data may vary for each provider **56**, and only the CID associated with that provider needs to know the format.

[0037] Reward application **53** and rules file **54** then calculate the transaction amount taking into account any reward that may have been earned (**Block 118**). CID **24** then searches purse application **80** to determine if enough value exists on smart card **22** to pay for the good or service (**Block 120**). If so, then CID **24** deducts the transaction amount from the amount of stored value on smart card **22** (**Block 122**). CID **24** then sends messages to smart card **22** so that application transaction log **94**, loyalty record **88** and purse transaction log **96** may be appropriately updated. Also, CID **24** updates its own transaction log file **52** (**Block 124**). If time- or value-based parameters have exceeded their thresholds, then CID **24** resets these fields when the records are updated. If there was not enough value on smart card **22** to cover the transaction amount, then the transaction is aborted (**Block 108**). Alternatively, other functions may be implemented, such as an auto-load of value to enable the performance of the transaction. An example of such functionality is disclosed in U.S. Patent Application Nos. 09/500,163 entitled "System, Method And Apparatus For Value Exchange Utilizing Value-Storing Applications," assigned to the present assignee. Finally, an audio or visual cue is given to represent the status of the transaction (**Block 126**), and the transaction is completed (**Block 128**).

[0038] System **20** (**Fig. 1**) is only one example of numerous system embodiments of the present invention. As described above, system **20** may comprise CID **24** that is remote from, or on-line with, back end systems **26**. An advantage of the embodiments of the present invention is that any updates or changes to the merchant/transit reward systems need only be made to the CIDs **24**, not the smart cards **22**. Either a central system or distributed servers at merchant/transit operator locations support a process of rules generation and management. The merchant/transit operator then has control over the rules by which discount fares are calculated. This in conjunction with e.g., a fare table, in the case of a transit implementation and product pricing or purchase subtotal in the case of a merchant is used to determine the actual funds to be collected for a transaction. The merchant/transit operator defines the rules. The rules are placed in a file in for example, a distribution server or the like and at the appropriate time, the file is accessed and the rules are distributed to the CIDs. These rule updates/changes are then in force until they are replaced or the device is sent a message to disable the rules. The rules data is capable of distribution from the server to a CID through a number of mechanisms including but not limited to a network connection, a portable collection/update device, and a portable data storage media.

[0039] Referring to **Fig. 7**, system **200** comprises a local system where each provider **56** locally controls his/her own reward application. Smart cards **22** interact locally with one or more CIDs **24** at the provider location. All of the CIDs **24** at that location are in communication, either directly or remotely, with local server **202**. Local server **202** may collect the local batching of transactions and updating of each CID **24** with rules files. Each local server **202** is in turn in communication with back end systems **26** for settlement purposes. System **200** may be implemented in a merchant location, like a grocery store with multiple merchant terminals, where each CID **24** is associated with a merchant terminal. There may be 1 to n number of CIDs **24** at each provider location, and there may be 1 to m number of providers **56** and 1 to L local servers **202** specifically controlled by each provider. Thus, in a system such as system **200**, each provider **56** individually controls and updates local server **202** and CIDs **24**.

[0040] Further, referring to **Fig. 8**, a broad network system **300** comprise a plurality of CIDs **24** associated with a single provider **56**, and/or a plurality of single providers, where back end systems **26** are used to manage and control all of the CIDs at each provider. Again, the connection to back end systems **26** may be direct or remote. There may be 1 to n number of CIDs **24**, with at least one at each provider **56**, where there may be 1 to m number of providers. Broad network system **300** may include geographically distributed providers **56** run by the same entity, or system **300** may include groups of providers who choose to associate with one another.

[0041] Referring to **Fig. 9**, one embodiment of a remote system **400** comprises a plurality of providers **56**, each having at least one CID **24**, where a portable collection/update device **402** is utilized to manage the CIDs. Collection/update device **402** may be transported to each CID **24** for manually collecting the batch transaction log information and manually downloading updated rules files or other reward program applications. Collection/update device **402** is then brought in communication with back end systems **26** to perform settlement and to receive any new information updates. A suitable example of a collection/update device **402** comprises a special purpose hand-held computer or a portable PC with customized software on the unit. Collection/update device **402** is capable of interfacing with CID **24** to upload batches and download program, data and batch authentication notices to the CID. Further, collection/update device **402** has a second interface capable of communicating with back end systems **26**, such as to deliver the batches and to receive downloads of information needed to be distributed to CID **24** with which it communicates.

[0042] Another embodiment of a remote system, referring to **Fig. 10**, comprises system **500** comprising storage medium **502** that may be interchanged between each CID **24** and back end systems **26**. Storage medium **502** may com-

prise memory modules or disks that are swapped to exchange collected and updated data. For example, each CID 24 may initially be installed with an original version "o" storage medium 502, where there are 1 to n number of copies of the storage medium, matching the 1 to n number of CIDs, so that each CID receives a copy. At an interval determined by provider 56 or the entity controlling system 500, updated version "u" storage medium 502 generated by back end systems 26 is used to replace the original version "o" of the storage medium in each CID 24. The original version "o" of storage medium 502 is returned to back end systems 26 for settlement purposes, while the updated version "u" installed in each CID may comprise new reward applications.

[0043] In updating the CID 24 and in order to ensure maximum flexibility of the reward application 53, the storage of information in the card 22 will vary depending on different implementations. Therefore requests and responses for the reward data is structured using self-defining data types. The CID 24 receives a data definition for each program it must respond to as part of the rules definitions that are delivered to it from a backend server 26. By providing this in this manner, the dynamics of any reward application 53 are specified at the time of download. In this case, each CID 24 needs to retain only the information associated with the operator/merchant reward applications that the CID specifically supports. This is important as it reduces the amount of storage space any CID 24 must allocate for that information and may improve operational performance, as searches through non-supported offerings are not required. The following is but one example of a possible structure for the data definition within the message.

TABLE 4

Message header Contains identifying information Message length (e.g. bytes)
Message body Field delimiter Length of field 1 (e.g. bytes) Type of field 1 (e.g. date, amount, number, etc) Content of field 1 Field delimiter Length of field 2 (e.g. bytes) Type of field 2 (e.g. date, amount, number, etc) Content of field 2
End of Message

In this way the CID has all the information it needs to interpret the loyalty record 88 on the card 22 and operate on it

[0044] Although the invention has been described with reference to these preferred embodiments, other embodiments can achieve the same results. Variations and modifications of the present invention will be apparent to one skilled in the art, and the above description and the enclosed attachments are intended to cover all such modifications and equivalents.

Claims

1. A system for processing a transaction, comprising:

a card interface device having a first memory for storing software programs and a first processor for running software programs, wherein the software programs include at least one reward application program with at least one rules file, a payment application, and a transaction log file, the reward application program determining a transaction award; and

a smart card capable of communicating with the card interface device, the smart card having a second memory for storing software programs and a second processor for running software programs, the second memory including a main software program having an electronic purse application integrated with a reward application,

wherein the reward application includes at least one file utilizable by the card interface device to determine the transaction reward.

2. The system according to claim 1, wherein the first memory contains multiple reward application programs, each of the multiple reward application programs being controlled by a different merchant.
3. The system according to claim 1, wherein the first memory contains multiple reward application programs, each of the multiple reward application programs being controlled by a single merchant.
4. The system according to claim 1, wherein the at least one reward application program contains multiple rules files.
5. The system according to claim 4, wherein the multiple rules files are each controlled by different merchant.
6. The system according to claim 1, wherein the at least one rules file contains rules for determining the transaction reward according to at least one of the following programming methods linear programming, table-driven programming, and heuristic programming.
7. The system according to claim 1, further comprising a back-end device capable of collecting transaction data from the card interface device.
8. The system according to claim 7, wherein the back-end device is further capable of updating the at least one reward application program on the card interface device.
9. The system according to claim 7, wherein the back-end device is a server connected to the card interface device through a network.
10. The system according to claim 1, wherein the at least one file is selected from the group consisting of a personality file, a loyalty record file and an application transaction log.
11. A method for performing a transaction including determining a transaction-based award and facilitating payment for the transaction comprising:
 - reading reward data from a smart card reward application on a smart card via a card interface device;
 - entering the reward data into a reward application program on the card interface device;
 - applying rules from a rules file within the reward application program to the reward data to determine the transaction-based award;
 - calculating a transaction amount;
 - reading payment data from a purse application on a smart card via a card interface device;
 - entering the payment data into a payment application on the card interface device;
 - processing the payment data to determine the availability and source of the transaction amount;
 - deducting the transaction amount from the purse application;
 - updating a purchase transaction log on the smart card; and
 - updating a transaction log file on the card interface device.
12. The method according to claim 11, wherein the reward data is read from at least one of the following files within the smart card reward application an application personality file, a cardholder personality file, a loyalty record file, a product list file, and a product records file.
13. The method according to claim 11, further comprising:
 - transferring data from the transaction log file on the card interface device to a collection device.
14. The method according to claim 13, wherein the collection device is a server connected to the card interface device through a network.
15. The method according to claim 13, wherein the collection device is portable.
16. The method according to claim 13, wherein the collection device is wireless.

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17. The method according to claim 13, wherein the collection device updates the reward application program on the card interface device.

5 18. The method according to claim 11, wherein the rules are applied to the reward data according to at least one of the following programming methods linear programming, table-driven programming, and heuristic programming.

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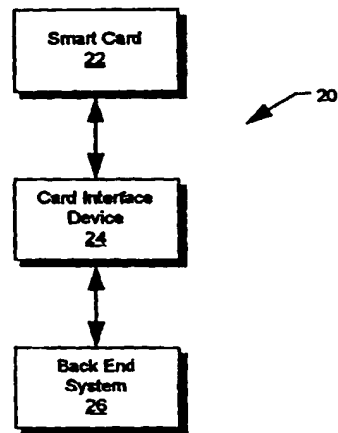


Fig. 1

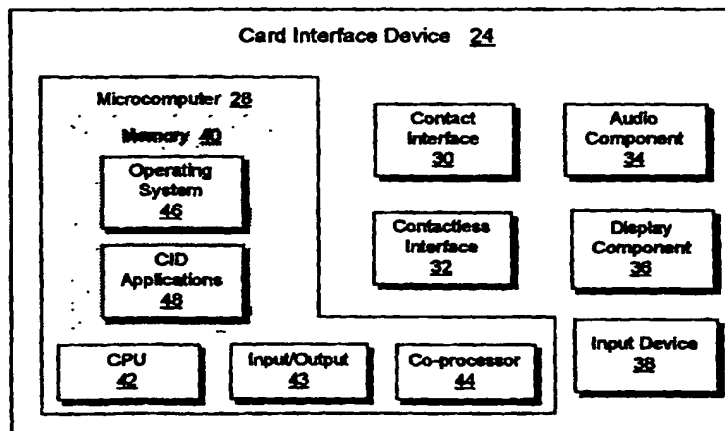


Fig. 2

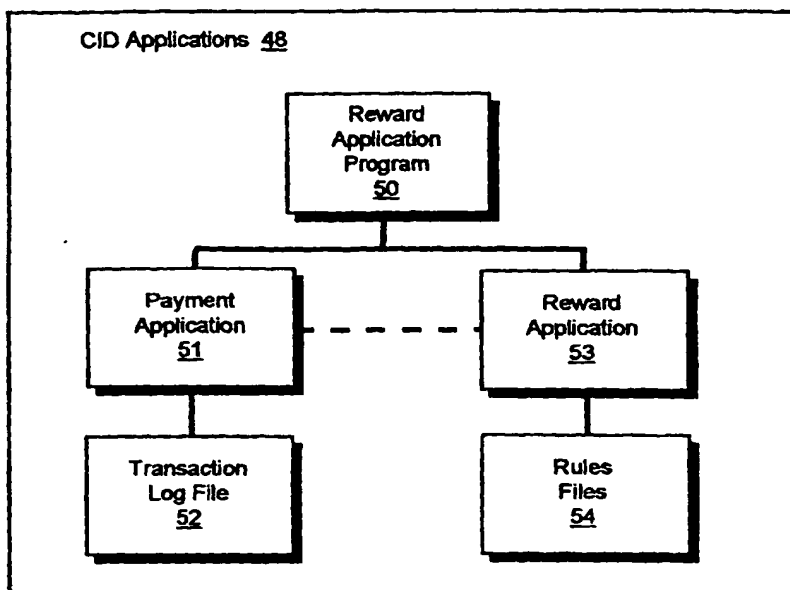


Fig. 3

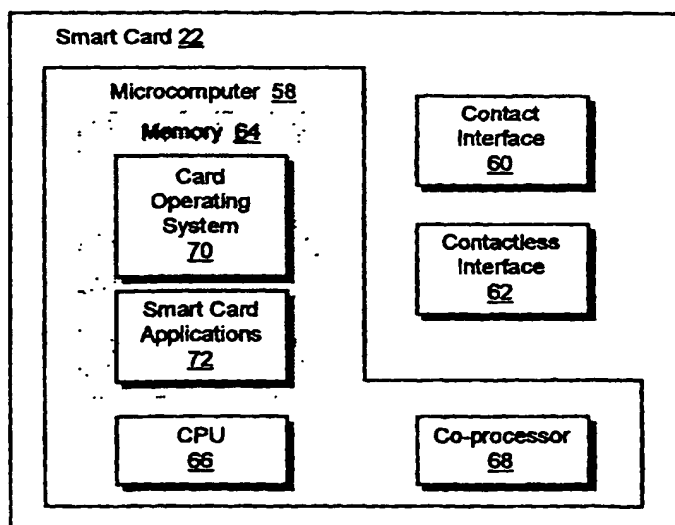


Fig. 4

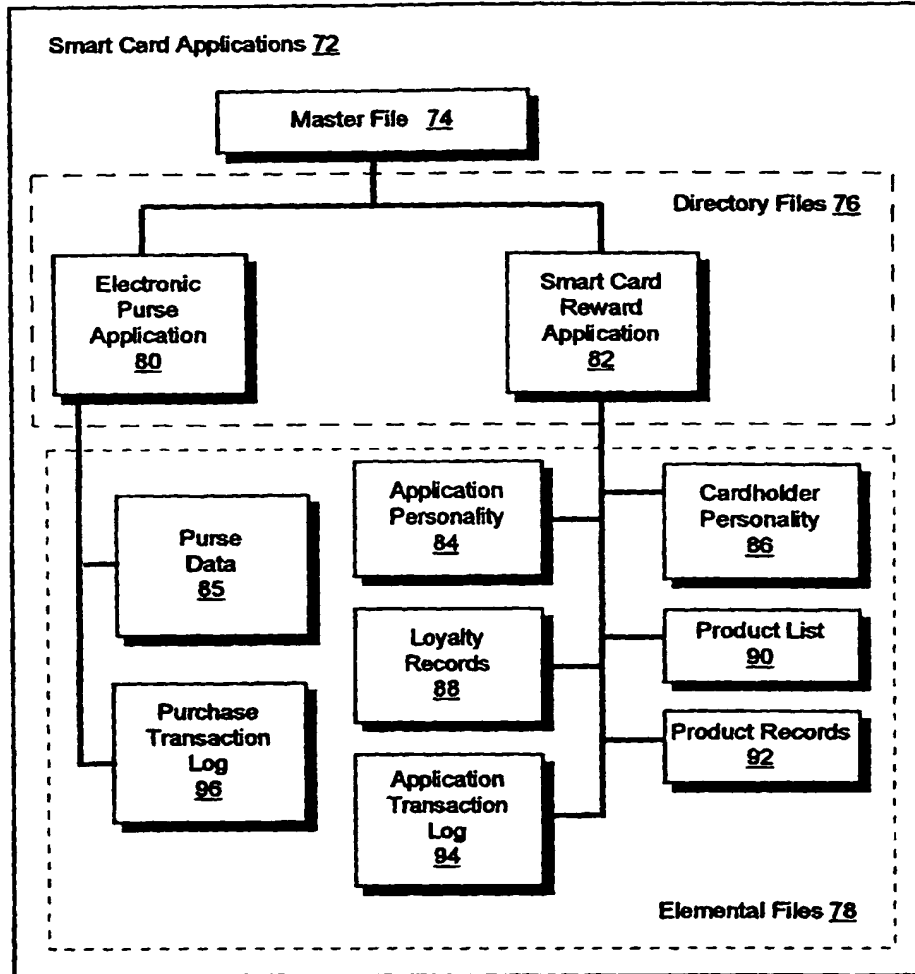


Fig. 5

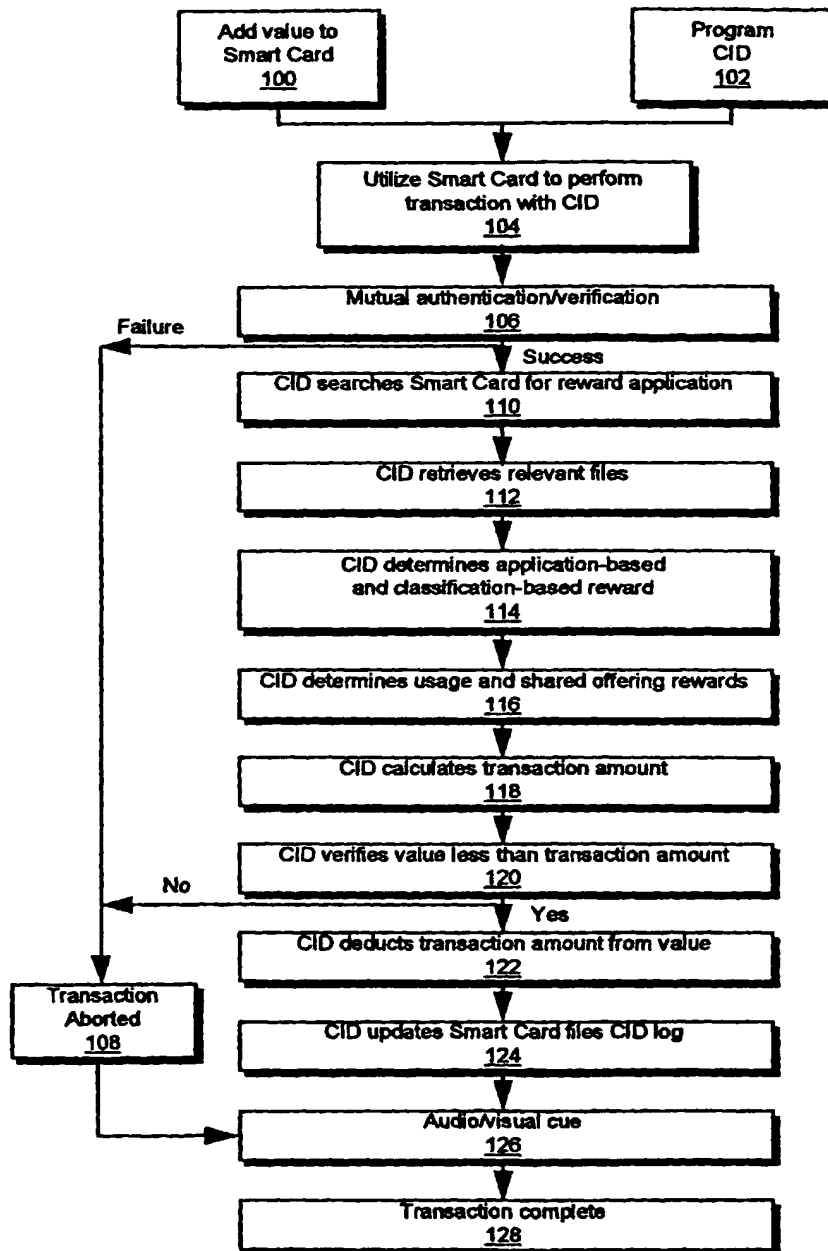


Fig. 6

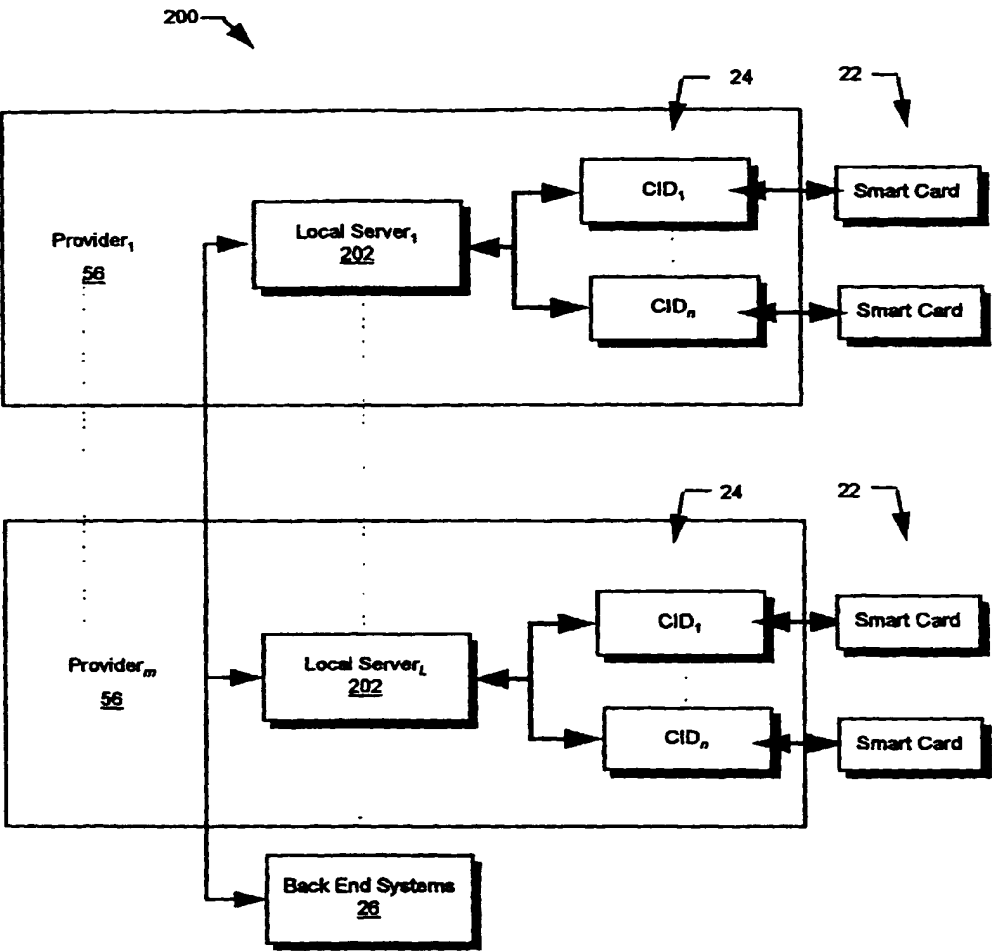


Fig. 7

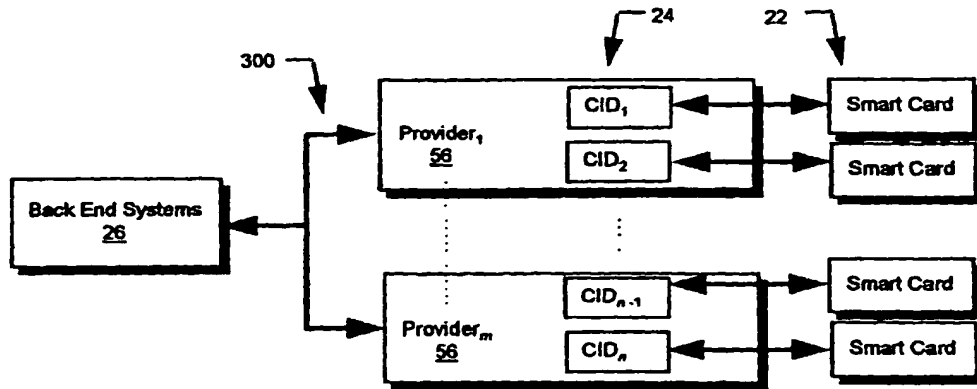


Fig. 8

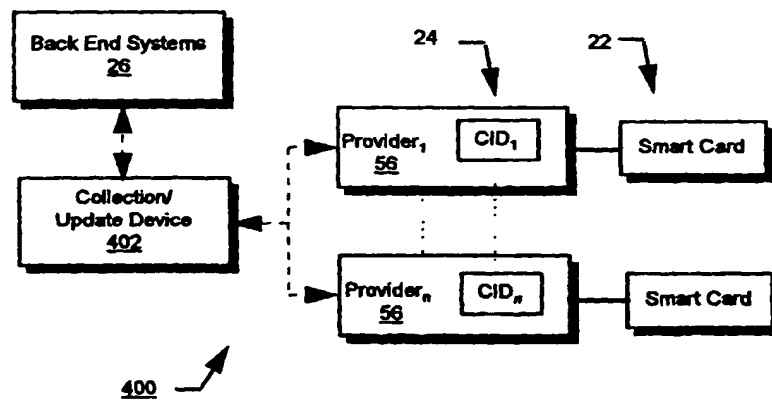


Fig. 9

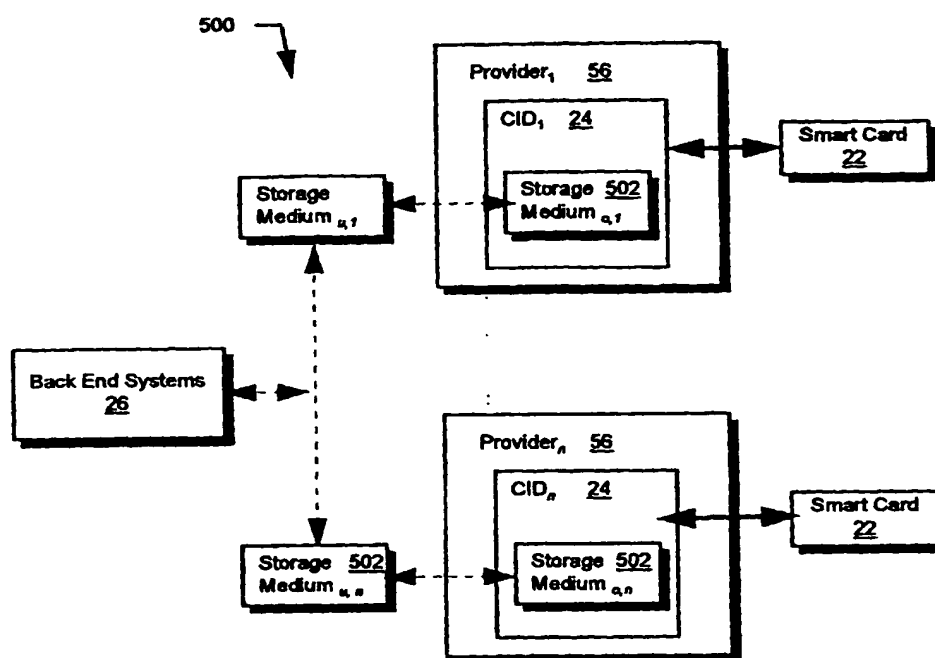
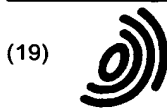


Fig. 10



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 039 403 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
24.09.2003 Bulletin 2003/39

(51) Int Cl.7: **G06F 17/60, G07F 7/10**

(43) Date of publication A2:
27.09.2000 Bulletin 2000/39

(21) Application number: **00200964.5**

(22) Date of filing: **17.03.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **Kogen, Mark**
Lawndale, CA 90260 (US)
• **Munoz, Ramiro M.**
Santa Monica, CA 90402 (US)

(30) Priority: **19.03.1999 US 125353 P**

(74) Representative: **Johansson, Lars E. et al**
Hynell Patenttjänst AB
Patron Carls Väg 2
683 40 Hagfors/Uddeholm (SE)

(71) Applicant: **Citicorp Development Center, Inc.**
Los Angeles, California 90066 (US)

(54) **System and method for point of use reward determination**

(57) A system and method that allows a group of organizations, e.g. a group of transit agencies, to provide their users with a stored value smart card payment method that rewards them for actual use. The system and method include a card interface device and a smart card for storing respective reward applications, wherein the card interface device reward application retrieves transaction and reward data from the smart card and processes the data within the card interface device in order to determine a transaction reward.

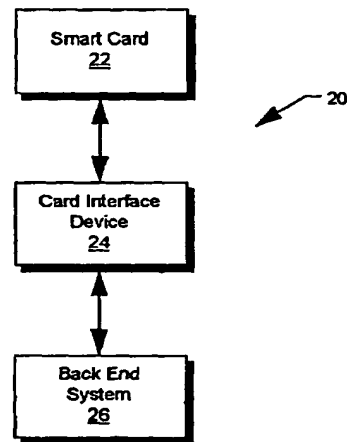


Fig. 1

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European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 00 20 0964

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 806 045 A (BIOERGE JAMES E ET AL) 8 September 1998 (1998-09-08) * abstract; claims 1,15 * * column 8, line 28 - line 44; figure 8 * * column 11, line 51 - column 15, line 2; figures 9,4 *	1-18	G06F17/60 G07F7/10
A	US 5 884 271 A (PITRODA SATYAN G) 16 March 1999 (1999-03-16) * abstract * * column 3, line 34 - line 40 * * column 10, line 4 - column 11, line 29; figure 2 * * column 13, line 36 - line 49; figure 8 *	1-18	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			G07F G06F
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 29 July 2003	Examiner Sündermann, R
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03 02 (P04/031)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 00 20 0964

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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29-07-2003

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
 23.06.1999 Bulletin 1999/25

(51) Int. Cl.⁶: **G06K 7/00**

(21) Application number: **98123507.0**

(22) Date of filing: **15.12.1998**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
 Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **15.12.1997 DE 19755715**

(71) Applicant:
AMPHENOL-TUCHEL ELECTRONICS GmbH
D-74064 Heilbronn (DE)

(72) Inventors:
 • **Schuder, Bernd**
74193 Schwaigern (DE)
 • **Bleier, Robert**
74206 Bad Wimpfen (DE)
 • **Reichardt, Manfred**
74189 Weinsberg (DE)

(74) Representative:
Geyer, Ulrich F., Dr. Dipl.-Phys. et al
WAGNER & GEYER,
Patentanwälte,
Gewürzmühlstrasse 5
80538 München (DE)

(54) **A chip or smart card reader**

(57) A contact element support for a smart card reader comprising: a card support surface, a plurality of chambers formed in said contact element support in the area of said card support surface, contact elements forming snap-in means to co-operate with said contact element support in an operative or inserted position, abutment surface means provided at the contact element support for co-operation with said snap-in means, such that shortly before reaching the end position a snap-in tongue formed by said snap-in means snaps into a snap-in opening of the contact element support so that the contact element is fixedly held in its inserted operative position.

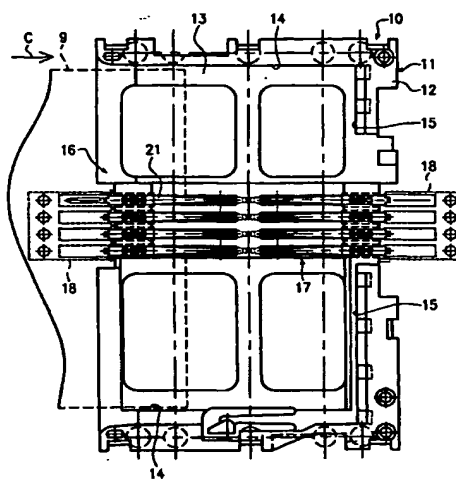


FIG. 1

Description

Technical Field

[0001] The invention relates to a chip or smart card reader as it is used for contacting so-called chip or a smart-cards. A smart-card reader is in substance a contacting apparatus into which a smart card is inserted such that the contacts on the smart card, i.e. card contacts, come in contact engagement with contact elements located in said contacting apparatus. The smart card can also be "SIM" card. SIM means subscriber identity module. Thus, the term SIM card relates to a card which can be used in a mobile telephone to identify a subscriber.

Background Art

[0002] Smart card readers have been developed in many kinds of designs. Different methods are known to fixedly mount the contact elements of a smart card reader in said smart card reader and more specifically in a contact support of said smart card reader. Frequently, the contact elements of the smart card reader are fixedly mounted in the contact support of the smart card reader by surrounding the contact elements with the plastic material when injection molding the contact support.

[0003] For instance DE-38 32 588 A1 discloses the mounting of contact elements on or in a contact support by detent means.

[0004] Smart card readers are frequently built with contact elements having soldering contacts. These soldering contacts are adapted to be inserted into holes (for instance in a circuit board) and are then dipped in a supply of solder material for providing connection. In this context problems occur both with contact elements which are fixed in the contact support by molding (see Fig. 9) and with contact elements which are inserted into the contact support (see Fig. 10) and are held therein for instance by detent means. As far as the contact elements are concerned which are fixed in the contact support by molding (see Figure 9), a good mechanical strength of the soldering contacts is achieved. However the automatic production of larger numbers of such contact supports or contacting apparatus is costly. If the contact elements are inserted into and frictionally held in the contact support as is shown in Fig. 10, then a load pulling on said soldering contacts could cause a destruction of the contact elements.

[0005] It is an object of the present invention to provide a smart card reader, i.e. a smart card contacting apparatus as well as contact elements therefore, such that an automated insertion of the contact elements is easily possible.

[0006] It is another object of the present invention to provide a contacting apparatus and contact support of said contacting apparatus, respectively, wherein after

insertion of the contact elements the mechanical characteristics are similar to those of contact elements mounted by the injection molding process of the smart card reader and its contact support, respectively.

[0007] It is another object of the present invention to increase the efficiency of the placement of the contact elements in the smart card reader.

Disclosure of the Invention

[0008] The invention is directed to a smart card reader and a contact element support which preferably adapted to be used in a smart card reader. The contact support is preferably made of a plastic material. The contact support defines a card support surface and also a plurality of chambers, each chamber being adapted to receive each one contact element. The contact element has preferably the form of a contact spring and can be mounted in said contact element support in a snap-locked or detent position. Preferably, the contact elements can be inserted into said chambers in a direction parallel to the card support surface. Both the contact element and the contact element support define stop- or abutment surfaces which define and limit the path of insertion of each contact element. Said abutment surfaces are provided such that prior to reaching the end of the insertion path a snap- or detent tongue formed on the contact element snaps into a snap lock or detent opening formed by the contact element support. Thus, securing the contact element in said contact element support such that it can not become disassembled.

[0009] In accordance with another aspect of the invention a method for manufacturing a smart card reader having a contact element support is provided. Contact elements are snapped into a snap-locked position when inserting said contact elements into said contact element support in a direction in substance parallel to the card support surface.

[0010] In accordance with another aspect of the invention a contact element is provided which comprises a terminal or a contact section, a fastening section, a connection section, a seat section, a contact cusp or contact bump tip section as well as a snap tongue formed in the region of the fastening section. The fastening section further forms abutment or stop surfaces that are suitable for stopping or abutting against corresponding counter-stop or counter abutment surfaces. Preferably, the snap tongue is stamped out from the fastening section and is bent out of the plane formed by the fastening section, in particular in a direction opposite to the direction in which the connection section is bent relative to the plane formed by the fastening section.

Brief Description of the Drawings

[0011]

Figure 1 is a top plan view of the top side of a

- smart-card reader with a cover having been removed;
- Figure 2 is an enlarged section of the left center portion of Figure 1;
- Figure 3 is a cross-sectional view in substance along line III-III in Figure 2;
- Figure 4 is a partial view of the smart-card reader of Figure 3 in the direction of arrow A;
- Figure 5 is a cross-sectional view of a contact element of the invention along line V-V in Figure 6;
- Figure 6 is a top plan view of the contact element of Figure 5 together with other contact elements which are connected with each other prior to being mounted and also during mounting into a smart-card reader;
- Figure 7 is an enlarged schematic view of a detail of the contact element in the area of insertion into the contact support;
- Figure 8 is an enlarged partial plan view in the direction of arrow B in Figure 7;
- Figure 9 is a sectional view of a smart-card reader of the prior art; and
- Figure 10 is another cross-sectional view of another smart-card reader of the prior art, with the arrow showing the direction in which the contact elements are inserted when mounted in the reader.

Best Mode for carrying out the invention

[0012] Referring to the drawings and more specifically to Figure 1 a smart card reader 10 is shown as comprising a contact support 11 which has generally the form of a frame in the embodiment shown.

[0013] The upper surface 12 of the contact support 11 forms a card support surface 13 which bordered or limited by side guide edges 14 and abutment edges 15 for a smart card 9. In Figure 1 the smart card 9 is shown to be partially inserted with the direction of insertion being referred to by the arrow C.

[0014] Generally, a cover not shown in Figure 1 is mounted on the contact support 11 and covers the card support surface 13. The cover forms together with the card support surface 13 a card receiving space or slot. The cover serves as a counter support for the card 9, so that the card 9 located in its fully inserted reading position is held in contact engagement, i.e. its card contacts contact the contact elements 21.

[0015] The contact elements 21 are formed in large numbers in the form of a metal strip which comprises of a plurality of contact elements. After manufacture of the contact elements 21 the individual contact elements 21 are still connected by means of a pilot strip 18. Said pilot strip 18 is preferably present when mounting a certain number of contact elements 21 and it is removed only after the contact elements 21 are properly mounted in the contact support 11.

[0016] In Figure 1 two contact element regions 16 and 17 are disclosed. The contact elements which can preferably be in the form of contact springs 21 are of an elongate shape and form two groups of each four contact elements 21. The contact elements 21 of the group forming the contact element region 16 extend from the left (Figure 1) lateral side of the contact support 11 inwardly. The other group of four contact elements forming the second contact element region 17 extend inwardly from the right hand lateral side of the contact support 11.

[0017] Figure 2 discloses an enlarged detail of Figure 1 where the pilot strip 18 has already been removed and terminate sections 22 (see also Figure 5) of the contact elements 21 have already been bent by 90°. In the representations of Figures 1 and 2 as well as Figures 3 and 4 the contact elements 21 are already inserted into their detent or snap-locked position and terminal or contact sections 22 project away from the bottom surface 19 (see Figure 3) of the contact support 11. These terminal sections 22 may extend for instance into contact holes of a printed circuit board with which the smart card reader 10 is to be used. Figure 2 shows the card support surface 13 of the contact support (also called contact frame) 11. A plurality of parallel openings or slots 20 are formed in the card support surface 13 and in the contact support 11 adapted to receive each of said contact elements 21.

[0018] Figure 3 in particular also Figs. 2, 5 and 6 disclose that each contact element 21 comprises besides the terminal section 22 a wide) fastening section 23, a connection section 24 as well a seat section 25. Between connection section 24 and seat section 25 in a cusp section 27. A snap tongue or detent tongue 26 is formed in the area of the fastening section 23. The snap tongue 27 is preferably stamped out of the widened fastening section 23 as is shown in Figure 6. The tongue 27 forms an abutment surface 260 (Fig. 5) at an end opposite to the direction of insertion A (see Fig. 3). The snap-in tongue 26 is bent out of the plane defined by the fastening section 23 as is shown in Figure 5. The snap-in tongue 26 acts like a spring arm.

[0019] The connection section 24 is slightly bent upwardly with respect to the fastening section 23 (see Fig. 5) which extends substantially parallel to the card support surface 13. Thus, an angle $\alpha < 180^\circ$ (Fig. 5) is formed between the fastening section 23 and the connection section 24. Depending on how the angle α is chosen the contact element 21 is biased against an abutment surface 51 of a rib 50 of the contact element support 11. The contact element 21 is preferably designed as a contact spring. The biasing force with which the seat section 25 is biased against the abutment surface 51 can be larger or smaller. The termination or terminal section 22 comprises an angled termination pin 221 (Figs. 3, 4 and 5).

[0020] As can be seen in Figure 2 the contact element 21 has in the area of its fastening section 23 a wider

shape compared with the terminal section 22 and also compared with the connection section 24. Because of the greater width of the fastening section 23 abutment surfaces 28 and 29 are formed at the transition from the fastening section 23 to the connecting section 24. These abutment surfaces 28, 29 are preferably provided opposite to each other at both sides of the transition from the fastening section 23 to the connection section 24. Moreover, the connection section 24 preferably tapers starting from said abutment surface 28, 29 towards the cusp section 27. Due to this design the contact element 21 has a homogeneous distribution of the tension occurring within the contact element 21 with the result that the force exerted by the contact element 21 on a contact, for instance a card contact of an inserted smart card 9, is guaranteed to last for a long period of operation.

[0021] Referring now in particular to Figs. 2 through 4 the design of the contact support 11 will be discussed. The contact support 11 which has the form of a frame comprises as is shown in Figure 2 a plurality of contact element chambers or slots 30 one of which is shown in Figure 3 in a sectional view. Contact elements 21 are inserted into said chambers 30 in a direction parallel to the card support surface 13 in the direction of the arrow A in Figure 3. After insertion of the contact elements 22 into said chambers 30 they are locked in said inserted position by detent means, i.e., the snap tongue 26.

[0022] Figure 4 is a view in the direction of the arrow A in Figure 3 onto four such chambers 30.

[0023] In accordance with Figs. 2 and 3 each chamber 30 comprises a termination area 31, a fastening area 32, an opening area 33 comprising an opening 20, and an abutment area 34. In the fastening area 32 (see Figure 3) the contact element support 11 comprises two rib portions 40, 41 which define an opening 42. The opening 42 forms an abutment member or abutment surface 43 behind which the snap-in tongue can snap-in as shown in Figure 3. When the snap-in tongue is in its snap-in or snap-locked position the abutment surface 260 (Figure 5) of the snap-in tongue 26 is in engagement with the abutment surface 43. This snap-in engagement occurs when the abutment surfaces 28, 29 (Figure 6) of the mounting or fastening section 23 abut against respective abutment surfaces 44 (Figure 2) of the contact support 11. Said abutment surfaces 44 are formed preferably by the rib or rod portion 41 of the contact element support 11; see Figure 8.

[0024] Figures 4 and 7 show the contact element support 11 seen from the direction of arrow A in Figure 3. It is noted that the contact element support 11 forms an insert incline 130 which simplifies the insertion of the contact elements 21 in the direction of A into the chamber 30. Figures 4 and 7 disclose in particular that widening sections 60 of the fastening section 23 extend into slots 61, 62 which are formed on both sides of the chamber and thus form a guide means for the contact element 21 when it is inserted. Also support of the con-

tact element 21 is provided thereby after the contact element 21 is in its snap-in position. Moreover, this design avoids a rotation of the contact elements 21 beyond an admissible range. In Figure 4 reference numeral 63 refers to one of the walls of the chamber 30.

[0025] Figure 7 discloses the opening 42 together with the snap-in tongue 26 which is in its snap-in position in said opening 42. Each of said widening sections 60 comprises (see Figure 8) guide edges 602, 807 which extend parallel to each other. Said guide edges 602, 807 together with the side walls 161, 162 (Figure 8) of the slots 61, 62 assist in holding the contact elements 21 in the inserted position, also called operative position.

Industrial Applicability

[0026] For manufacturing a smart card reader, i.e. a smart card contacting apparatus 10 the following steps are taken. Contact elements, preferably contact springs 21 are provided and inserted into said chambers 30 in a directions parallel to the card abutment surface 30. During insertion the smart card 9 is guided until it reaches its inserted or reading position where the card contacts are in contact engagement with the cusps 27 of the contact elements 21. The contact elements 21 are locked in said inserted position.

[0027] For this purpose the contact element support 11 is provided with first locking means, i.e. abutment 43 and the contact elements 21 are provided second locking means, i.e. tongue 26. Said first and second locking means come into a locking engagement when the contact elements reach their end position.

[0028] Due to the fact, that the contact elements 21 are pushed into said contact support 12 i.e. the chambers 13 thereof from the lateral side(s) of said contact element support 12, the contact elements 21 are securely fastened within said contact element support 12 even if the termination section 22 of the contact element 21 is bent downwardly preferably by 90° with respect to the fastening section 23.

[0029] According to its broadest aspect the invention relates to a contact element support (1) for a smart card reader (10) comprising: a card support surface (13); a plurality of chambers (30) formed in said contact element support (11) in the area of said card support surface (13); and contact elements (21) forming snap-in means to co-operate with said contact element support (11) in an operative or inserted position.

Claims

1. A contact element support (1) for a smart card reader (10) comprising:

a card support surface (13);
a plurality of chambers (30) formed in said contact element support (11) in the area of said

card support surface (13);

contact elements (21) forming snap-in means to co-operate with said contact element support (11) in an operative or inserted position; abutment surface means (43) provided at the contact element support (11) for cooperation with said snap-in means, such that shortly before reaching the end position a snap-in tongue formed by said snap-in means snaps into a snap-in opening (42) of the contact element support (11) so that the contact element (21) is fixedly held in its inserted operative position.

2. A contact element support of claim 1, wherein it is made of plastic material.
3. A contact element support of claim 1, wherein said contact element is a contact spring.
4. A contact element support of claim 1, wherein the contact elements (21) are adapted to be inserted into said chambers (30) in a direction parallel to the card support surface (13).
5. A contact element support of claim 1, wherein said contact element support (11) forms abutment surfaces (44) and spaced therefrom said abutment means (43) adapted to co-operate with the snap-in tongue (26) of the contact element.
6. A contact element support of claim 1, wherein said contact element has widened portions (60) adapted to be inserted into slots (161, 162) of said contact element support (11).
7. A contact element, comprising a terminal or contact section (22), a fastening section (23), a connection section (24), a seat section (25), a contact cusp section (27) as well as a snap tongue (27) formed in the region of the fastening section (23), wherein the fastening section (23) further forms stop or abutment surfaces (28, 29) that are suitable for stopping against corresponding counter stop or abutment surfaces and wherein the snap tongue (26) is stamped from the fastening section (23) and is bent out of the plane formed by the fastening section (23).
8. A contact element as set forth in claim 7, wherein the snap tongue (27) is bent outwardly from the plane formed by the fastening section (23) in a direction opposite to the direction in which the fastening section (23) is bent with respect to the connection section (24).
9. A contact element support (1) for a smart card reader (10) comprising:

a card support surface (13);

a plurality of chambers (30) formed in said contact element support (11) in the area of said card support surface (13); and contact elements (21) forming snap-in means to co-operate with said contact element support (11) in an operative or inserted position.

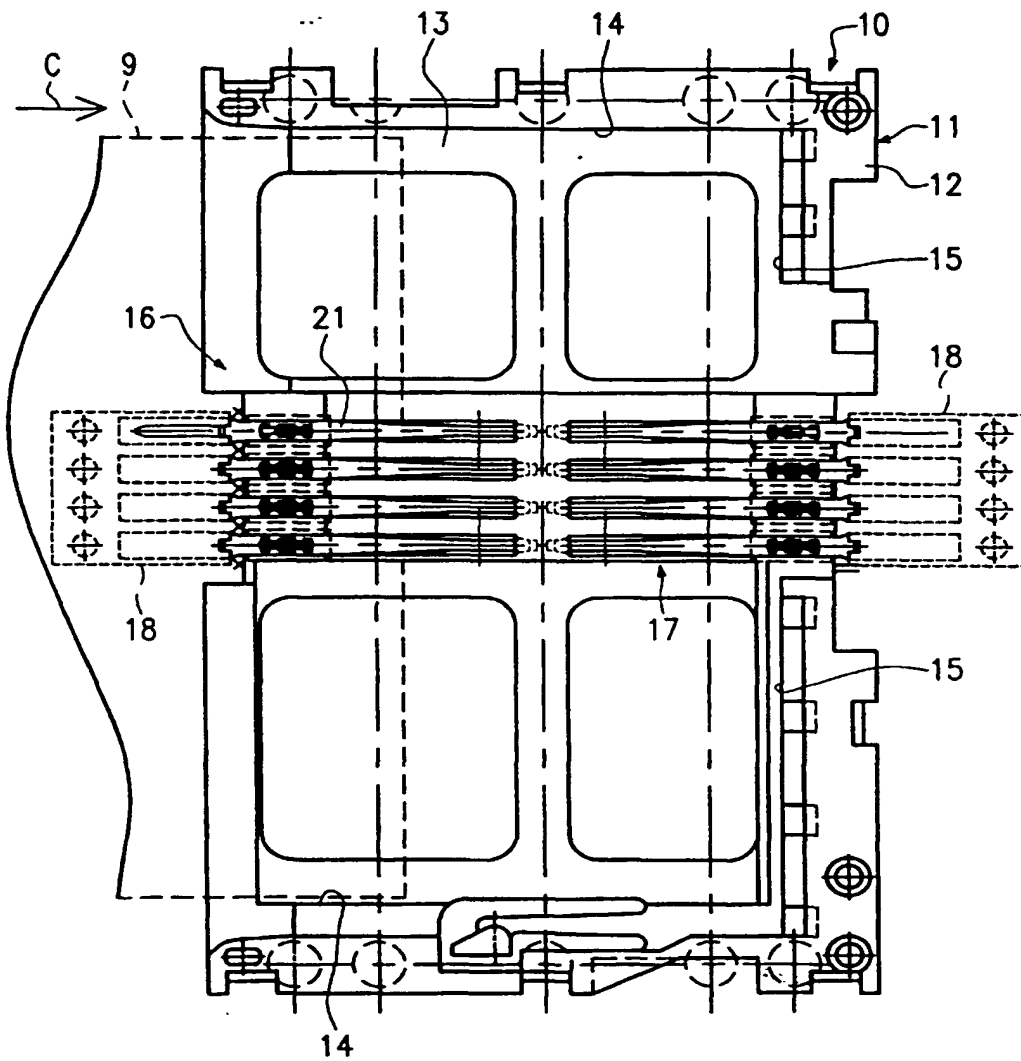


FIG. 1

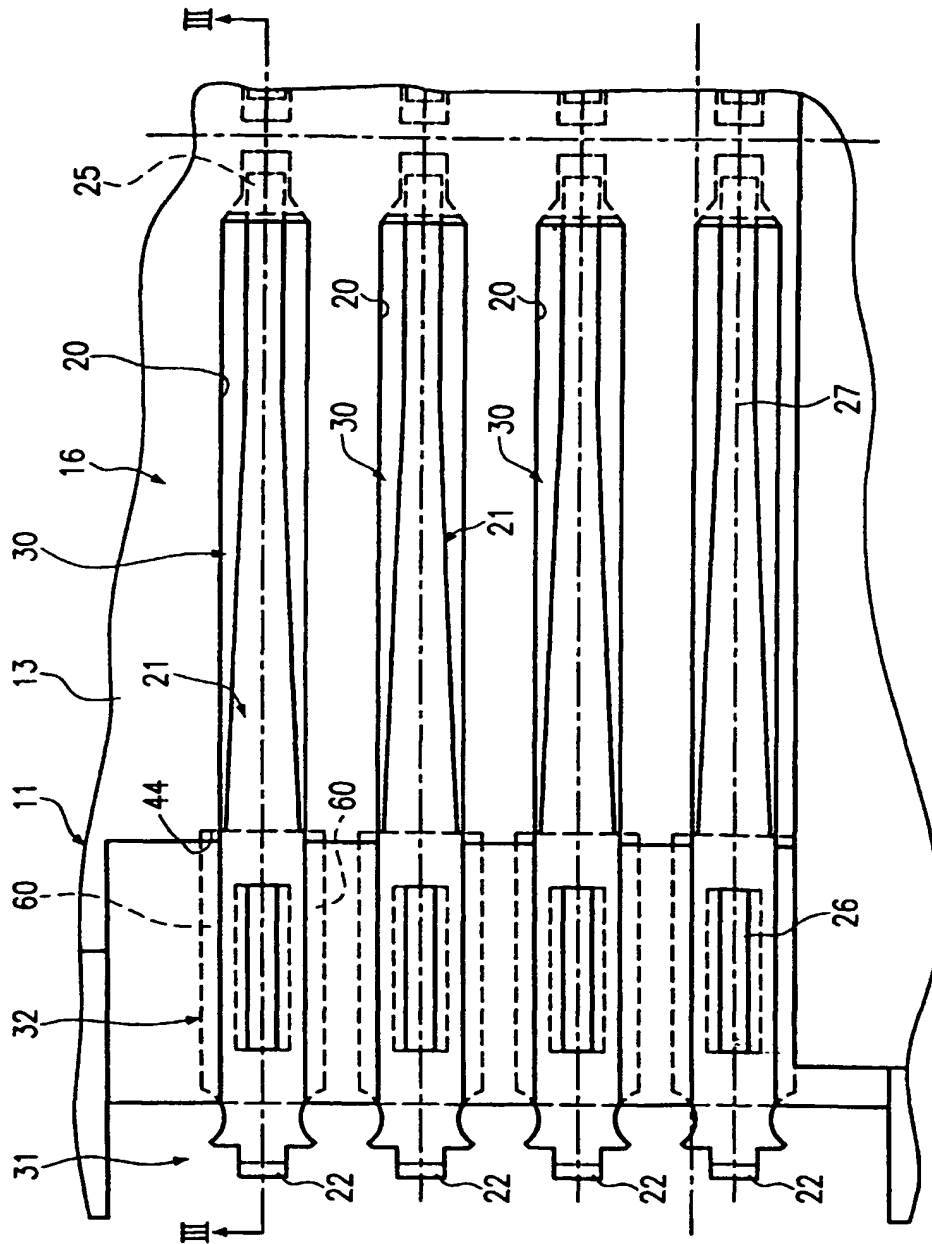


FIG. 2

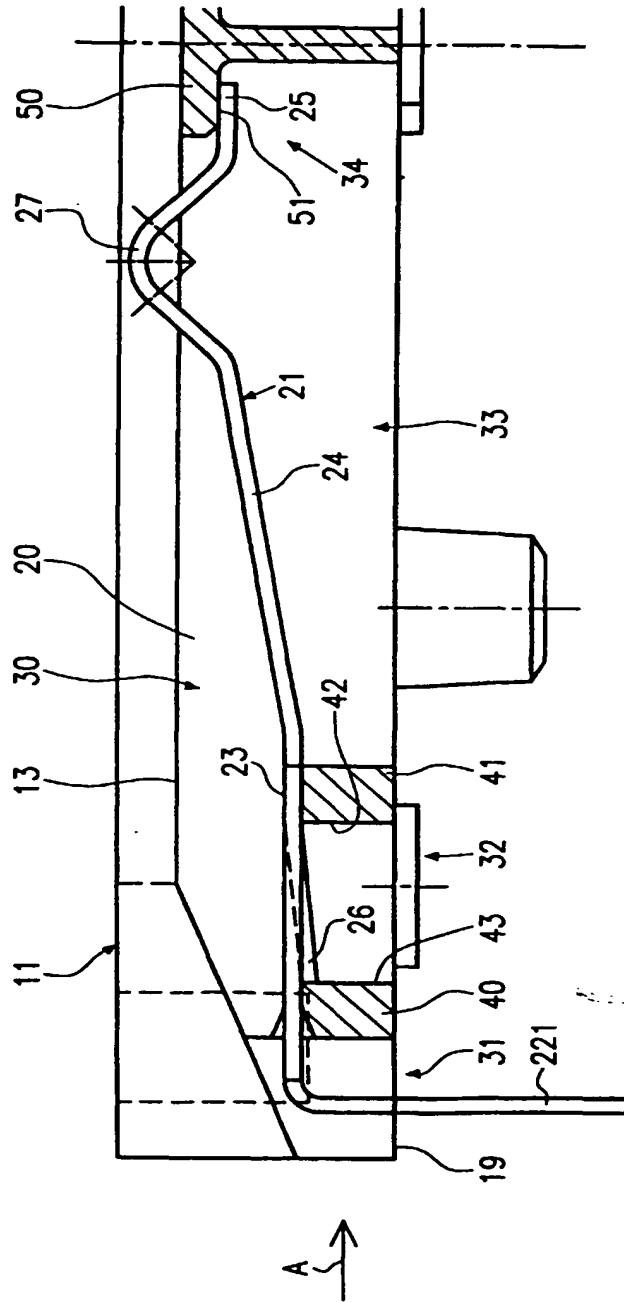


FIG. 3

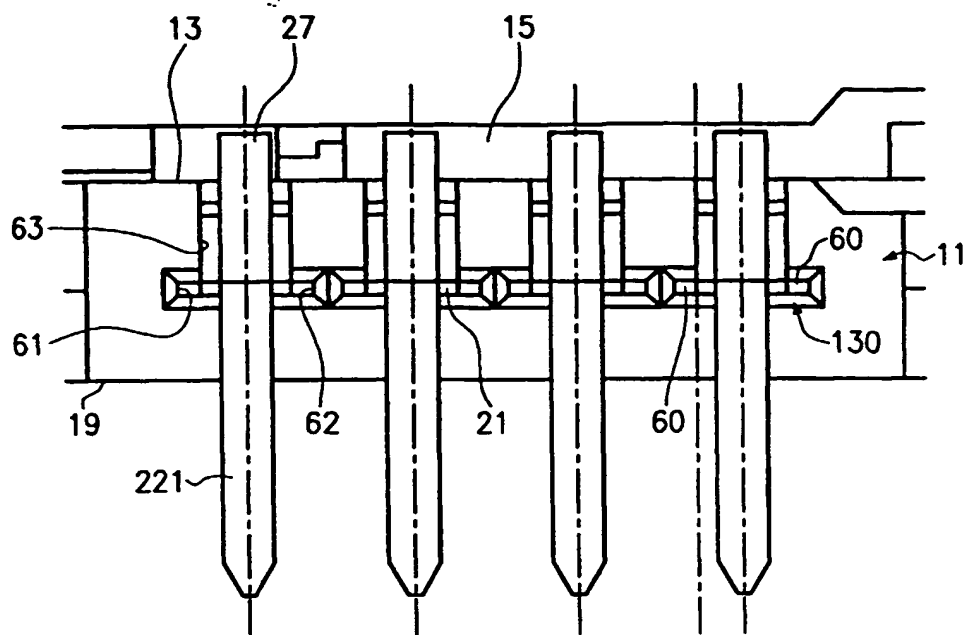


FIG.4

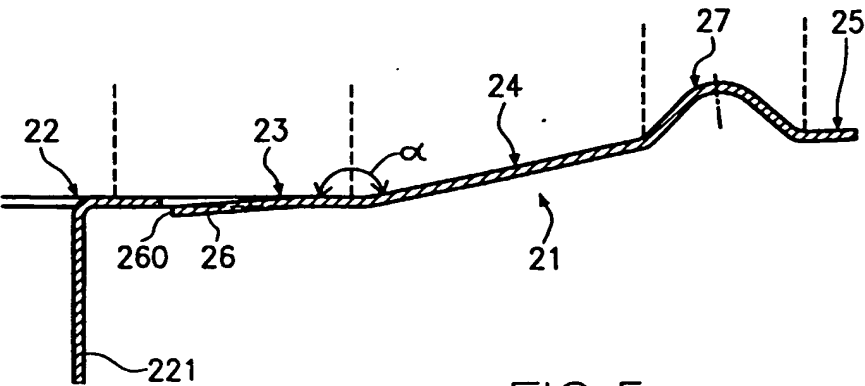


FIG. 5

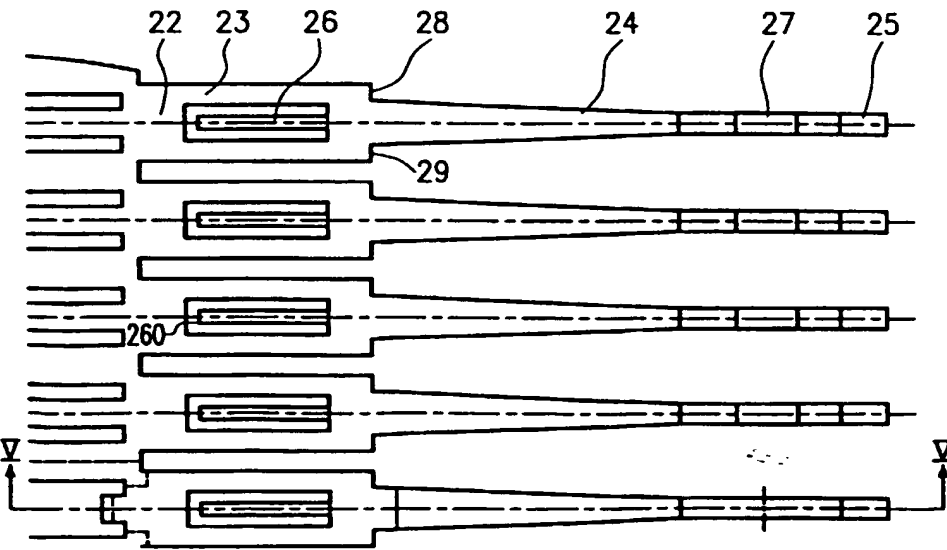


FIG. 6

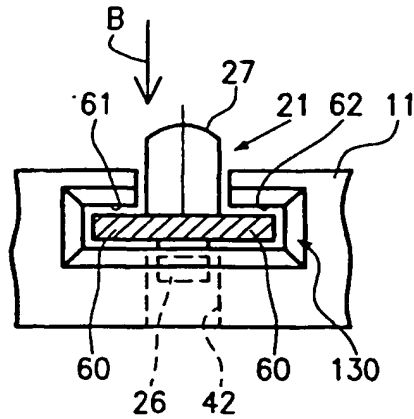


FIG. 7

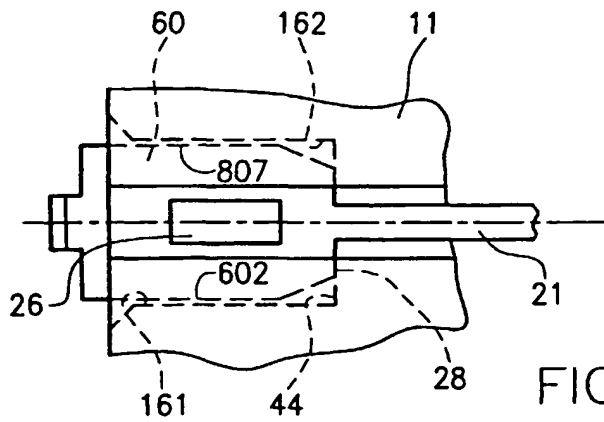


FIG. 8

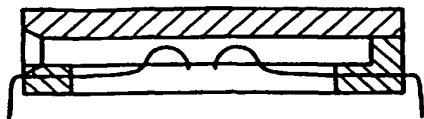


FIG. 9

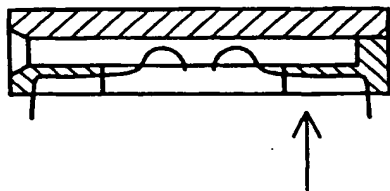


FIG. 10

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 December 2000 (07.12.2000)

PCT

(10) International Publication Number
WO 00/74300 A1

- (51) International Patent Classification⁷: H04L 9/00 (72) Inventors; and
(75) Inventors/Applicants (for US only): KOBAYASHI, Noriya [JP/JP]; 406-5 Fukushima, Kurashiki, Okayama 710-0048 (JP). YEE, Bennet [US/US]; 995 Whimbrel Court, Carlsbad, CA 92009 (US).
- (21) International Application Number: PCT/US00/14915
- (22) International Filing Date: 30 May 2000 (30.05.2000)
- (25) Filing Language: English (74) Agent: FUESS, William, C.; Fuess & Davidenas, Suite II-G, 10951 Sorrento Valley Road, San Diego, CA 92121-1613 (US).
- (26) Publication Language: English
- (30) Priority Data:
60/137,027 1 June 1999 (01.06.1999) US
09/490,354 24 January 2000 (24.01.2000) US
- (81) Designated States (national): AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW.
- (71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 22nd floor, 300 Lakeside Drive, Oakland, CA 95612-3555 (US).
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR DELIVERING AND EXAMINING DIGITAL TICKETS

----- You can cut here -----



Ticket: ABC Park

1000 Harbor Island Dr., San Diego, CA

Valid : May 5, 1999

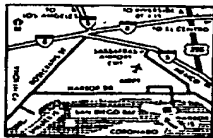
Admit: One adult

Serial #: 123XYZ456



----- You can cut here -----

TERMS AND CONDITIONS OF USE



PLEASE READ THESE TERMS AND CONDITIONS OF USE CAREFULLY BEFORE USING THIS TICKET

By using this ticket, you signify your assent to these terms of use. If you do not agree to these terms of use, please do not use the ticket. We reserve the right, at our discretion, to change, modify, add, or remove portions of these terms at any time. Please check these terms periodically for changes.

(57) Abstract: A digital ticket (1) is procured from a provider, preferably over the Internet, by a consumer. The digital ticket (1) becomes embodied in a tangible transportable data medium, normally in the form of a 2-D bar code (11) printed on paper by the consumer, or on the consumer's flexible disk, CD-ROM or smart card. The ticket is generated by the consumer selecting a number R, and sending hash(R) to the provider. The provider concatenates information about the selected service which the ticket is associated with, to hash(R), signs the results, and sends Sign(s,hash(R)) to the consumer. The consumer then concatenates R to form Sign(s,hash(R))R as part of the ticket. For use, the ticket is transported, in a physical medium, to the redemption point and presented. Verification takes place by using the private key of the provider to recover information about the event, and hash(R). R is then hashed and compared proving the legitimacy of the ticket.

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WO 00/74300 A1

patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *With international search report.*

SYSTEM AND METHOD FOR DELIVERING AND EXAMINING DIGITAL TICKETS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention generally concerns electronic money,
5 electronic tickets, electronic coupons, electronic checks,
digital tickets and the like.

The present invention particularly concerns digital tickets
that are (i) securely, quickly, inexpensively and efficiently
10 producible, and deliverable over a worldwide digital
communications network, (ii) visually inspectable, and physically
securable and transportable, by the purchaser recipient thereof,
(iii) resistant or immune to forgery (nonetheless that network
interlopers, the purchaser recipient of an individual digital
15 ticket and/or a number of purchaser recipients acting in
collusion may attempt to so forge digital tickets), (iv) capable
of being anonymously purchased, held and redeemed if so desired
by the purchaser recipient thereof, (v) readily, quickly and
securely verifiable upon redemption, including by laser scanning
20 of a 2-D bar code format, or by the reading of data from a smart
card, (vi) resistant to double redemption, or to single
redemption after any reported theft, (vii) transferable and
divisible, (viii) self-authenticating, (ix) versatile to
incorporate diverse entitlements, (x) cancelable or redeemable
25 without physical tender or surrender, and (xi) ecologically
sound.

2. Description of the Prior Art2.1 General Background2.1.1 General Introduction

The volume of the electronic commerce, both
30 business-to-business and business-to-consumer transactions, has
dramatically increased in recent years. Most consumer Internet
commerce are based on credit card transactions, and employ an
ordinary package delivery service such as the U. S. Postal
Service, United Parcel Service, Federal Express, or Airborne
35 Express to send the items to the consumer. While completely
reasonable for physical items such as books, music CDs, DVDs, or

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similar items, the use of physical delivery for the purchase of an abstraction such as access rights seems inappropriate.

What access rights are sold over the Internet? In early May, 1999, tickets to the movie *Star Wars: The Phantom Menace* were made available over the Internet for purchase by credit card before they were on sale at movie theater box offices. This is a particularly attractive alternative to waiting in line prior to the opening of a popular movie. Other types of access rights sold over the Internet include theater, ballet, concerts, and sporting events.

Currently, the purchase of movie tickets over the Internet requires the consumer to physically pick up the tickets, so in a sense it serves more as a reservation mechanism. For tickets to the theater or to sporting events where ticket values and prices are higher, the tickets are often delivered to the consumer by postal mail.

Tickets are physical objects that represent single-use access rights. Instead of delivery by post, the inventors of the present invention believe that such access rights should be delivered electronically in the form of digital tickets. Digital representations of the rights contained within a ticket must be verifiable at access points, e.g., by theater ticket takers, so the ticket would desirably be convertible to a physical, easily transportable form. To provide authenticity and verification, the digital ticket contents should be easily and inexpensively readable, being re-digitized from printed form if necessary, and should include an authentication tag such as a digital signature. The digital data within the digital ticket may be conveyed by the consumer to the venue of the ticket event in a variety of ways: digital data may be stored on a flexible disk, stored in a smart card, printed on paper, etc.

The inventors of the present invention will be seen to prefer the use of printed two-dimensional bar-codes as an extremely appropriate encoding technology for the purposes of digital tickets. See Stuart Itkin and Josephine Martell; A PDF417 primer: A guide to understanding second generation bar

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codes and portable data files; Technical Report Monograph 8, Symbol Technologies, April 1992. See also AIM Standard "Uniform Symbology Specification PDF417". Printed 2-D bar codes provide good fault tolerance and easy re-digitization of the contained data. Digital tickets so printed permit a reasonable initial market penetration where some slight usability in the form and contents of the ticket is traded off to exploit the available consumer hardware infrastructure: namely, many web surfers have access to printers unlike the situation for smart card reader/writers.

2.1.2 Internet Ticketing Requirements

Internet tickets may be viewed as digital representations of access rights or capabilities. They may be consumed when used, or may be valid for some period of time, e.g., a movie ticket versus a series ticket for a film series. More generally, such tickets may have restrictions on their use, e.g., a movie pass good for five matinee shows.

Unlike capabilities in traditional, capabilities-oriented operating systems, the capabilities of a digital ticket are not maintained by the kernel of the operating system that transmits or reads the ticket. Perhaps the closest analogy is the Amoeba distributed kernel's use of capabilities, where capabilities are transmitted through a network. See Sape J. Mullender, editor; *The Amoeba distributed operating system: Selected papers 1984 - 1987*; Centre for Mathematics and Computer Science, 1987. In the case of Internet digital tickets, however, the generated digital tickets are ultimately carried by the consumer to the movie theater or concert venue via "sneaker-net".

The functional requirements for Internet tickets may be considered, and compared with two other electronic commerce schemes with some very similar requirements: electronic money and digital postage. Differences in requirements, however, can make the detail designs quite different. The following sections 2.1.3 and 2.1.4 consider electronic money and digital postage indicia.

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2.1.3 Electronic Money

An electronic commerce scheme that has many of the same requirements as digital tickets is electronic money. Electronic representations of money have some form of inherent value, much the same way that digital tickets do. See an excellent enumeration and explanation of the functional requirements of electronic money in T. Okamoto and K. Ohta; Universal electronic cash in *Advances in Cryptology -- Crypto '91*, pages 324-337; Springer-Verlag, 1992.

Okamoto and Ohta list as requirements:

(1) Independence, where security of the electronic cash does not depend on some physical device.

(2) Security, where the electronic cash cannot be created except by issuing bank. Forgeries must be easy to detect. Duplicate redemption must be both detectable and traceable.

(3) Privacy, where proper usage of electronic money does not reveal consumer identity.

(4) Off-line transactability, where payment transaction does not require network access and no third party interaction is required.

(5) Transferability, where electronic money can be transferred among customers.

(6) Divisibility, where change can be made easily.

2.1.4 Information-Based Indicia, as in Electronic Stamps

Information-based indicia (IBI) provide a way to indicate on an envelope that postage has been paid. See U. S. Postal Service; Information Based Indicia Program (IBIP) New Technology Metering Devices, May 1995. The IBI standard uses a two-dimensional bar-code (PDF417) encoding a digital signature for this purpose. See U. S. Postal Service; Information Based Indicia Program (IBIP) Indicia Specification, July 1996. See also Stuart Itkin and Josephine Martell; A PDF417 primer: A guide to understanding second generation bar codes and portable data files; Technical Report Monograph 8, Symbol Technologies, April 1992.

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The digital postage application is similar to that of Internet distributed digital tickets, but has requirements that force solutions to be more complex. Here, the indicia must be validated -- the digital signature verified -- and checked against master databases to prevent duplication, but such duplicate-spending detection may have to rely on a distributed database. Furthermore, the low value of stamps implies that for some cases, only extremely cheap fraud detection measures are cost effective. It must also be possible to print the indicium in a completely off-line manner, to limit the communications requirements at the postal centers. This leads to the use of Postal Security Devices (PSD): specialized secure co-processors which provide a secure way of maintaining account balances and performing cryptographic computations even when the PSD is in a potentially hostile environment.

Unlike indicia, tickets typically are targeted and are "spent" at some physical location indicated by the ticket itself, e.g., a movie theater, a concert hall, or sports arena. This simplifies the job of detecting duplicates, since the networking requirements are more localized than it is the case for postage indicia. At the same time, the higher value of tickets make more sophisticated fraud detection measures possible. The interactive nature of the ticket purchase transaction -- which is necessary for both assigned-seating tickets and for maintaining an account of how many has been sold -- permits greater flexibility in system design.

2.1.5 Internet Tickets

Many of the functional requirements for electronic money are retained for tickets. Because most tickets are consumed when used, divisibility is not a critical requirement. For the case of a pass or a concert series ticket, a simple expiration date suffices.

Tickets must be

(1) On-line deliverable: users must be able to use standard web tools such as an SSL-capable web browser to purchase and take

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delivery of the tickets.

(2) Secure: tickets cannot be created except by the issuing venue; forgeries are easy to detect; duplicate redemption are detectable / traceable.

5 (3) Private: proper usage of tickets does not necessarily reveal identity. (This is not currently a property of Ticketmaster™ or Will Call™, since identification is needed to pick up tickets.)

10 The on-line delivery requirement simplifies many aspects of the design. Because the ticketing venue must maintain a database of sold tickets for assigned-seating tickets, and minimally a ticket count for general admission tickets, no completely online design is admissible. While overbooking is possible -- and common for some applications such as airline tickets -- the
15 number of overbookings must still be limited and controlled, since excessive overbooking is economically unsound.

2.2 Specific Background

2.2.1 Security for End-Users Accessing Web Servers

20 A previous technology relevant to the present invention concerns a system and product of Axent Technologies, Inc. ["Axent"] Mountain View, California, for tightening security for end-users accessing Web servers. The technology is so relevant because, in the first place, if a client can be securely identified to a server, and vice versa, than the server may issue
25 the client a digital ticket.

However, a more important point of comparison is more subtle. The present invention will be seen to, at certain junctures, encrypt multiple data quantities, or fields. The fourth following paragraph will reveal that an encrypted quantity
30 -- a "message authentication code" -- also becomes part of a digital ticket in the Axent system.

35 Axent says its "Web Defender" server software delivers proper protection in generating and distributing encrypted tickets that permit users to log into multiple Web servers across the enterprise without having to enter additional passwords each

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time.

Better yet, Web Defender is claimed to offer networkers a way to track and manage those tickets centrally, so that they can control access to corporate data according to individual and group names. There is no need to modify the client's browser during setup.

Web Defender sits behind the corporate firewall and works in conjunction with a Web server running a copy of Internet Information Server (IIS) from Microsoft Corporation (Redmond, Washington). It works with both Internet Explorer from Microsoft and Communicator from Netscape Communications Corporation (Mountain View, California).

In setting up Web Defender the first step is to obtain a digital certificate from a third-party certificate authority like Verisign, Incorporated (Mountain View, California) for the IIS Web server. This permits the Web server to initiate an SSL (Secure Sockets Layer) session with a Web browser. Next, net managers select NT domains and groups (via a GUI) that are allowed access to the Web Defender server. Groups are selected from NT domains and then cut and pasted into Web Defender. After that it's merely a matter of selecting general ticketing properties, such as having a message sent to the Web browser once the sign-on process is successful or automatically reissuing a ticket once the old one expires.

So how does the Web Defender software "pump up" security? First, a user keys in a name and password, which are authenticated by the Web Defender server. (It's important to note that passwords and user names are exchanged only once during this initial authentication, over the SSL connection). Second, the Web Defender server builds a user ticket that contains several fields of data, such as user name, lifespan of ticket, and group name; all of which define the data the ticket holder can access. Third, the ticket is run through the MD5 cryptographic algorithm developed by RSA Data Security Incorporated (Redwood City, California) to generate a message authentication code, which becomes part of the ticket itself.

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At this point, the digital ticket is issued and stored in the memory of the user's Web browser. Once the session is completed, the ticket is deleted from the memory.

2.2.2 Previous Patents

5 A series of patents to Stefik, et al. and assigned to Xerox Corporation (Stamford, Connecticut) deal with the distribution and use of digital works of value, including (but not limited to) digital tickets. United States Patent No. 5,715,403 is for a SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF DIGITAL WORKS
10 HAVING ATTACHED USAGE RIGHTS WHERE THE USAGE RIGHTS ARE DEFINED BY A USAGE RIGHTS GRAMMAR; No. 5,638,443 is for a SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF COMPOSITE DIGITAL WORKS; No. 5,634,012 is for a SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF DIGITAL WORKS HAVING A FEE REPORTING MECHANISM; and
15 No. 5,629,980 is for a SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF DIGITAL WORKS. The earliest incorporated application, Serial No. 08/344,760, entitled "SYSTEM FOR CONTROLLING THE DISTRIBUTION AND USE OF DIGITAL WORKS USING DIGITAL TICKETS" did not issue as a patent.

20 These patents are of relevance to the present invention primarily as background, especially as regards the nature of security of a system communicating on and over a network. The use of "trusted repositories" in the patents is without direct counterpart in the basic system of the present invention.
25 However, it will be recognized that a the present invention is susceptible of universal adaptation and deployment for use in issuing billions of tickets monthly, and not all tickets -- even for the same event -- will come from the same issuing authority. The Xerox patents thus show how the digital ticket issuing system and method of the present invention can be indefinitely expanded.

30 All these patents concern a system for controlling use and distribution of digital works. The system permits the owner of a digital work to attach usage rights to his or her work. The usage rights define how the individual digital work may be used
35 and distributed. Instances of usage rights are defined using a

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flexible and extensible usage rights grammar. Conceptually, a right in the usage rights grammar is a label associated with a predetermined behavior and conditions to exercising the right. The behavior of a usage right is embodied in a predetermined set of usage transactions steps. The usage transaction steps further check all conditions which must be satisfied before the right may be exercised. These usage transaction steps define a protocol for requesting the exercise of a right and the carrying out of a right.

The patents thus relate to the field of distribution and usage rights enforcement for digitally encoded works. The deal with the fundamental issue facing the publishing and information industries in preventing the unauthorized and unaccounted distribution or usage of electronically published materials. Electronically published materials include diverse types typically distributed in a digital form and recreated on a computer based system having the capability to recreate the materials. Although the patents focus on audio and video recordings, software, books and multimedia works as exemplars of electronic publishing, digital tickets may also be considered to be electronically published works and, indeed, ones of at least transitory value.

The Xerox patents address the problem of the secure distribution of digital works by use of trusted repositories. Many of the powerful functions of repositories -- such as their ability to "loan" digital works or automatically handle the commercial reuse of digital works -- are possible because they are trusted systems. The systems are trusted because they are able to take responsibility for fairly and reliably carrying out the commercial transactions. That the systems can be responsible ("able to respond") is fundamentally an issue of integrity. The integrity of repositories has three parts: physical integrity, communications integrity, and behavioral integrity.

Physical integrity refers to the integrity of the physical devices themselves. Physical integrity applies both to the repositories and to the protected digital works. Thus, the

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higher security classes of repositories themselves may have sensors that detect when tampering is attempted on their secure cases. In addition to protection of the repository itself, the repository design protects access to the content of digital works. In contrast with the design of conventional magnetic and optical devices -- such as floppy disks, CD-ROMs, and videotapes -- repositories never allow non-trusted systems to access the works directly. A maker of generic computer systems cannot guarantee that their platform will not be used to make unauthorized copies. The manufacturer provides generic capabilities for reading and writing information, and the general nature of the functionality of the general computing device depends on it. Thus, a copy program can copy arbitrary data. This copying issue is not limited to general purpose computers. It also arises for the unauthorized duplication of entertainment "software" such as video and audio recordings by magnetic recorders. Again, the functionality of the recorders depends on their ability to copy and they have no means to check whether a copy is authorized. In contrast, repositories prevent access to the raw data by general devices and can test explicit rights and conditions before copying or otherwise granting access. Information is only accessed by protocol between trusted repositories.

Communications integrity refers to the integrity of the communications channels between repositories. Roughly speaking, communications integrity means that repositories cannot be easily fooled by "telling them lies." Integrity in this case refers to the property that repositories will only communicate with other devices that are able to present proof that they are certified repositories, and furthermore, that the repositories monitor the communications to detect "impostors" and malicious or accidental interference. Thus the security measures involving encryption, exchange of digital certificates, and nuances described below are all security measures aimed at reliable communication in a world known to contain active adversaries.

Behavioral integrity refers to the integrity in what

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repositories do. What repositories do is determined by the software that they execute. The integrity of the software is generally assured only by knowledge of its source. Restated, a user will trust software purchased at a reputable computer store but not trust software obtained off a random (insecure) server on a network. Behavioral integrity is maintained by requiring that repository software be certified and be distributed with proof of such certification, i.e. a digital certificate. The purpose of the certificate is to authenticate that the software has been tested by an authorized organization, which attests that the software does what it is supposed to do and that it does not compromise the behavioral integrity of a repository. If the digital certificate cannot be found in the digital work or the master repository which generated the certificate is not known to the repository receiving the software, then the software cannot be installed.

All repositories provide a core set of services for the transmission of digital works. The manner in which digital works are exchanged is the basis for all transaction between repositories. The various repository types differ in the ultimate functions that they perform. Repositories may be devices themselves, or they may be incorporated into other systems.

A repository will have associated with it a repository identifier. Typically, the repository identifier would be a unique number assigned to the repository at the time of manufacture. Each repository will also be classified as being in a particular security class. Certain communications and transactions may be conditioned on a repository being in a particular security class. As a prerequisite to operation, a repository will require possession of an identification certificate. Identification certificates are encrypted to prevent forgery and are issued by a Master repository. A master repository plays the role of an authorization agent to enable repositories to receive digital works. Identification certificates must be updated on a periodic basis. Identification

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certificates are described in greater detail below with respect to the registration transaction.

A repository has both a hardware and functional embodiment. The functional embodiment is typically software executing on the hardware embodiment. Alternatively, the functional embodiment may be embedded in the hardware embodiment such as an Application Specific Integrated Circuit (ASIC) chip.

The hardware embodiment of a repository will be enclosed in a secure housing which if compromised, may cause the repository to be disabled. The basic components of the hardware embodiment of a repository include a processing means, a storage system, a clock and an external interface.

The core repository services comprise a set of functions required by each and every repository. The core repository services include the session initiation transactions. This set of services also includes a generic ticket agent which is used to "punch" a digital ticket and a generic authorization server for processing authorization specifications. Digital tickets and authorizations are specific mechanisms for controlling the distribution and use of digital works. Note that coupled to the core repository services are a plurality of identification certificates. The identification certificates are required to enable the use of the repository.

For one-time usage rights, a variant on this scheme is to have a digital ticket. A ticket is presented to a digital ticket agent, whose type is specified on the ticket. In the simplest case, a certified generic ticket agent, available on all repositories, is available to "punch" the ticket. In other cases, the ticket may contain addressing information for locating a "special" ticket agent. Once a ticket has been punched, it cannot be used again for the same kind of transaction (unless it is un-punched or refreshed in the manner described below.) Punching includes marking the ticket with a timestamp of the date and time it was used. Tickets are digital works and can be copied or transferred between repositories according to their usage rights.

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In the currently preferred embodiment, a "punched" ticket becomes "un-punched" or "refreshed" when it is copied or extracted. The Copy and Extract operations save the date and time as a property of the digital ticket. When a ticket agent is given a ticket, it can simply check whether the digital copy was made after the last time that it was punched. Of course, the digital ticket must have the copy or extract usage rights attached thereto.

The capability to un-punch a ticket is important in the following cases:

(1) A digital work is circulated at low cost with a limitation that it can be used only once.

(2) A digital work is circulated with a ticket that can be used once to give discounts on purchases of other works.

(3) A digital work is circulated with a ticket (included in the purchase price and possibly embedded in the work) that can be used for a future upgrade.

In each of these cases, if a paid copy is made of the digital work (including the ticket) the new owner would expect to get a fresh (un-punched) ticket, whether the copy seller has used the work or not. In contrast, loaning a work or simply transferring it to another repository should not revitalize the ticket.

2.2.3 Framework for a General-Purpose Digital Ticket

Ko Fujimura and Yoshiaki Nakajima of NTT Information and Communication Systems Labs are active in digital tickets. Mr. Fujimura conceives of a flexible digital ticket whose main purpose is to develop a generic value-circulation medium that prevents double-spending. In this context, a ticket is a digital medium that guarantees certain rights to the owner of the ticket. Describing tickets this generally allows the tickets to contain many different values and types of values in a single ticket (or group thereof).

Mr. Fujimura claims that a general ticket framework will reduce the implementation cost in many cases because a single

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design can be used in many places. By being general, the tickets can be composed arbitrarily, allowing bundling and similar features. He claims that the creation of new businesses to run this framework, like issuing/revocation services and deposit box services, was a benefit.

A general-purpose digital ticket framework must meet most of the requirements of digital cash. Additional requirements are: (1) A ticket can control its anonymity, divisibility, and transferability depending on the application; (2) The individual specifications of a ticket need to be "machine understandable" to allow for the redemption of goods or services; (3) Ticket properties whose values change while it is circulated (e.g., payment or reservation status) must be changed securely; (4) A ticket that comprises more than one sub-tickets must be supported.

To implement such a framework, the authors created a Ticket Definition Language that allows for the specification of ticket properties. The tickets themselves are hypertext-based, allowing automation of the state-transitions and composability features. The tickets can also include dynamic information that is up-to-date when the ticket itself is used. Another feature (of less obvious utility) is that the tickets can contain very large data such as images and sounds.

The tickets themselves are inherently online (because of their hypertext basis and dynamic nature), but can also be circulated offline using smart cards. In either case, the system uses signed URIs to test the currency of the ticket. The meaning and constraints of the properties in the tickets are defined using the Resource Description Framework. Schemas for tickets can thus be controlled by the issuers of the tickets, and various restrictions can be contained in these schemas.

Fujimura outlined the ticket trust model. The issuer certificate, user certificate, and examiner certificate, which are required to issue, transfer, consume, or examine a ticket, are specified in the ticket itself using the Ticket Definition Language. So, any ticket with a public key, such as drivers'

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licenses, can be used as a public key certificate if a ticket specifies them as a required certificate for the ticket. In other words, any ticket can play a roll in the public key infrastructure for other tickets.

5 Fujimura and Nakajima are drafting specifications for the implementation and intend to submit them to standards organizations. The goal of their project is to "Transform any Web terminal into a ticketing machine for any ticket in the world." The present invention has the same goal.

10 2.2.4 XML Ticket: Generalized Digital Ticket Definition Language

There is an effort, spearheaded by Nippon Telephone and Telegraph (NTT) to formulate a generalized digital ticket definition language called "XML Ticket". This definition language, and this prototype standard, are in no way in conflict with the present invention. The standard concerns what a digital ticket of general format should contain; the present invention concerns how to securely generate and redeem a digital ticket.

15 Ko Fujimura, Yoshiaki Nakajima, and Jun Sekine of NTT Information Sharing Platform Laboratories write that the World Wide Web provides an information delivery infrastructure for various types of digital contents used in daily life. Payment infrastructures such as digital cash, micropayments, and encrypted credit cards have also been established. However, no digital medium or infrastructure that prevents duplicate redemption and enables the trading of various rights, much like paper tickets, has been established yet.

Messrs. Fujimura, Nakajima and Sekine have thus sought to develop a generalized digital ticket system that can circulate any type of rights. A digital ticket is a digital medium that guarantees certain rights of the ticket owner and it includes software licenses, resource access tickets, event tickets, plane tickets, etc. To circulate various types of digital tickets using a common ticket processing system, they propose a general-purpose digital ticket framework, in which a ticket is

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circulated by interpreting ticket properties such as anonymity, transferability, and the redemption method, specified in the ticket itself using the XML based Generalized Ticket Definition Language.

5 Traditional digital ticket systems were developed for each application. However, Messrs. Fujimura, Nakajima and Sekine believe that a generalized digital ticket system is necessary for the following reasons:

10 (1) A ticket processing system includes a ticketing system, ticket wallet, ticket examination system, and the implementation cost of these components becomes expensive if a system must be developed for each individual application. For example, it is impractical to develop an individual system for an application that issues only 20 tickets.

15 (2) It is desirable for users to manage various tickets using a common "ticket wallet" that provides a uniform and collected view as a real physical wallet, in which cash, credit cards, ID cards, and various tickets are stored together.

20 (3) New network businesses such as revocation, packaging, and safety deposit box services can be run if any ticket can be managed uniformly. If the format and protocols for digital ticket circulation depend on the ticket, it would be difficult to run these businesses successfully.

25 As a result of their investigation on diverse physical tickets, Messrs. Fujimura, Nakajima and Sekine have identified the following requirements for the generalized digital ticket definition language:

30 (1) Composability: The language must support a composite ticket that comprises multiple sub-tickets. There are many cases when a sub-ticket must be issued separately with the original ticket typically because the tickets are issued by different organizations or issued at different times.

35 (2) State manageability: The language must support the defining of properties whose values dynamically change while in circulation, e.g., payment, reservation, or approval status. Note that it is difficult to allow these changes in a signed

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document. (3) Machine-understandability: The language must support the defining of the meaning of the ticket. If the service or task that a ticket guarantees is objectively understood by the buyer and seller before conducting a transaction, it will reduce the number of disputes resulting from misunderstanding of the meaning of the ticket.

(4) Efficiency: The language must enable the efficient defining of a ticket, since it might be stored in a smart card or other devices with restricted memory. Longer definitions also cause longer data transfer time, which might not be acceptable. For example, redemption of event tickets or transportation passes requires high performance.

(5) Circulation controllability: The language must provide the parameters needed to allow flexible circulation control. As shown in Table I, the anonymity, transferability, and redemption method of the ticket must be specified in the ticket definition. Additionally, it is desirable to support more advanced requirements, e.g., tickets can be circulated within the registered members of a group or only qualified shops can issue tickets.

(6) Security: The investigators perceive that the language must provide the parameters needed to achieve security. (The present invention teaches that the method, and contents of the ticket -- not the language in which its contents are represented -- is what provides the security.) The digital ticket system must support a facility for preventing duplicate redemption similar to a digital cash system. It requires an online currency checking system or tamper-proof devices such as a smart card as well as digital signature technologies.

The investigators adopted extended markup language, or XML, as the base language of the Generalized Digital Ticket Definition Language, since they allege to satisfy the above requirements as described below:

(1) Composability: A composite ticket is claimed to be definable using XML links. A composite ticket in which sub-tickets are distributed over the Internet is claimed to be

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easily implementable. It is claimed that this facility is useful especially for tickets that are often revoked and when online checking is required.

(2) State manageability: The state-transition properties of a ticket is claimed to be uniformly defined by attaching a value change ticket to the restriction-specified incomplete link.

(3) Machine-understandability: The meaning of a ticket is defined using the Resource Description Framework (RDF) Model; the Syntax Specification (see <<http://www.w3.org/TR/REC-rdf-syntax>>); and the Resource Description Framework (RDF) schemas (see <<http://www.w3.org/TR/REC-rdf-schema>>), which are layered on XML. It is claimed that this will make searching for tickets over the Internet much easier.

(4) Efficiency: By circulating the link to contents such as ticket images or contract details instead of defining the contents on the tickets themselves, it is claimed that the size of the ticket can be reduced. The link is also asserted to provide up-to-date information over the Internet. For example, an event ticket may include a link to the place where the event will be held after it was postponed due to rain or something else.

(5) Circulation controllability & Security: XML is a generic language designed to describe any structured data and thus any parameters necessary to control ticket circulation can be defined. Establishing control parameters or security parameters, which are necessary to satisfy these requirements, do not significantly influence the language as a ticket processing system.

Reference R. D. Brown, "Digital Signatures for XML", IETF Internet Draft, January 1999; K. Fujimura and Y. Nakajima, "General-purpose Digital Ticket Framework", 3rd *USENIX Workshop on Electronic Commerce*, August 1998, pp. 177-186. (See <<http://www.usenix.org/publications/library/proceedings/ec98/fujimura.html>>.) Reference also K. Fujimura, Hiroshi Kuno, Masayuki Terada, Kazuo Matsuyama, Yasunao Mizuno and J. Sekine, "Digital Ticket Controlled Digital Ticket Circulation", to

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appear; and Y. Nakajima and K. Fujimura, "The XML Ticket Specification", unpublished manuscripts. Reference also XML Schema Requirements, The World Wide Web Consortium, Note, February 1999. (See <<http://www.w3.org/TR/NOTE-xml-schema-req>>).

5 The relevance of all this work to the present invention is: it all applies. The present invention concerns the manner of securely generating, distributing and redeeming a digital ticket, and has no quarrel, and, indeed, some agreement, that the information within the ticket (and still other information, such as patterns of ticket circulation, or geographical sites that are
10 enabled to purchase tickets) should be expressed in an advanced language such as XML.

2.3 Digital Signatures

15 The present invention will be seen to employ a digital signature -- a routine concept in the cryptographic arts. The present invention is fully operative with many different schemes of producing digital signatures.

For example, in the Rivest Shamir Aldeman (RSA) public key encryption system, a party has both a public key (N, e) and a secret key (N, d) , where N is a k -bit modulus, the product of two
20 $(k/2)$ -bit prime numbers, and $e, d \in \mathbb{Z}_{\phi(N)}^*$ satisfy $ed \equiv 1 \pmod{\phi(N)}$. The RSA function $f: \mathbb{Z}_N^* \rightarrow \mathbb{Z}_N^*$ is defined by $f(x) = x^e \pmod{N}$ and its inverse $x^{-1}: \mathbb{Z}_N^* \rightarrow \mathbb{Z}_N^*$ is defined by $f^{-1}(y) = y^d \pmod{N}$ ($x, y \in \mathbb{Z}_N^*$), where $\mathbb{Z}_N^*$

25 denotes the set of numbers between 1 and $N-1$ which are relatively prime to N). The function f can be used for encryption, and the function f^{-1} for decryption. The generally-made assumption is that f is trapdoor one-way: roughly, if one does not know d (or the prime factors of N) then it is hard to compute $x = f^{-1}(y)$ for
30 y drawn randomly from $\mathbb{Z}_N^*$.

A widely employed paradigm to sign a document M is to first compute some "hash" $y = \text{Hash}(M)$, and then set the signature to $x = f^{-1}(y) = y^d \pmod{N}$. To verify that x is a signature of M , one computes $f(x) = x^e \pmod{N}$ and checks that this equals $\text{Hash}(M)$.
35 This technique is the basis for several existing standards.

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SUMMARY OF THE INVENTION

The present invention contemplates a digital instrument -- nominally called a "digital ticket" although the concept is somewhat broader -- that may be both (i) securely ordered and
5 (ii) securely delivered across a communications channel and/or upon a communications network, such as the Internet particularly including the World Wide Web. Once delivered to the purchaser, the digital ticket may be thereafter be (iii) inspected in the form of plain text and accompanying imagery (plus more, as will
10 be discussed) displayed on a computer monitor, or, preferably, as printed, permitting the purchaser, and any parties subsequently possessing the digital ticket, to clearly read, see, agree and remember just exactly what the digital ticket is for. The digital ticket is (iv) commonly reduced by the purchaser to
15 a compact physical form, most commonly a printed piece of paper or, more rarely, a transportable memory device such as a smart card or a computer disk. In this its physical form the digital ticket may be (v) securely stored, and transported at some time(s) to some place(s) (that were determined when the ticket
20 was initially delivered) in order to redeemed for some entitlement(s) determined when the ticket was purchased, most commonly an admission to an event. When tendered for redemption, the digital ticket is (vi) quickly, securely and inexpensively validated and verified to definitively determine whether the
25 ticket is either legitimate or a forgery. It may also be determined whether the same ticket, or copies thereof, has (have) been tendered for the same event more than once.

1. The Qualities of A Digital Ticket in Accordance With the Present Invention

30 The digital ticket of the present invention is cost effective: it is easy, expeditious and inexpensive to order, make, handle, transport and tender.

In particular, such portions of the digital ticket as are

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generated in the network-connected computer of the ticket purchaser are not computationally intensive; such calculations as are performed may typically be expeditiously realized by a small Java applet running in the browser of the consumer's computer. (The network-connected computer of the ticket producer is normally more powerful, but not inordinately so.) Neither does the purchase, nor the transmission, of the digital ticket involve the network communication of any great amount of information. Accordingly, purchase of the digital ticket normally transpires just as fast as, or faster than, any e-commerce transaction.

Purchase of the digital ticket is equally as easy as any e-commerce transaction. The purchaser is not forced to think of, nor remember, any password, code, key or anything of that order.

In particular, the physical medium of the digital ticket is inexpensive and, ultimately, disposable. The physical medium of the digital ticket is typically a 2-D bar code printed on, most typically, a sheet of plain paper of, most typically, rectangular shape of some few square inches size.

The digital ticket of the present invention may typically be purchased, made, and, most especially, redeemed very quickly. The ticket is normally procured upon the internet with the same time delay as any purchase. Despite the sophistication and extent of information that the digital ticket contains, it is typically readily printed as a 2-D bar code plus accompanying text and graphics by a graphics printer of any common type as driven by the user's browser and operating system software in but a few tens of seconds elapsed time.

Most importantly, redemption of the ticket typically entails the scanning of the 2-D bar code by a wand that is connected to a portable computer (that need not even invariably be networked) of the ticket taker and gate keeper. The reading of the ticket goes very fast, and is essentially foolproof and error-free regardless of the intelligence or diligence -- or lack thereof -- of the ticket taker. The ticket taker's computer makes all the decisions. Regardless that the ticket taker's computer so

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functions to decode diverse information in the digital ticket, it is quite amazingly possible -- normally in abnormal situations, and then only where and when an indexed guide to the 2-D bar codes of valid tickets sold has been printed and distributed to gate keepers before an event -- to actually validate a digital ticket manually, and without use of a computer.

The digital ticket of the present invention is secure in many ways.

The digital ticket is secure in production. The cryptographically protected portion of a legitimate ticket may be created only by a ticket producer/seller at a secure facility. Moreover, the security of the digital ticket in the hands of the purchaser of the ticket does not depend upon any physical device, but on cryptology. It is difficult to the level of practical impossibility to fraudulently create a valid digital ticket. Although information communicated in each of two directions between a ticket consumer/buyer and a ticket provider/seller is encrypted, the security of the digital ticket is not solely based in cryptoanalytical security, but in the physical security of a key, called a signature key, that is known only to the ticket producer/seller.

The digital ticket is secure in redemption. While unauthorized duplication of a legitimate digital ticket may be possible and, in certain cases, even straightforward, only one, first-presented, digital ticket will be redeemed for any one occurrence or event subscribed to by operation of the ticket -- making copies of a valid digital ticket essentially worthless.

The security of the digital ticket is visible. Forgeries, or illegitimate digital tickets, are easy to detect, including, most preferably, by a computer-driven display depicting the illegitimate 2-D bar code upon a tendered illegitimate ticket in proximity to such legitimate 2-D bar code as that particular ticket should possess if legitimate. Such a visual display gives both the gate keeper and the person tendering the ticket an on-the-spot visual showing of why a ticket should be deemed

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illegitimate.

Purchase, and redemption, of the digital ticket of the present invention is a straightforward transaction between ticket purchaser/consumer and the ticket producer/seller, and also
5 between the ticket redeemer and the ticket collector (either or both of which redeemer and collector may, or may not, be the same person(s) as the ticket purchaser/consumer or the ticket producer/seller), with no intervention required by any third party. The purchaser/consumer of the digital ticket, in
10 particular, need only understand and follow the simplest of directions: (1) buy the ticket, (2) print it, and (3) redeem the printed ticket.

The digital ticket of the present invention may be purchased, and redeemed, anonymously. According to this
15 characteristic, it is also transferable from person to person. Nonetheless that the ticket may be procured and presented anonymously, if an original or an earlier holder of the ticket alleges theft of the ticket and notifies the police of this event, then it is possible from any records of the (alleged)
20 victim (including, of course, a rare copy of the actual ticket made by the victim) and, more commonly, from certain records of the ticket seller as may be selectively kept (at the seller's volition, depending upon any secretive nature of the event), to recognize the (allegedly) stolen ticket upon its presentment, and
25 to identify the presenter to the police. This is true even if there is nothing ostensibly unique to the ticket, such as a particular seat number.

Nonetheless that a digital ticket of the present invention may be purchased, and/or redeemed, anonymously if required or
30 desired, if the original purchaser of the ticket wants his or her name, address, identifying numbers and/or the like placed on the ticket in secure ciphertext or plain text or both, then this is easily done, creating a digital ticket that may be as customized, and as data laden, as the purchaser could possibly desire.
35 Indeed, inclusion of this data is recommended for honest consumers who desire to "hold tight to their legitimately-

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purchased tickets".

Nonetheless that individual ticket holders and users may be completely anonymous, the ticket seller may not only accrue such demographic information as comes from having initially sold the digital ticket upon, most commonly, the Internet, but may also correlate, inter alia, the times and dollar amounts of ticket sales with later ticket redemptions, coming thereby to a useful understanding of, inter alia, the effects of marketing strategies that make ticket price dependent upon the time of ticket purchase. In accordance that the digital ticket of the present invention may readily be transferred and re-transferred, normally between holders in due course, any rights that are within the ticket that are subject to division may be divided. For example, if the ticket is good for five film matinees of unspecified dates, five different people may use the ticket for one matinee each at the same or at different times. (Redemption of tickets for multiple events is by networked computers with memories of outstanding multiple-use tickets, and of ticket partial redemptions.)

(Conversely to the concept that anonymity of a ticket purchaser / ticket redeemer may be preserved under the present invention, it is alternatively possible to use computers to monitor and control absolutely every aspect of the ticketing and ticket redemption process in real time. Thus a party with access to residual data on the computer of a "Doctor Jones" could call a football stadium at game time and be told "Dr. Jones entered at gate E3 at 2:22 P.M. and is assigned seat 43L22.")

The digital ticket of the present invention may be canceled, and any monies paid therefore refunded, without physically repossessing the digital ticket.

The digital ticket of the present invention is flexible, and versatile: any one ticket can be for any desired combination of entitlements, and presentation (or non-presentation) of the ticket for any one event is without effect on its later presentment for another event. If a purchased digital ticket printed on paper wears, or is expected to wear, thin from use,

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then multiple copies may be printed (but may not be concurrently fraudulently redeemed, see above).

A single use ticket is normally neither collected nor defaced nor physically damaged at an event, potentially reducing ticket litter. Indeed, printed digital tickets may be passed through a reader which, while validating the digital ticket by reading a 2-D bar code on its obverse side, imprints the reverse side with an advertisement or a coupon or the like, delivering thereby timely notice and incentive to the ticket holder to, by way of example, "Save \$4 With This Coupon -- Dine on Pizza at Joe's Pizza Parlor" after the event. The digital ticket is ecologically sound: clearly it contains no plastic nor any expensive hologram nor anything of that nature.

The digital ticket of the present invention provides proof, sufficient for admission in a court of law if necessary, of its own legitimacy. If a person presents a fake (or, in some cases, a stolen) ticket, then this can immediately summarily be determined. Even though the gate keeper's computer employ a private cryptographic key, this key need not be revealed (as in legal discovery attendant upon a criminal prosecution) to prove that a tendered ticket is forged.

Conversely, if a ticket producer/seller was to default in delivery of the promised goods to a legitimate buyer of the ticket, then this ticket producer/seller can immediately summarily be found to have created a binding contract, usually complete in all pertinent conditions, contained within the data of the digital ticket. If the ticket producer/seller was to falsely claim that a legitimate ticket is a copy, and has been previously redeemed, then this eventuality can also be addressed -- but only if the ticket redemptions are interactive.

A digital ticket in accordance with the present invention thus incorporates almost every benefit that can be conceived. The only recognized conditions associated with a digital ticket in accordance with the present invention that might be judged sub-optimal are few, and mostly insignificant.

First, the digital ticket is commonly purchased across the

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Internet by the ticket consumer, or someone acting on the consumer's behalf such as a commercial ticket vender. Connection to a communications network, and particularly to the Internet, thus effectively becomes the only practical way of getting a ticket.

Second, the ticket must be printed or stored on portable memory media, or stored in a smart card, by the purchaser of the ticket or his or her agent; respectively requiring the ticket purchaser to have a computer printer, a disk drive of the like, or a smart card writer.

Third, in accordance that the digital ticket is printed by the purchaser, it may be of only modest appearance, and monochrome in coloration, regardless that the entitlement that it provides may have cost a great deal of money. This simply means that the digital ticket may not look as expensive as is the right that it embodies.

Fourth, utmost quality and performance in ticket verification, ticket redemption, and gate keeping requires both (i) computers, preferably networked computers, and (ii) digital ticket readers, most commonly optical readers. Electric power at or near to ticketed events is thus normally required. Although no single computer nor reader is a serial reliability element in the ticket verification and redemption process, a large crowd awaiting rapid processing for speedy entrance into an intensely-awaited event may give rise to a fail-safe requirement. Both (i) computer and (ii) reader hardware used is normally reliable and/or redundant in order that digital ticket processing should be on no account suspended or delayed. (It should be noted that prospective entrants to an event will overwhelmingly have legitimate tickets but no portable printers to hand, and that in the event of total breakdown of an electronic admissions system it may be possible to compare the tendered tickets against books of pre-printed tickets sorted to portal of event entry, or even to simply admit persons showing tickets.)

Fifth and finally, in the rare instance that the ticket

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producer/seller is overbooking his events, and denying entry to late-arriving legitimate (digital) ticket holders under pretext that the tickets are copied, then this fraud can be proved from the (digital) ticket itself only if ticket redemption is interactive, as normally requires that the digital ticket be embodied in a smart card. (It should be noted that little may be conclusively proved regarding overbooking of open-seating events under present ticketing and ticket redemption procedures.)

2. A Method of Delivering a Digital Ticket

Therefore, in one of its aspects the present invention is embodied in a computerized method by which a "ticket" provider may deliver a digital "ticket" to a "ticket" consumer across a communications channel.

A computer of a ticket provider first transmits across a communications channel to a computer of a prospective ticket consumer data regarding an occurrence, or "event" for which enabling chits, called "tickets" may be had. The (i) occurrence is commonly an event, the (ii) communications channel is commonly the World Wide Web, and the (iii) enabling chit is commonly a ticket of admission. However, the method of the invention is not restricted to such (i) usage, such (ii) communications channel, nor such (iii) application in time, space or nature. For example, a digital "ticket" may be purchased in a store, carried to a warehouse, and redeemed for some good(s).

Normally, however, a prospective ticket consumer, deciding to obtain a ticket for a particular selected event and thus to become a ticket consumer, causes his/her computer to produce a number R. This number R contains at least (i) a random number component. It may be considered a precursor three steps removed, or a "third precursor", to what will ultimately become a digital ticket.

The number R may optionally additionally contain or be accompanied by other information such as, for example, any of (ii) the identity of the consumer, (iii) the event for which a ticket is sought, and number of attenders, and/or (iv) the basis

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for payment for the ticket, if payment is required. Notably, none of this information (ii)-(iv) has to be incorporated in the number **R**, which must only contain the (i) random number component. It is perfectly acceptable that the consumer's provision of information such as his/her name for incorporation within the number **R** (and, ultimately, within the digital ticket to be provided to the consumer), should be completely optional, with the digital ticketing process continuing unimpeded and substantially undifferentiated should the consumer decline to provide this information.

A computer of the ticket consumer then calculates a one-way function of the number **R**, i.e., as **hash(R)** or **h(R)**. This one-way function may be any of many different functions mathematically recognized to be computationally intractable of being reversed so that the source number **R** could be derived from the **hash(R)**. The SHA1 and MD5 functions are in particular suitable, and preferred. The **hash(R)** may be considered to be a precursor two steps removed, or a "second precursor", of what will ultimately become the digital ticket.

This calculated **hash(R)** is then second transmitted across the communications channel from the computer of the ticket consumer to the computer of the ticket provider. Additional ticket order data, such as any of information (ii)-(iv) may, and commonly does, accompany the second transmittal of the **hash(R)**. All second transmittals may even be sent upon a secure channel (SSL, or Secure Sockets Level) as is established between the computer of the ticket seller, normally a server on the Internet, and the client computer of the ticket consumer running a browser program. However, for the method of the present invention it is essential only that the **hash(R)** be transmitted. It may be imagined, for example, that tickets for a set event are being distributed free, first-come first-serve to all comers. In this case there is really no need for additional ticket order data.

The computer of the ticket provider receives the **hash(R)**, and any supplemental ticket order data, upon the communications channel. The ticket request intending to be fulfilled, the

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computer of the ticket provider appends additional information **I** to the **hash(R)**, i.e., as **I||hash(R)**. This additional information **I** may include information from the ticket purchaser, if any such has been provided and the ticket provider wishes to incorporate such information in the ticket. Notably, however, this information **I** will be meaningful to the ticket provider to identify at least a particular event for which the ticket was sold, if not commonly also the seat and the ticket price, etc. Indeed, the additional information **I** may potentially be quite extensive.

If the ticket request is susceptible of being fulfilled, then the computer of the ticket provider makes yet another digital ticket precursor signed with a signature key **s** -- known only to the ticket provider -- as the digitally signed combination of **hash(R)** and **I**, i.e., as **Sign(s,I||hash(R))**. This number **Sign(s,I||hash(R))** may be considered a precursor one step removed, or the "first precursor", to what will ultimately become the digital ticket. The digital ticket first precursor **Sign(s,I||hash(R))** is then transmitted across the communications channel from the computer of the ticket provider to the computer of the ticket consumer. Accordingly, this number, this first precursor, **Sign(s,I||hash(R))** is (i) known to both provider and consumer, (ii) meaningful to at least the provider to identify at least a particular event for which the ticket was sold (if not commonly also the seat and the price, etc.), and (iii) may potentially include potentially extensive additional information.

The consumer's computer then appends the number **R** to this number **Sign(s,I||hash(R))**, forming thereby **Sign(s,I||hash(R))||R**. This, finally, is the digital ticket.

This number **Sign(s,I||hash(R))||R** is normally organized, and displayed, as a two-dimensional bar code of predetermined size. The PDF417 and the QR two-dimensional bar code standards are preferred.

The computer of the ticket consumer, having calculated the digital ticket from information both received (i.e., **Sign(s,I||hash(R))**) and stored (i.e., **R**) then writes this

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complete digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$ to a transportable storage medium.

This storage medium may be the memory of the consumer's computer itself, should this computer suitably be transported and interfaced for retrieval of the digital ticket stored therein. This storage medium may be the memory of a smart card, or of a magnetic disk, or of a CD-ROM should the consumer be possessed of these devices. Presently (circa 2000) these devices and their media are more expensive, less ubiquitous, and possessed of much greater storage capacity than is required or desired for storing a digital ticket.

The storage medium is preferably common paper, as is printed by the consumer's computer. The paper ticket shows (i) the two-dimensional bar code plus, optionally, (ii) any information particular to the one consumer as either the ticket provider, and/or the ticket consumer himself/herself, may optionally provide, plus (iii) any generic information regarding the event, and the particular ticket, as may be optionally provided. For example, if the ticket consumer has provided his/her name, then the paper ticket may be imprinted with (ii) this name. Although confirmation of ticket holder identity is not normally required for use of the ticket, as will be discussed, the presence of a name upon the ticket can be useful if, for example, (i) the event to which the ticket applies excludes minors, and/or (ii) some individual or group is claiming un-authorized expropriation, or duplication, or his/her/their ticket(s). Further for example, (iii) generic information regarding the event may include the event location, date and time, and the seat(s) for which the digital ticket is valid. Notably, this information (ii) and (iii), if it is optionally present, must not be considered to be information deterministic of the validity, and legitimacy, of the ticket, which validity and legitimacy is determined by (i) the two-dimensional bar code, only. The optional additional information (ii), (iii) should be considered to be a form of "helps", useful to both ticket provider and consumer alike to potentially "have to hand", and/or "sort out", certain facts

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and/or issues attendant upon mis-use or fraudulent redemption of the ticket. (If the ticket is used normally, and redeemed without fraud, then all pertinent information is certified automatically by computer, and no one is ever required to pay any attention whatsoever to any of this additional information which may optionally be printed on the digital ticket.)

The method of the present invention continues, after delivery of the digital ticket to the consumer and storage of the digital ticket by the purchaser, with use of the digital ticket by the ticket purchaser at the particular selected event.

This requires (i) transporting the transportable storage medium within which the digital ticket is written to the particular selected event, (ii) tendering the digital ticket within the transportable storage medium for verification and for admission to the particular selected event, and (iii) reading the complete digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$ from the transportable storage medium.

The (event) computer reading the ticket is in privity with the ticket producer's computer. (If communication links are suitable, the event computer and the ticket producer's computer may be one and the same, wheresoever physically situated.) Namely, the (event) computer knows the digital verification key ν

of the ticket producer, which digital verification key ν corresponds to the digital signature key s of the ticket producer. Having read the digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$, it extracts the R , which will shortly be used. It then decrypts the $\text{Sign}(s, I || \text{hash}(R))$ using the digital verification key ν to get the $I || \text{hash}(R)$ (which, as will be recalled, is no function at all, but merely the combination of I and $\text{hash}(R)$). The extracted R is then used to newly calculate, using the same one-way function previously used by the consumer's computer, a new $\text{hash}(R)$. The decrypted $\text{hash}(R)$ is compared to the newly (re)calculated $\text{hash}(R)$.

If the read $\text{Sign}(s, I || \text{hash}(R)) || R$ BOTH (1) decrypted, in the $\text{Sign}(s, I || \text{hash}(R))$ portion by use of the digital verification key

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ν to get a $I||\text{hash}(R)$, AND (ii) the decrypted $\text{hash}(R)$ is equal to the newly (re)calculated $\text{hash}(R)$ THEN the digital ticket is genuine. If either of these two conditions fail, then the digital ticket is forged. Namely, if either (i) decryption, or

(2) comparison fails, then the ticket is void.

If both conditions are met -- the decryption using the digital verification key ν to get a $I||\text{hash}(R)$ works and the newly (re)calculated $\text{hash}(R)$ equals this same quantity as was originally stored in the digital ticket upon its production and delivery for the instant particular selected event -- then the ticket must be for the proper event (as defined by I), and it must still be assessed whether the particular digital ticket is the first such presented. If the contents of the read (and decrypted) digital ticket are first uniquely presented, then the holder of the digital ticket is granted admission to the event. If, to the contrary, the read digital ticket is not the first uniquely so presented, then the holder of the digital ticket is normally denied admittance.

3. A System For Delivering a Digital Ticket

In another one of its aspects the present invention is embodied in a system for delivering a digital ticket across a communications network. In this aspect, it may be considered how the functionality of the system is partitioned; what, exactly, goes on in each of the computers of the ticket consumer and the ticket provider, and what, exactly, is communicated upon the digital communications network.

The system includes a ticket consumer's computer, connected to the communications network, (i) first calculating a number R , (ii) second calculating a one way function of R to produce $\text{hash}(R)$ as ticket order data, (iii) first transmitting the second-calculated $\text{hash}(R)$ ticket order data upon the communications network to a ticket provider's computer as a ticket order for a particular selected event, (iv) first receiving a digitally signed combination of $\text{hash}(R)$ and information I , $\text{Sign}(s, I||\text{hash}(R))$, as a digital ticket precursor

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(v) third calculating an appending of R to this digital ticket precursor $\text{Sign}(s, I || \text{hash}(R))$, giving $\text{Sign}(s, I || \text{hash}(R)) || R$, as a full digital ticket, and (vi) first storing this third-calculated full digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$ in a transportable storage medium.

A ticket provider's computer, also connected to the communications network, (i) second receives from the ticket consumer's computer the first-transmitted $\text{hash}(R)$ ticket order data, (ii) adds information I regarding the event or other right for which the ticket is had, (iii) fourth calculates a digitally signed encryption of this second-received $\text{hash}(R)$ and the information I, or $\text{Sign}(s, I || \text{hash}(R))$ as the digital ticket precursor, and (iv) second-transmits the fourth-calculated $\text{Sign}(s, I || \text{hash}(R))$ digital ticket precursor across the communications channel to the ticket consumer's computer.

A communications network (i) first communicates at a first time so that the first-transmitting of the ticket consumer's computer corresponds to the second-receiving of the ticket provider's computer, and (ii) second communicates at a second time so that the fourth-transmitting of the ticket provider's computer corresponds to the first-receiving of the ticket consumer's computer.

4. A Digital Ticket

In yet another one of its aspects the present invention is embodied in a digital ticket procured by a ticket consumer upon a communication network from and by interaction with a ticket provider. In this aspect of the invention we concentrate upon exactly what is within the digital ticket, proper, and exactly what sequence of information manipulation and interchange led to these contents.

The digital ticket is embodied in a tangible transportable data storage medium containing $\text{Sign}(s, I || \text{hash}(R)) || R$ where (i) R is a random number private to the ticket consumer, (ii) $\text{hash}(R)$ is a number that is a one-way function of R, (iii) $I || \text{hash}(R)$ is the appending, or combination, of information I concerning the

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event (or right) for which the ticket is had to the $\text{hash}(R)$, (iv) $\text{Sign}(s, I || \text{hash}(R))$ is a digitally signed encryption of the combined $I || \text{hash}(R)$ with and by a signature key s private to the ticket provider, and (v) $\text{Sign}(s, I || \text{hash}(R)) || R$ is the appending of R to this digitally signed encryption.

In greater detail, the origin of each of these mathematical quantities that are within the digital ticket may be ascribed to either (i) the computer of the ticket provider, or (ii) the computer of the ticket producer. The digital ticket procured by a ticket consumer upon a communication network from and by interaction with a ticket provider is always embodied in a tangible transportable data storage medium containing $\text{Sign}(s, I || \text{hash}(R)) || R$. However, and in detail, the sequence of how this number came to be within the digital ticket consists of several steps.

First, R is a number having its origin in a computer of the ticket consumer.

Second, so does the a one-way function of R -- the calculated hash of R -- or $\text{hash}(R)$, have its origin in a computer of the ticket consumer.

Third, this number $\text{hash}(R)$ is appended to event (or other ticket) information I in the computer of the ticket provider.

Fourth, this computer of the ticket provider also calculates a signed digital encryption, based on digital signature key s , of the appended numbers, i.e., $\text{Sign}(s, I || \text{hash}(R))$.

Fifth, the computer of the ticket consumer appends the number R to this signed digital encryption $\text{Sign}(s, I || \text{hash}(R))$, producing $\text{Sign}(s, I || \text{hash}(R)) || R$.

The number R , having its origin in a computer of the ticket consumer, is private to the ticket consumer, and is not public.

The digital signature key s of the computer of the ticket provider is private to the ticket provider, and is not public.

5. Simplified Recapitulation of the Present Invention -- Part 1

The present invention is not unduly complex; the preceding

sections 2-4 are not particularly long. The mathematically-based steps of the method of the invention -- which may now warrant review -- went quickly in section 2. However, by this point in the explanation, the reader -- although likely willing to accede that the invention apparently entails certain precise, mathematically-based, steps -- may effectively be "lost in the forest for the trees", and may be failing to grasp just exactly why the method, system and ticket of the present invention are secure, and just how everything "comes together" to offer all the many benefits enumerated in section 1.

Consider things from this viewpoint: The computer of the ticket consumer is producing something -- the one-way function, or hash, of an (essentially) random number initially known only to itself -- that the ticket provider's computer cannot produce - at least initially at a time before ticket redemption. The ticket provider's computer could produce this one-way hash function if only it had the random number, but initially it does not have this number.

The computer of the ticket producer, receiving across the network the one-way hash function from the consumer's computer where it was produced, proceeds to produce something -- a signed digital signature -- that the consumer's computer cannot produce. The consumer's computer might be able to do this signing procedure itself if it but had the secret signature key of the producer's computer; but it does not.

Note immediately that a party intercepting some, or all, communications traffic on the network concerning the digital ticket is still unable to determine either (i) the random number of the computer of the ticket consumer (R, in the preceding sections) or (ii) the signature key (s, in the preceding sections), of the ticket producer's computer.

The consumer's computer, receiving across the network from the producer's computer its own (previously transmitted) one-way hash function now signed, simply appends the original random number, and stores the composite away as the digital ticket.

When the ticket is redeemed then, for the first time ever,

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either the producer's computer or, more likely, a gate keeper's computer in privity of relationship with the producer's computer at least as regards how to decrypt the digital signature of the producer's computer, will immediately have access to -- for the first time -- the random number, which number is in clear text. Detaching this random number, the gate-keeper's computer then uses its knowledge of a digital verification key (ν in the preceding sections) to the encrypted signature of the ticket producer's computer, and recovers the one-way hash function.

If the ticket was legitimate, the signed data will have been decrypted successfully. The gate keeper's computer then has (i) the random number and (ii) the one-way hash function of the random number. What should it do? Why it simply re-calculates the one-way hash function on the random number and compares it to the one already at hand! If both has functions are equal then the digital ticket is good.

Approaching analysis and explanation this way, a first thing that is discernable is that, during process of generation of the digital ticket, each party lacks certain information of the other party, which information is either hidden behind a one-way transformation or by encryption. Consequently -- and although more important to cheating by the buyer -- the ability of either party to cheat and to supplant or pervert the processes of the other is limited.

Interestingly, a buyer has more recourse against a cheating seller than simply to complain, and withhold future patronage. The verification key ν of the ticket seller's digital signature is generally publicly known. It is thus possible for a buyer to prove that he/she is in possession of a legitimate article. Although of only modest importance for attendance at events, the "dual accountability" of the present invention is of greater importance to other secured transactions such as, inter alia, money orders.

6. Simplified Recapitulation of the Present Invention -- Part

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The present invention is broader than the details of its implementation.

For example, the random number R must not be perceived of as necessarily being solely, or only, a random number. It may incorporate, or be combined with, information on any of (i) the ticket consumer, (ii) the date, location and/or name of the event(s) or other entitlements for which the ticket is being purchased, (iii) the price of the ticket, and (iv) still other data. The essential concept is only that the net number R is random, and not subject to being guessed including by the ticket provider.

Likewise by way of example, the one way hash function $\text{hash}(R)$ need not be a simple mathematical hashing function but can also itself be, by way of example, encryption. Encryption can, after all, be considered the ultimate form of hashing.

How, then, should the present invention, and the claims of this specification directed to the present invention, be understood once it is realized that, as stated, the idea of the present invention is broader than merely the preferred implementation strategy? Having assimilated the previous sections 1 and 4, still yet another way to think about, and understand, the nature of the present invention is to consider the final digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$ and then "disassemble" this digital ticket, peeling off its layers as if it were an onion and expressing in words (as well as mathematics) exactly what the digital ticket consists of.

The first thing that may be said is that the digital ticket contains something -- a random number R -- that is in clear text (or that if, in some variant of the present invention, encrypted, may be immediately reduced to clear text by application of the cryptographic key of the presenter). This something -- this R -- arose with the ticket consumer. However, most typically quite a long time normally elapses before this clear text quantity R first ultimately becomes known to the ticket provider, which normally occurs only upon presentment of the digital ticket at the event for which the ticket is held. The ticket consumer so

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conceals the random number **R** from the ticket seller, and the world, by use of a one-way function, **hash(R)**.

Next the digital ticket contains something else: information **I** regarding at least the event for which the ticket is held which information **I** is, subject to being guessed, and not secure. The security of the digital ticket resides in the digital signature, using a private signature key **s**, of both the **hash(R)** and the **I**, in the quantity **Sign(s,I||hash(R))**. Although this quantity may commonly be decrypted to plain text by anyone using the typically public key **v**, it cannot be made but with knowledge of the signature key **s**, which is private. Therefore, only the ticket seller can make the final precursor to the digital ticket itself.

The gate keeper is in privity with the ticket provider. If the digital signature is made with a public key algorithm, such as with the RSA algorithm, then the gate keeper is able to decrypt the signed quantity by use of the public key without being able to sign this quantity in the first place. In other words, a gate keeper need not perform the function of, nor rise to the level of, a ticket provider.

Note that when the verification key of the ticket producer is public, as is preferred, then anyone can recover the quantity that was signed, or the ticket information **I** and the **hash(R)**. The validity of the ticket for resale by the original purchaser, as well as for ultimate redemption, may thus be quite readily determined. Of course, possession of the data quantities **I** and **hash(R)** that are within the ticket does nothing towards producing either **R** or **Sign(s,I||hash(R))**. Recall that the **hash(R)** is a one-way function that (i) originated with the ticket consumer, (ii) was "wrapped up" in a digital signature by the ticket provider, and (iii) was carried around by the ticket consumer within the digital ticket.

Note also that the gate keeper computer need not reverse the **hash(R)** to find the seed -- the **R**. Indeed, upon tender of the digital ticket is given this seed -- this **R**. The gate keeper computer simply uses the seed -- the **R** -- to perform the one-way function all over again -- producing the **hash(R)** anew. The (i)

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one-way function recalculated is compared to the (ii) one way function decrypted to assess the validity/invalidity of the digital ticket.

Thus a digital ticket in accordance with the present invention is embodied in a tangible transportable data storage medium. The medium contains first-type data -- originally known both to a buyer and to a seller of a ticket and meaningful to at least the seller of the ticket -- to identify both the buyer of ticket and a particular event for which the ticket was sold. This first-type data may be of the nature of an index by which the ticket seller may so identify the buyer of the ticket only relatively, and out of many ticket buyers, and not absolutely, as by name. This first-type data normally, however, permits the ticket seller to identify absolutely the particular event and time for which the ticket.

More importantly, the medium also second-type data including a digitally signed quantity that was originally computer-generated in sequence (i) at a first time first by the buyer of the ticket as a non-invertible function of a random number called the "first-time-made non-invertible function", and then (ii) at a second time by the seller of the ticket as a digital signature of the first-time-made non-invertible function, and then (iii) at a third time third by the buyer of the ticket who attaches the selfsame random number. Herein these included sequential steps (i)-(iii) is the essence of the digital ticket of the present invention.

A digital ticket so constructed is validated upon attempted redemption of the ticket in steps. First the random number is detached. Then the signed first-time-made non-invertible function is decrypted, recovering the first-time-made non-invertible function. Then the non-invertible function of that selfsame random number just detached is made all over again. This newly-made non-invertible function is called the "second-time-made non-invertible function".

If (i) the second-time-made non-invertible function equals the first-time-made non-invertible function and (ii) the "signed

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data" is verified and decrypted successfully, then the ticket is valid. If the second-time-made non-invertible function does not equal the first-time-made non-invertible function, or if the digital signature of the ticket cannot be verified, then the ticket is invalid -- at least for the particular event.

These and other aspects and attributes of the present invention will become increasingly clear upon reference to the following drawings and accompanying specification.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a view showing a first, printed paper, embodiment of a digital ticket in accordance with the present invention.

Figure 2 is a view showing a second, flexible disk, embodiment of a digital ticket in accordance with the present invention.

Figure 3 is a view showing a third, CD-ROM, embodiment of a digital ticket in accordance with the present invention.

Figure 4 is a prior art table 1 showing properties of specific types of exemplary tickets all of which tickets may suitably be realized by the digital ticket in accordance with the present invention previously seen in Figures 1-3.

Figure 5 is a table, with accompanying diagrammatic representation of a communications net, outlining the protocol in accordance with the present invention for delivering a digital ticket.

Figure 6 is a table outlining the protocol in accordance with the present invention for examining a digital ticket.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the following section 1 the basic embodiments, and

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terminology, of the present invention are explained. In section 2 the design of the Internet-based digital ticketing scheme of the present invention is set forth in detail. In section 3 several related ticketing schemes are discussed, and compared with the technical merits of the method of the present invention. Finally, section 4 concludes with some remarks about enhancements to the digital tickets, and digital ticketing scheme, of the present invention.

1. Basic Embodiments, and Terminology

There are two major embodiments of the present invention: (i) a printed embodiment ticket 1 (shown in Figure 1) requiring only the commonly available (personal) computer peripheral of a printer to fix in a tangible medium (i.e., to print on paper) and (ii) an electronic embodiment (shown in Figures 2 and 3), fixed in the tangible medium of a flexible disk ticket 2 or a CD-ROM ticket 3 or a DVD or a smart card (not shown) or equivalent by a writer of these forms of digital memory.

Additionally in this specification, one, first, party to the digital ticket is variously called a producer, a provider, a seller, a promoter, a server, or combinations of these terms as the matter under discussion then warrants. For example, this party is called a "promoter (server)" at the right of the table of Figure 5. This selfsame party, or some other party(ies) allied to this party, may also be called a ticket collector, or a gate keeper.

Meanwhile the other, second, party to the digital ticket is variously called a purchaser, a consumer, a client, a browser, a buyer, or combinations of these terms. For example, this party is called a "purchaser (browser)" at the left of the table of Figure 5. This selfsame party, or some other party(ies) holding the digital ticket from this party, may also be called a ticket redeemer, or a party that tenders the ticket.

Curiously, and by convention, the first party is also sometimes called the "generator" of the digital ticket although it is the second party that prints the digital ticket, or

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otherwise reduces it to a tangible medium of impression and storage.

It would have been a simple matter in this specification to word process all the different terms by which each party is called into but one, or at most two, different terms or description per party. However, it has been found that doing so detracts from understanding both the context in which a party is acting, and the subtleties of the invention. Accordingly, the large number of alternative names are preserved.

2. Paper-based Digital Tickets

The present invention leverages considerable existing Internet technology to achieve an easy-to-use solution.

First, it is assumed that the consumer has access to and trusts an SSL-capable browser for establishing encrypted and authenticated connections to merchant/ticketing servers. Additionally, for the preferred first, printed, embodiment of the digital ticket 1 shown in Figure 1, it is assumed that the consumer user has access to a printer. (Similarly, for the second, flexible disk, embodiment of the digital ticket 2 shown in Figure 2, the consumer user must have a magnetic flexible disk drive; and for the third, CD-ROM, embodiment of the digital ticket 3 shown in Figure 3, the consumer user must have a writable CD-ROM drive.)

The consumer uses his/her browser to connect to the ticketing service's web server, and purchase the ticket(s) using a standard payment mechanism such as a credit-card transaction. The ticketing server delivers the ticket to the consumer's browser organized, most preferably, in the form of a 2-D bar-code (and, optionally, some accompanying text), which is then, in the printed version of the digital ticket 1 shown in Figure 1, printed as bar code 11. The consumer need not arrive at the event early to pick up tickets; instead, the printed 2-D bar coded digital ticket 1 is simply presented to the ticket taker, who verifies it with a laser scanner.

The digital data encoded in the 2-D bar code 11 (or

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equivalent data structures within the flexible disk embodiment of the digital ticket 2, or CD-ROM embodiment of the digital ticket 3) is central to the ticketing mechanism. Like as in the generation of digital postage indicia, or "e-stamps", in the present invention the server generates an encrypted digital signature that is part of the ticket data. Unlike the generation of postage indicia, however, the scheme of the present invention provides the additional assurance that even if the ticketing server is compromised, the consumer's ticket cannot be stolen by attackers and the legitimate consumer framed for duplicate redemption. The ticket issuance protocol is as follows, as is generally outlined in Figure 5:

(1) The ticketing server and consumer agree on ticket information I. This information species the time and place of the venue, etc, and typically includes a ticket serial number.

(2) The consumer's browser (via a downloaded Java program or a plug-in used with the browser) generates a random number R, and sends **hash(R)** to the server across a digital communications network 5 (diagrammatically illustrated in Figure 5). (The communications network 5 may be, for example, the Internet.) Here **hash(.)** is a non-invertible function, meaning that determination of (.) from **hash(.)** may be, with powerful computers working long periods, computationally possible. However, determination of (.) from **hash(.)** is definitely computationally impractical and infeasible, meaning that any attempt to do so would greatly exceed both the cost of the ticket and the time remaining until the entitlement which the ticket secures, typically by many orders of magnitude, that this alternative is not realistic.

Additionally, and further, the **hash(.)** is preferably a collision-resistant hash function, meaning that the **hash(R₁)** of a number R₁ will not be close to the **hash(R₂)** of a number R₂ even R₁ is very close, even just one away, from the number R₂. The mathematical functions SHA1 and MD5 are in particular suitable, and preferred. The utility of this preferred collision-resistance -- which utility goes to a false claim of dual

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redemption by the ticket seller -- will be discussed below. For the moment, however, it must not be prematurely presumed that the security of the digital ticket lies in the computational difficulty of reversing the **hash(R)** function. In fact, this hash function serves only to protect the sanctity of the final digital ticket from any dishonest manipulation by the seller of the digital ticket, who is supposed to be honest anyhow.

(3) The ticket server/seller (i) appends some information **I**, (ii) signs the received **hash(R)** and appended information **I** using a digital signature key **s** as **Sign(s, I || hash(R))**, and (iii) sends this signed data quantity back to the consumer across the same digital communications network 5. (Here we assume that **x** may be recovered from the signature **Sign(x)** by a party having knowledge of the appropriate decryption algorithm and/or key from the ticket server/seller. The verification key **v**, and sometimes also the algorithm, corresponding to the signature key **s** are normally public. However, neither the ticket consumer/user nor anyone other than the ticket seller has the means of producing the digitally signed quantity **Sign(s, I || hash(R))**.)

(4) The consumer/user can, however, add, or attach, something to the encrypted quantity, and this the consumer/user does, attaching the same **R** that was the basis of the **hash(R)**. (Remember, the ticket server/seller has never been informed of this **R**, and could not send it back even if it wanted to do so.) The quantity **Sign(s, I || hash(R)) || R** becomes the logical digital ticket.

The browser of the consumer/user preferably encodes this value as a 2-D bar-code, which is then printed on normal printer paper. This is the physical ticket that the consumer/user must take to the gate.

The requirement that **hash(.)** is not only non-invertible but also collision resistant implies a subtle property. Non-invertible implies that the ticket server is unable to falsely redeem a valid ticket (and thus frame the user). Collision resistance provides the additional assurance that the only way that a duplicate redemption can occur is if the user

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(intentionally or accidentally) leaked the pre-image value R.

Ticket redemption simply involves scanning the 2-D bar-code, verifying the signature, checking the information I is for the particular event for which the ticket is tendered, and checking that the encoded R value is indeed the pre-image of the signed hash value. Additionally, the value R is logged as evidence that the ticket has been canceled or redeemed.

An exemplary paper-based digital ticket 1 is shown in Figure 1. Plain text information 12 and imagery 13 are normally specific to the entitlement, such as an admission to an event, to which the digital ticket is directed. However, this need not invariably be so, and digital tickets can be made without overt reference to what they are for a "secret passes". Indeed, to deter theft, the legitimate holder of a legitimate ticket to, by way of example, a football game may chose not to have any text or imagery appear on the digital ticket. Lack thereof in no way interferes with ticket redemption.

The paper-based digital ticket 1 further presents a region 14 where is contained the information of the ticket. This information 14 may also be in plain text, as would be read and recognized by an optical character reader (OCR). Preferably this information is, or is repeated, within a bar code, and more preferably a two-dimensional bar code 11, as illustrated. The printed two-dimensional bar code is still more preferably in accordance with either the PDF417 or QR standards.

A limitation of this scheme is that due to the requirement that a digital ticket 1 is transported to the gate on paper, the redemption protocol must consist of a single message. Since any verification information (such as the R of the present invention) is revealed in a single step, there is nothing to prevent a party scanning the ticket from falsely claiming that the ticket was redeemed earlier. (Such a false claim does not necessary indicate dishonesty by either the ticket seller or the ticket redeemer; it may be that an employee gate attendant has given unauthorized admission to his friends, and is now attempting to turn away legitimate holders of the purloined seats.) If the

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ticket is stored within a smart card, however, an interactive protocol is feasible. Using an interactive protocol has the following benefit: the ticket scanner may be prevented from making such a false claim of earlier ticket redemption. This is examined next.

2.1 Disk- and Smart-Card-based Digital Tickets

The same information that is held within the printed embodiment of the digital ticket 1 of the present invention shown in Figure 1, and more, may readily be held within embodiments such as the flexible disk 2 shown in Figure 2. This flexible disk 2 will be understood to be roughly commensurate in size, volume and area with numerous other types of transportable magnetic and optical storage media including CD-ROMs, DVDs, and smart cards (not shown). Despite being claimed, these well-known physical forms are not individually illustrated, as is the flexible disk 2 of Figure 2, because such illustrations add veritably nothing to the understanding of the present invention. A most interesting form from a functional perspective is the smart card (not shown).

By using smart cards as digital ticket containers, ticket-scanner framing prevention is achieved in the following way.

The browser is required to generate a vector of random values $R_0, R_1, \dots, R_{n-1}$ and send the hashes $h(R_0), h(R_1), \dots, h(R_{n-1})$ to the ticket server. The ticket server generates the signature $\text{Sign}(I || h(R_0) || h(R_1) || \dots || h(R_{n-1}))$.

The ticket redemption protocol works as follows:

(1) The ticket scanner generates a random subset $C \subset Z_n$ such that $|C| = n/2$.

(2) The scanner, using a scanner-specific signature key, commits to the challenge selection by generating the signature $(C)_s$ and sending it to the smart card.

(3) The smart card verifies the signature $\text{Sign}(C)$ and that C contains exactly $n/2$ unique elements. It then reveals $v_i \in C : R_i$ to the ticket scanner.

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In this protocol, because only half of the random pre-images are revealed, having a record containing more than half of the pre-images is non-refutable evidence of double redemption.

Unlike Chaum's cut-and-choose protocol for electronic money, the present invention does not require encoding of identity information -- consumers must be physically present to redeem tickets. See David Chaum, Amos Fiat, and Moni Naor; Untraceable electronic cash; in *Advances in Cryptology -- Crypto '88*, pages 200-212.; Springer-Verlag, 1990. (This design decision must be revisited if the digital tickets of the present invention are to be used for events or entitlements where physical presence is not required.)

Because the hash function is collision resistant (and thus second-pre-image resistant), the ticket-scanner (or the ticket issuer) cannot frame the consumer for double redemption; the scanner's commitment of the challenge set C allows the smart card to show that it was in the middle of the ticket redemption protocol -- and continue from where it left off -- if the protocol is somehow interrupted.

2. Related Systems

There are several related systems for Internet-assisted ticketing and related uses such as coupon generation. These systems are discussed, and compared with the scheme of the present invention, in this section 2.

2.1 Shared Authentication Codes

There are several ways to provide ticketing-like services. One of the simplest methods -- already employed on the Internet and for telephone transactions -- uses a secret authentication code as a "reservation number." These secret codes are either memorized or written down, and typically serve only to uniquely identify the reservation entry in the merchant database: when the customer arrives, the original credit card and picture ID are required to check into the hotel or to pick up the physical tickets. One might, of course, imagine the use of these codes

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where the consumers key in the codes to operate an automatic gate.

While such codes are network deliverable, they are difficult to use. For tickets to a venue with a large audience, unless the codes are long, the fraction of all codes that would be valid could be unacceptably large. And when the codes are long, users find them difficult to memorize or key in properly.

2.2 ETM

An existing ticketing system (circa 2000) is ETM (<http://www.etm.com/>). ETM is kiosk-based: consumers go to a kiosk, typically located in a grocery store or other frequently visited locations, and purchase tickets by using a credit card. The tickets are printed on special paper: the assumption is that access to the paper is controlled, and the paper is incapable of being forged, much as airline ticket card-stock is similarly controlled. In addition to direct purchases, ETM also permits purchase over the Internet by visiting its website: a credit card transaction results in an authorization code which may be used at a kiosk (perhaps in addition to presenting the credit card) to obtain a ticket. This Internet "purchase" is in effect more a way to reserve a ticket than an actual ticket purchase.

2.3 E-Ticket

An agent called E-Ticket, <http://www.e-ticket.net/>, already (circa 2000) sells event tickets in Japan which can be received on the Internet. Their ticket consists of a data image, and the purchasers save it on a flexible disk. The ticket seller arranges an exclusive booth for redemption of tickets at the event site, examining electronic tickets stored in the flexible disk using a small computer, and then either exchanging the electronic ticket for a paper ticket or simply letting the ticket bearer into the venue via an exclusive gate.

Since the ticket transfer medium is a flexible disk, read errors sometimes occur. In order to eliminate these problems, E-ticket has announced plans to replace the ticket transfer media

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with ID tags (contact-less smart cards). These electronic tickets are easy to copy; as a deterrent, E-ticket requires membership registration, including name and credit card number information.

5 2.4 E-Coupon

 A coupon is a ticket to a discount. Some agents already distribute (circa 2000) such a coupon from web sites on the Internet. Internet Coupon Service, "<<http://www.e-coupon.com/>>", distributes coupons that can be used at certain shops and Liberty
10 Production, "<<http://www.autoshowusa.com/>>", distributing coupons which can be used for, by way of example, the International Auto Show from their web sites.

 According to the instruction on the web page, users make coupons come up on the screen and they print the coupons.
15 Consequently, users will bring the printed coupons and will take some discount advantage at the shops or event sites. A coupon is a kind of sales promotion strategies; therefore, there is no particular consideration against forgeries.

20 2.5 Electronic Checks

 Electronic checks are like tickets and coupons in that they encode a single-use right. See B. Clifford Neuman and Gennady Medvinsky; Requirements for network payment: The netcheque perspective; in *Proceedings of IEEE COMPCON'95*, March 1995. Here, the capability is the right to transfer money from the
25 check writer's checking account to the recipient's own account. Because there exists a vast clearance infrastructure for physical checks, Neuman and Medvinsky proposed to use this infrastructure to aid in the clearance of electronic checks. No such clearance infrastructure is available nor necessary for electronic tickets.

30 2.6 Ticket Data

 Fujimura and Nakajima examined the data encoding requirements for electronic tickets and coupons. They proposed the use of XML to encode the data, and provided a list of ticket

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properties which must be present. This work is orthogonal to the present invention, and the two may be used in combination. See the Background of the Invention section of this specification.

3. A Compatible Hashing Function

5 Neither the efficacy, nor the security, of the present invention is based on the random number selection, nor the hashing function, performed in the computer of the ticket buyer. It will be recalled that the principle reason the hashing ensued was to guard the buyer against an unscrupulous ticket seller who
10 was (digitally) selling the same ticket twice.

However, it is possible to use a particular new scheme for the hashing, which scheme is the subject of the U.S. patent application filed February 9, 1998, for a PROBABILISTIC SIGNATURE SCHEME, assigned to the same assignee as is the present
15 invention.

The object of the invention of that application is to provide new signature schemes that are as simple and efficient as standardized ones. Assuming the underlying hash function is ideal, the inventive methods of the related application are not
20 only provably secure, but provably secure in a strong sense. In one embodiment involving RSA, signing takes one RSA decryption plus some hashing, verification takes one RSA encryption plus some hashing, and the size of the signature is the size of the modulus. The security of the scheme of the invention of the
25 related application in this embodiment is allegedly tightly related to the security of the RSA function itself. The teachings of this other application are also extended to provide schemes for Rabin signatures with analogous properties; in particular, their security can be tightly related to the hardness
30 of factoring.

This particular new scheme for hashing -- which scheme is the subject of said U.S. patent application filed February 9, 1998, for a PROBABILISTIC SIGNATURE SCHEME and assigned to THE REGENTS OF THE UNIVERSITY OF CALIFORNIA -- is suitable for use
35 in the system of the present invention. In particular, it is

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known to hash a message N onto the full domain Z_N^* of the RSA function before decrypting. The signature of M is $f^1(h(M))$, where h is constructed to spread its argument uniformly into Z_N^* . According to the related application, such a known technique is strengthened by making the hashing probabilistic. In order to sign message M , the signer first picks a random seed r of length k_0 where $k_0 < k$ is a parameter of the scheme (recall $k = |\hat{N}|$). Then, using some hashing, in a specific way, the signer produces from M and r an image point $y = \text{Hash}_{\text{PSS}}(r, M) \in Z_N^*$. As usual, the signature is then $x = f^{-1}(y) = y^d \bmod N$. Verification is more difficult, because one cannot simply re-compute a probabilistic hash of M and expect to get the same value. Still, verification takes only one RSA encryption and some hashing.

The scheme of this other application is alleged to be as efficient as known signing schemes based on RSA. Moreover, it is further alleged, as previously stated, that the security of the hashing scheme of the related application is tightly related to the security of the RSA algorithm itself. Thus, for example, if the RSA inversion probability was originally 2^{-61} (using a certain amount of computational resources), then the probability of forgery for the signature scheme is almost equally low (assuming the same computational resources).

According to this other related application, signing with "message recovery" is also provided. This technique reduces the bandwidth required for sending a signed message. In this technique, rather than transmit the message M and its signature x , a single enhanced signature τ , of length less than $|M| + |x|$, is transmitted. The verifier is able to recover M from τ and simultaneously check the authenticity. With security parameter $k = 1024$, the inventive scheme is alleged to enable one to authenticate a message of up to, say, $n = 767$ bits by transmitting only a total of k bits. The signing with message recovery scheme accomplishes this by appropriately folding the message into the signature in such a way that the verifier can recover it. The computational efficiency and security are the same as for the first-described scheme.

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Thus, in one of its aspects this other application concerns a method of signing a data string. The method proceeds stepwise by (a) hashing the data string and a seed value to generate a hash value, (b) encoding into an image point the hash value, the seed value, and a given portion of the data string, and (c) applying a given decryption primitive to the image point to obtain a digital signature of the data string.

In another of its aspects this other application concerns a computer-implemented method of signing and authenticating a data string K having a first portion M_1 and a second portion M_2 , wherein the data string is recoverable from M_1 and M_2 . The method includes steps of (a) hashing the data string and a random seed r to generate a hash value $h(r, M)$, (b) encoding into an image point y the hash value $h(r, M)$, the random seed r , and the second portion M_2 of the data string, (c) applying a decryption primitive to the image point y to obtain a digital signature x of the data string, and (d) associating the digital signature x with the first portion M_1 of the data string.

Thus the RSA-based signing scheme of this other application is alleged to combine essentially optimal efficiency with attractive security properties. In the scheme one preferred signing routine requires one RSA decryption plus some hashing, verifications requires one RSA encryption plus some hashing, and the size of the signature preferably is the size of the modulus. Given an ideal underlying hash function, the scheme is not only provably secure, but has security tightly related to the security of RSA. An alternative embodiment maintains all of the above features and, in addition, provides message recovery. The techniques can be extended to provide schemes for Rabin-based signatures or signatures using other trapdoor functions.

The technique is suitable for use with the present invention. However, the system and method of digital ticketing of the present invention certainly require no such advanced hashing and signing technique. The hashing and signing technique of this other invention, and application, is mentioned primarily as being illustrative that the present invention may fully couple

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the extreme power, and most advanced present frontier, of cryptography. It will be understood by a practitioner of the cryptographic arts that although the present invention may be embodied in but a small printed area on inexpensive paper, the sophistication and the security of the information so presented may be very great. The level of security -- cryptoanalytical security and otherwise -- commonly invoked in real-world usage of the system and method of the present invention is not just that as would suitably protect the value of a single ticket -- perhaps \$100 U.S. circa 2000 -- but rather as would protect the value of all tickets sold to an event -- which might commonly be tens of millions of dollars U.S. for major sporting events.

The contents of this other application are incorporated by reference, and to such extent as access thereto should become required by issuance of any patent on, or any other circumstance of, the present application, then such access is granted by the common assignee of both the present and the other application, the Regents of the University of California.

4. Conclusion

In accordance with the present invention, schemes whereby tickets may be purchased and delivered on the Internet have been taught. The inventors believe that these schemes are practical and strike a good balance between security, consumer acceptability and ease of use. For example, a digital ticket in accordance with the present invention satisfies all the requirements of all the diverse ticket types listed in the prior art Table 1 of Figure 4, which Table 1 is derived from the article "XML Ticket; Generalized Ticket Definition Language" by K. Fujimura, Y. Nakajima and J. Sekine appearing (circa 2000) on the world wide web at <http://www.w3.org/Dsig/signed-XML99/pp/NTT_xml_ticket.html>.

In accordance with the preceding explanation, variations and adaptations of the digital ticket, and digital ticketing, in accordance with the present invention will suggest themselves to a practitioner of the communications system design and/or

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cryptographic system design arts.

For example, additional information both meaningful and extraneous can be attached to the digital ticket by the producer, by the purchaser, and even by the gate keeper. The fact the
5 more, other or different information, both coded and un-coded, comes to appear on the digital ticket should not become a basis for obfuscation of the essential principles of the present invention, as hereinafter claimed.

For example, man different digital signature algorithms,
10 both private and public key, are suitable for use in the digital ticket of the present invention.

Likewise by way of example, it is not essential that the ticket be printed small, or hand contained within a storage media. A digital ticket for travel upon a toll highway might be
15 printed at 8 1/2" x 11" size, and affixed to an automobile window for reading by a laser beam at a non-stop drive-through highway-access toll station. Alternatively, the digital ticket might be loaded into a radio transponder likewise interrogated at attempted entrance of the car onto the toll highway.

Still furthermore, and as has already been explained, the
20 digital ticket can itself be alternatively called electronic money, an electronic ticket, an electronic coupon, a license or a pass without detracting from its essential characteristics.

In accordance with these and other possible variations and
25 adaptations of the present invention, the scope of the invention should be determined in accordance with the following claims, only, and not solely in accordance with that embodiment within which the invention has been taught.

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CLAIMS

What is claimed is:

1. A computerized method by which a ticket provider may deliver a digital ticket 1, 2, 3 to a ticket consumer across a communications channel 5, which digital ticket 1, 2, 3 is subject to subsequent redemption, the digital ticket 1, 2, 3 computerized delivery and redemption method comprising:

first communicating, across a communications channel 5 from a computer of a ticket provider to a computer of a prospective ticket consumer, first digital data D_1 in respect of an occurrence for which tickets may be delivered; and then, the prospective ticket consumer deciding to obtain a digital ticket 1, 2, 3 for the occurrence and thus to become a ticket consumer,

second communicating, across the communications channel from the computer of the ticket consumer to the computer of the ticket provider, second digital data D_2 including indication that a ticket is desired for the occurrence; and then, the ticket request being capable of being fulfilled,

calculating in the computer of the ticket provider by use of a private key s a digital signature of third digital data D_3 , which third digital data D_3 is in respect of one or both of the first digital data D_1 and the second digital data D_2 , which digital signature of the digital data D_3 is, as well being a proof both (i) that a private signature key s was used by the computer of the ticket provider in generation of the digital signature and (ii) that one or both of the digital data D_1 , D_2 was used in respect of its generation, (iii) suitably stored in a transportable storage medium;

wherein the digital data D_1 , D_2 in respect of which the digital signature of digital data D_3 was generated becomes a memorialization of a particular provision by the ticket provider of the particular digital ticket for the particular occurrence to the ticket consumer who is particularly identified at least as a party at the other end of the communicating transpiring across the communications channel;

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third communicating, across the communications channel from the computer of the ticket provider to the computer of the ticket consumer, at least the signed digital data D_3 ;

first storing with the computer of the ticket consumer in the transportable storage medium at least the signed digital data D_3 , thus turning the transportable storage medium into a digital ticket 1, 2, 3;

physically transporting the digital ticket 1, 2, 3 in the form of the transportable storage medium so containing at least the signed digital data D_3 to a specific time and place where the specific occurrence for which the digital ticket 1, 2, 3 has been provided is to transpire;

tendering the digital ticket 1, 2, 3 for redemption to a ticket taker at the specific occurrence;

reading into a computer of the ticket taker at least the signed digital data D_3 ;

recovering in the computer of the ticket taker, with a digital verification key v corresponding to the signature key s of the ticket provider and from the signed digital data D_3 , the digital data D_3 ; and

determining in the computer of the ticket taker IF the digital data D_3 was recoverable by verification key v AND, having been so recovered, the digital data D_3 correctly memorializes the particular provision by the ticket provider of the particular third digital data D_3 for the particular occurrence to the particular ticket consumer who at one time communicated across the communications channel THEN the digital ticket 1, 2, 3 is valid, ELSE IF the digital data D_3 was recovered by use of the verification key v BUT the digital data D_3 recovered incorrectly memorializes the particular provision by the ticket provider of the particular third digital data D_3 for the particular occurrence to the particular ticket consumer who at one time communicated across the communications channel THEN the digital ticket 1, 2, 3 is invalid.

2. The digital ticket computerized delivery and redemption

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method according to claim 1

wherein the second communicating is of second digital data D_2 including a one-way function $\text{hash}(R)$ of a number R which number R is uniquely known to the computer of the ticket consumer and not to the computer of the ticket provider;

wherein the calculating in the computer of the ticket provider is of a digital signature in respect of the third digital data D_3 including the one way function of $\text{hash}(R)$ plus information I concerning the event for which the ticket is had, $\text{Sign}(s, I || \text{hash}(R))$;

wherein the third communicating is of $\text{Sign}(s, I || \text{hash}(R))$;
wherein the first storing is of R appended to $\text{Sign}(s, I || \text{hash}(R))$, or $\text{Sign}(s, I || \text{hash}(R)) || R$, as the digital ticket 1, 2, 3;

wherein the reading into the computer of the ticket taker is of the $\text{Sign}(s, I || \text{hash}(R)) || R$;

wherein the recovering in the computer of the ticket taker of the $I || \text{hash}(R)$ gives $\text{hash}(R)$; and, having both R and $\text{hash}(R)$ to hand,

wherein the determining further proceeds by recalculating the $\text{hash}(R)$ in respect of R , so that IF the recalculated $\text{hash}(R)$ equals to the recovered $\text{hash}(R)$ of the digital ticket 1, 2, 3 as read THEN the digital ticket 1, 2, 3 is valid ELSE IF the $\text{hash}(R)$ does not equal to the recovered $\text{hash}(R)$ of the digital ticket 1, 2, 3 as read THEN the digital ticket 1, 2, 3 is invalid.

3. The digital ticket computerized delivery and redemption method according to claim 2

wherein the determining still further proceeds so that IF the read digital ticket 1, 2, 3 is the first uniquely presented THEN the digital ticket 1, 2, 3 is valid ELSE IF the read digital ticket 1, 2, 3 is not the first uniquely presented THEN the digital ticket 1, 2, 3 is invalid.

4. The digital ticket computerized delivery and redemption method according to claim 2

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wherein the second communicating is of a one-way hash function **hash(R)** of a number **R**;

wherein the calculating in the computer of the ticket provider is of a digital signature in respect of signature key **s** of both the **hash(R)** plus information **I** concerning the event for which the digital ticket 1, 2, 3 is had, **Sign(s,I||hash(R))**;

wherein the third communicating is of **Sign(s,I||hash(R))**;

wherein the first storing is of **R** appended to **Sign(s,I||hash(R))**, or **Sign(s,I||hash(R))||R**, as the digital ticket 1, 2, 3;

wherein the reading into the computer of the ticket taker is of the **Sign(s,I||hash(R))||R**;

wherein the recovering in the computer of the ticket taker of the **I||hash(R)** gives **hash(R)**; and, having both **R** and **hash(R)** to hand,

wherein the determining further proceeds by recalculating the **hash(R)** in respect of **R**, so that IF the recalculated **hash(R)** equals to the recovered **hash(R)** of the digital ticket 1, 2, 3 as read THEN the digital ticket 1, 2, 3 is valid ELSE IF the **hash(R)** does not equal to the recovered **hash(R)** of the digital ticket as read THEN the digital ticket 1, 2, 3 is invalid.

5. The digital ticket computerized delivery and redemption method according to claim 4

wherein the determining still further proceeds so that IF the read digital ticket 1, 2, 3 is the first uniquely presented THEN the digital ticket 1, 2, 3 is valid ELSE IF the read digital ticket 1, 2, 3 is not the first uniquely presented THEN the digital ticket 1, 2, 3 is invalid.

6. The digital ticket computerized delivery and redemption method according to claim 1

wherein the calculating is of digital signature suitably displayed as a 2-D code; and

wherein the first storing with the computer of the ticket consumer is by printing of the 2 -D code 11 upon a printable

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transportable storage medium.

7. The digital ticket computerized delivery and redemption method according to claim 6 wherein the reading into a computer of the ticket taker of the digital signature transpires by use of an optical reader.

8. A computerized method by which a ticket provider may deliver a ticket to a ticket consumer across a communications channel comprising:

first transmitting, across a communications channel 5 from a computer of a ticket provider to a computer of a prospective ticket consumer, data regarding an event for which tickets may be delivered; and then, the prospective ticket consumer deciding to obtain a ticket for a particular selected event and thus to become a ticket consumer;

first calculating in the computer of the ticket consumer a number R; then

second calculating in the computer of the ticket consumer a one-way function of the number R as **hash(R)**;

second transmitting, across the communications channel 5 from the computer of the ticket consumer to the computer of the ticket provider, at least the **hash(R)** as ticket order data; and then, the ticket request being capable of being fulfilled,

third calculating in the computer of the ticket provider in respect of signature key **s** a digital signature of **hash(R)** appended to information **I** regarding the event as **Sign(s,I||hash(R))**, this **Sign(s,I||hash(R))** constituting a digital ticket precursor; then

third transmitting, across the communications channel from the computer of the ticket provider to the computer of the ticket consumer, the digital ticket precursor **Sign(s,I||hash(R))**;

fourth calculating, in the computer of the ticket consumer as an appending of R to the digital ticket precursor **Sign(s,I||hash(R))**, **Sign(s,I||hash(R))||R**, as a digital ticket 1, 2, 3;

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first storing the digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$ from the computer of the ticket consumer to a transportable storage medium.

9. The method according to claim 8 expanded and extended to use of the digital ticket by the ticket consumer at the particular selected event, the method, after the writing, further comprising:

transporting the transportable storage medium within which the digital ticket 1, 2, 3 including $\text{Sign}(s, I || \text{hash}(R)) || R$ is written to the particular selected event;

tendering the digital ticket 1, 2, 3 within the transportable storage medium for verification and for admission to the particular selected event;

reading the $\text{Sign}(s, I || \text{hash}(R)) || R$ of the digital ticket 1, 2, 3 to an event computer;

extracting in the event computer the number R from the read $\text{Sign}(s, I || \text{hash}(R)) || R$;

fifth calculating, by use of a verification key v complimentary to the signature key s , $I || \text{hash}(R)$; plus

sixth calculating in the event computer, with the same one-way function previously used in the second calculating, $\text{hash}(R)$; and then, having both R and sixth-calculated $\text{hash}(R)$ to hand,

comparing the sixth-calculated $\text{hash}(R)$ to the $\text{hash}(R)$ portion of the fifth-calculated $I || \text{hash}(R)$;

wherein IF the fifth-calculating proceeds correctly AND the information I is correct for the event AND the sixth-calculated $\text{hash}(R)$ compares to the fifth-calculated $\text{hash}(R)$ of the digital ticket as read THEN grant admission to a holder of the digital ticket 1, 2, 3 ELSE IF the fifth-calculating proceeds incorrectly OR the information I is incorrect for the event OR the sixth-calculated $\text{hash}(R)$ fails to compares to the fifth-calculated $\text{hash}(R)$ of the digital ticket 1, 2, 3 as read THEN deny admission to the holder of the digital ticket 1, 2, 3.

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10. The method according to claim 9

wherein IF the fifth-calculating proceeds correctly AND the information I is correct for the event AND the sixth-calculated **hash(R)** compares to the fifth-calculated **hash(R)** of the digital ticket 1, 2, 3 as read AND the read digital ticket 1, 2, 3 is the first uniquely presented THEN grant admission to a holder of the digital ticket 1, 2, 3 ELSE IF the fifth-calculating proceeds incorrectly OR the information I is incorrect for the event OR the sixth-calculated **hash(R)** fails to compares to the fifth-calculated **hash(R)** of the digital ticket 1, 2, 3 as read OR the read digital ticket 1, 2, 3 is not the first uniquely presented THEN deny admission to the holder of the digital ticket 1, 2, 3.

11. The method according to claim 9 that, between the extracting and the fifth calculating, further comprises:

second storing R in the event computer as an indication that the digital ticket 1, 2, 3 has been tendered.

12. The method according to claim 8

where the ticket provider is also a ticket seller, the ticket consumer is also a ticket buyer, and the delivery of the ticket to the ticket consumer across the communications channel accompanies a sale of the digital ticket 1, 2, 3;

wherein the second transmitting further includes electronic payment suitable to the order data.

13. The method according to claim 8

wherein the first transmitting, the second transmitting and the third transmitting are upon a communications network 5 that is worldwide.

14. The method according to claim 8

wherein the first transmitting, the second transmitting and the third transmitting are upon a worldwide communications network 5 that is secure by encryption.

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15. The method according to claim 14
wherein the first transmitting, the second transmitting and
the third transmitting are upon the Internet.

16. The method according to claim 15
5 wherein the first transmitting, the second transmitting and
the third transmitting are upon the Secure Socket Layer (or SSL)
of the Internet.

17. The method according to claim 8
10 wherein the first storing is in a transportable medium
subsequently physically deliverable to the site of the particular
selected event to there be tendered as a digital ticket 1, 2, 3
by the ticket consumer.

18. The method according to claim 8
15 wherein the first storing is in the transportable medium of
a printed substrate;
wherein the printed encrypted digital record is subsequently
physically deliverable to the site of the particular selected
event to there be tendered as the digital ticket 1 by the ticket
consumer.

19. The method according to claim 18
20 wherein the first storing in the transportable medium of a
printed substrate is in form of a two-dimensional bar code 11.

20. The method according to claim 19
25 wherein the first storing in the transportable medium of a
printed two-dimensional bar code 11 is in accordance with the
PDF417 standard.

21. The method according to claim 19
30 wherein the first storing in the transportable medium of a
printed two-dimensional bar code 11 is in accordance with the QR
standard.

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22. The method according to claim 8
wherein the first storing in the transportable medium of a
computer disk 2, 3.

5 23. The method according to claim 8
wherein the first storing is in the transportable medium of
a smart card;
wherein the digital record stored within the smart card is
subsequently physically deliverable to the site of the particular
10 selected event to there be tendered as the digital ticket by the
ticket consumer.

24. A system for delivering a digital ticket upon a
communications network comprising:

15 a ticket consumer's computer, connected to the
communications network 5,

for first transmitting ticket order data upon the
communications network to a ticket provider's computer,

20 for first receiving upon the communications network 5
from the ticket provider's computer a digitally signed ticket
data, and

for storing the digitally signed ticket data in a
transportable storage medium;

a ticket provider's computer, connected to the
communications network,

25 for second receiving from the ticket consumer's
computer upon the communications network 5 the first-transmitted
ticket order data,

for digitally signing the ticket data, and

30 for second transmitting the digitally signed ticket
data upon the communications network 5 to the ticket consumer's
computer; and

a communications network

35 for communicating at a first time the
first-transmitting of the ticket consumer's computer to the
second-receiving of the ticket provider's computer, and

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for communicating at a second time the fourth-transmitting of the ticket provider's computer to the first-receiving of the ticket consumer's computer.

25. The system for delivering a digital ticket according to claim 24

wherein the ticket consumer's computer is first calculating a number R , and is second calculating a one way function of R to produce $\text{hash}(R)$ as ticket data,

wherein the first transmitting is of the second-calculated $\text{hash}(R)$ as the ticket data,

wherein the first receiving is of $\text{hash}(R)$ and additional information I digitally signed with signature key s as $\text{Sign}(s, I || \text{hash}(R))$,

is third calculating an appending of R to the digital ticket precursor $\text{Sign}(s, I || \text{hash}(R))$, giving $\text{Sign}(s, I || \text{hash}(R)) || R$ as a digital ticket, and wherein the storing is of the third-calculated digital ticket $\text{Sign}(s, I || \text{hash}(R)) || R$;

wherein the ticket provider's computer is second receiving the first-transmitted $\text{hash}(R)$ ticket order data,

is calculating a digital signature in respect of the ticket data, and additional information I , in respect of signature key s as $\text{Sign}(s, I || \text{hash}(R))$, and

is second transmitting the calculated $\text{Sign}(s, I || \text{hash}(R))$.

26. The system for delivering a digital ticket according to claim 25

wherein the ticket consumer's computer is storing the digital ticket by printing it.

27. The system for delivering a digital ticket according to claim 26

wherein the ticket consumer's computer is storing the digital ticket by printing it in a 2-D machine-readable pattern.

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28. The system for delivering a digital ticket according to claim 27

wherein the ticket consumer's computer is storing the digital ticket by printing it in a 2-D machine-readable bar code pattern.

29. A system for delivering a digital ticket upon a communications network comprising:

a ticket consumer's computer, connected to the communications network 5,

for first calculating a number R ,

for second calculating a one way function of R to produce $\text{hash}(R)$ as ticket data,

for first transmitting the second-calculated $\text{hash}(R)$ ticket data upon the communications network 5 to a ticket provider's computer as a ticket data for a particular selected event,

for first receiving upon the communications network 5 a digitally signed data in respect of signature key s of $\text{hash}(R)$ and additional information I as $\text{Sign}(s, I | \text{hash}(R))$,

for third calculating an appending of R to the digital ticket precursor $\text{Sign}(s, I | \text{hash}(R))$ so as to give $\text{Sign}(s, I | \text{hash}(R)) || R$ as a digital ticket, and

for first storing the third-calculated digital ticket $\text{Sign}(s, I | \text{hash}(R)) || R$ in a transportable storage medium;

a ticket provider's computer, connected to the communications network 5,

for second receiving from the ticket consumer's computer upon the communications network the first-transmitted $\text{hash}(R)$ ticket data,

for fourth calculating digitally signed data in respect of signature key s of second-received $\text{hash}(R)$ and of information I as $\text{Sign}(s, I | \text{hash}(R))$, and

for second transmitting the fourth-calculated $\text{Sign}(s, I | \text{hash}(R))$ upon the communications network 5 to the ticket consumer's computer;

- 66 -

and a communications network 5
for communicating at a first time the
first-transmitting of the ticket consumer's computer to the
second-receiving of the ticket provider's computer, and
5 for communicating at a second time the
fourth-transmitting of the ticket provider's computer to the
first-receiving of the ticket consumer's computer.

30. A digital ticket comprising:

10 a tangible transportable data storage medium containing a
digital signature of an issuer of the ticket.

31. The digital ticket according to claim 30 wherein the
tangible transportable data storage medium contains
 $\text{Sign}(s, I || \text{hash}(R)) || R$ where R is a random number private to the
ticket consumer, $\text{hash}(R)$ is a one-way function of R , and
15 $\text{Sign}(s, I || \text{hash}(R))$ is a digital signature, in respect of
signature key s private to the ticket provider, of the $\text{hash}(R)$
appended to information I .

32. A digital ticket procured by a ticket consumer upon a
communication network from and by interaction with a ticket
20 provider, the digital ticket comprising:

a tangible transportable data storage medium containing
 $\text{Sign}(s, I || \text{hash}(R)) || R$ where R is a random number private to the
ticket consumer, $\text{hash}(R)$ is a number that is a one-way function
of R , and $\text{Sign}(s, I || \text{hash}(R))$ is a digital signature, in respect
25 of signature key s private to the ticket provider, of the $\text{hash}(R)$
appended to information I .

33. A digital ticket procured by a ticket consumer upon a
communication network from and by interaction with a ticket
provider, the digital ticket comprising:

30 a tangible transportable data storage medium containing
 $\text{Sign}(s, I || \text{hash}(R)) || R$ where

(1) R is a number having its origin in a computer of

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the ticket consumer, which number R is appended to

(2) a number $\text{Sign}(s, I || \text{hash}(R))$ that was computed in a computer of the ticket provider as a digitally signature signed data in respect of a signature key s of a number $\text{hash}(R)$ appended to information I , thus $\text{Sign}(s, I || \text{hash}(R))$, and subsequently communicated across the communications network 5 to the computer of the ticket consumer, which number $\text{hash}(R)$ was itself computed in the computer of the ticket provider consumer as a one way function of R , thus $\text{hash}(R)$, and subsequently communicated to the computer of the ticket provider;

wherein number R , having its origin in a computer of the ticket consumer, is private to the ticket consumer and is not public; and

wherein the digital signature key s of the computer of the ticket provider is private to the ticket provider and is not public.

34. A digital ticket comprising:

a tangible transportable digital data storage medium containing

first-type data, originally known both to a buyer and to a seller of a ticket and meaningful to at least the seller of the ticket to identify, at least relatively, a particular event for which the ticket was sold, and

second-type data including a signed digital representation of a particular parameter that was originally computer-generated in sequence

first by the buyer of the ticket as a non-invertible function of a random number called a "first-time-made non-invertible function", and then

second by the seller of the ticket as a digital signature of the first-time-made non-invertible function, and then

third by the buyer of the ticket to attach the selfsame random number;

wherein, to validate the digital ticket upon attempted

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redemption of the ticket,

the random number is detached, and then

the signed first-time-made non-invertible function is
interpreted, recovering this first-time-made non-invertible
function, and then

the non-invertible function of that selfsame random
number just detached is newly made all over again, which newly
made non-invertible function is called the "second-time-made
non-invertible function;

wherein the second-time-made non-invertible function EITHER
equals the first-time-made non-invertible function IN WHICH CASE
the ticket is not invalid OR ELSE the second-time-made
non-invertible function does not equal the first-time-made
non-invertible functional thus making the digital ticket is
invalid for at least the particular event.

35. The digital ticket according to claim 34 wherein the digital
signature within the tangible medium as read by a digital reader
is further compared to a data base of digital tickets actually
signed and sold not so as to determine whether a tendered digital
ticket is valid or invalid but rather for statistical purposes.

36. The digital ticket according to claim 34 wherein the digital
signature within the tangible medium is visible to the eye.

37. The digital ticket according to claim 34

wherein the digital signature visible to the eye is
comparable by eye to a catalog of visual sensible representations
of digital tickets actually signed and sold in order to determine
whether a tendered digital ticket is valid or invalid.

38. A system for delivering a digital ticket from a ticket
seller to a ticket buyer, the system comprising:

a communication channel for

at a first time sending from a ticket seller to a
ticket buyer data regarding events for which tickets may be had,

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at a second time sending from the ticket buyer to the ticket seller data representative of a non-invertible transformation of a number determined by the ticket buyer only, and

5 at a third time sending from the ticket seller to the ticket buyer a digital signature of the non-invertible transformation,

wherein the received digital signature of the non-invertible transformation is combined with the number to
10 produce a digital ticket;

a ticket buyer's computer, communicatively connected to the communications channel, for (i) determining the number, (ii) computing the non-invertible transformation, and (iii) combining the non-invertible transformation with the number to produce a
15 digital ticket;

a ticket seller's computer, communicatively connected to the communications channel, for computing, in respect of the non-invertible transformation received from the buyer, the digital signature of the non-invertible transformation; and

20 a tangible portable medium of digital data storage connected to the buyer's computer for storing the digital ticket, and for transporting this digital ticket to a physical site of the particular selected event, where it may be used for admission.

39. The system according to claim 38 wherein the communication
25 channel is sending at the second time a random number.

40. The system according to claim 38 wherein the communication channel is sending at the second time a number representing the particular selected event.

41. The system according to claim 38 wherein the communication
30 channel comprises:

a worldwide digital communications network.

42. The system according to claim 38 wherein the communication

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channel comprises: a worldwide secure digital communications network.

43. The system according to claim 38 wherein the tangible portable medium of digital data storage comprises:

5 a computer disk.

44. The system according to claim 38 wherein the tangible portable medium of digital data storage comprises:

a printed medium.

45. A printed ticket bearing indicia CHARACTERIZED IN THAT the
10 indicia includes a 2-D bar code containing absolutely all necessary information by which the legitimacy, if not the uniqueness, of the ticket may be determined.

46. The printed ticket bearing indicia according to claim 45
15 FURTHER CHARACTERIZED IN THAT the 2-D bar coded indicia contains data digitally signed by the provider of the ticket.

47. The printed ticket bearing indicia according to claim 45
FURTHER CHARACTERIZED IN THAT the 2-D bar coded indicia contains a one-way function of a number provided by a holder of the ticket.

20 48. The printed ticket bearing indicia according to claim 45 FURTHER CHARACTERIZED IN THAT the 2-D bar coded indicia contains $\text{Sign}(s, I || \text{hash}(R)) || R$ where

(1) R is a number having its origin in a computer of a consumer of the ticket, which number R is appended to

25 (2) a number $\text{Sign}(s, I || \text{hash}(R))$ that was computed in a computer of a provider of the ticket as a digital signature in respect of digital signature key s of the number $\text{hash}(R)$ in combination with information I ,

30 subsequently communicated across the communications network to the computer of the ticket consumer, which number

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hash(R) was itself

computed in the computer of the ticket provider as a one way function of R and subsequently communicated to the computer of the ticket provider;

5 wherein number R, having its origin in a computer of the ticket consumer, is private to the ticket consumer and is not public; and

10 wherein the digital signature key s of the computer of the ticket provider is private to the ticket provider and is not public.

49. A communications system for selling and delivering a digital ticket comprising:

15 a ticket buyer computer (i) sending at a first time a one-way transformation of a private number to a seller computer, (ii) receiving at a third time signed information from the ticket seller computer, and (iii) storing at a fourth time within a digital store the received encrypted signed information plus the private number;

20 a ticket seller computer (i) receiving at the first time the one-way transformation of the private number from the seller computer, (ii) signing at a second time this one-way transformation and additional information, and (iii) sending at the third time the signed first transformation and additional information to the ticket buyer computer as signed information;

25 and

a digital store storing at the fourth time the signed information plus the private number as a digital ticket;

30 wherein upon (i) a reading of the signed information, (ii) a decrypting of the signed information to recover the one-way transformation of the private number, (iii) a reproducing with the same secure first transformation that the ticket seller used the secure first transformation of the number all over again, and (iv) a comparing of the decrypted recovered one-way transformation to the reproduced first transformation, validity

35 of the digital ticket is assessable.

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50. A method for selling and delivering a digital ticket comprising:

first-sending at a first time a one-way transformation of a private number from a ticket buyer computer to a ticket seller computer; first-receiving at the first time the one-way transformation of the private number in the ticket seller computer; signing at a second time the one-way transformation and additional information in the ticket seller computer;

second-sending at a third time the signed first transformation and additional information as signed information from the ticket seller computer to the ticket buyer computer;

second-receiving at the third time the signed information in the ticket buyer computer;

storing with the ticket buyer computer at a fourth time both (i) the received signed information plus (ii) the private number within a digital memory store;

storing within the digital memory store at the fourth time the signed information plus the private number as a digital ticket;

wherein upon (i) a reading of the signed information, (ii) a decrypting of the signed information to recover the one-way transformation of the private number, (iii) a reproducing, with the same secure first transformation that the ticket seller used, the secure first transformation of the number all over again, and (iii) a comparing of the decrypted recovered one-way transformation to the reproduced first transformation, validity of the digital ticket is assessable.

51. In a communications system having a computer of a ticket buyer bi-directionally communicating across an insecure digital communications network to the secure computer of a ticket seller, a method for selling and for delivering a digital ticket from a ticket seller to a ticket buyer, the method comprising:

at a first time first-sending from the computer of the ticket seller across the communications network to the computer

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of the ticket buyer first data regarding events for which tickets may be had; then at a second time

second-sending from the computer of the ticket buyer across the communications network to the computer of the ticket seller
5 second data identifying an event for which a ticket is desired, the second data accompanied by a secure first transformation of a number that is determined by the ticket buyer only and unknown to others including the ticket seller; then at a third time

10 third-sending from the computer of the ticket seller across the communications network to the computer of the ticket buyer third data confirming ticketing to the event for which the ticket was desired, the third data accompanied by a secure second transformation of the secure first transformation; and then

15 storing, with the computer of the ticket buyer within a tangible portable medium of digital data storage, (i) the number in accompaniment to (ii) the secure second transformation;

20 wherein upon (i) transportation of the digital data storage medium to a physical site of the event, (ii) reading of the number to a computer, and, by use of the same secure first transformation that the buyer did use, reproduction of the secure first transformation of the number all over again, plus (iii) reversing of the secure second transformation by an event computer privileged to knowledge of said second transformation, then a (ii) read and reproduced first transformation is
25 comparable to a (iii) first transformation recovered from reversing the second transformation in order to assess validity of the digital ticket.

52. The method according to claim 51 wherein the second-sending is of the second data accompanied by a secure first
30 transformation in the form of a one-way hash function of the number.

53. The method according to claim 51 wherein the third-sending is of the second data accompanied by a secure transformation in the form of a digital signature of the secure first

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transformation.

54. The method according to claim 51 wherein the storing within a tangible portable medium of digital data storage comprises: printing.

- 5 55. The method according to claim 51 wherein the printing is of at least the (ii) secure second transformation in the form of a two-dimensional bar code.

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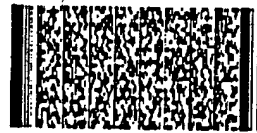
Ticket: ABC Park

1000 Harbor Island Dr., San Diego, CA

Valid : May 5, 1999

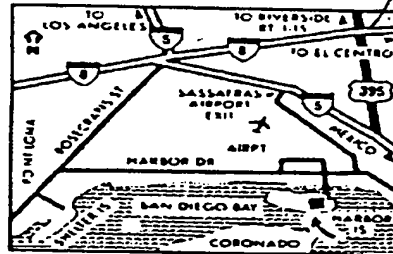
Admit: One adult

Serial #: 123XYZ456



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TERMS AND CONDITIONS OF USE



PLEASE READ THESE TERMS AND CONDITIONS OF USE CAREFULLY BEFORE USING THIS TICKET
By using this ticket, you signify your assent to these terms of use. If you do not agree to these terms of use, please do not use the ticket. We reserve the right, at our discretion, to change, modify, add, or remove portions of these terms at any time. Please check these terms periodically for changes.

Fig. 1

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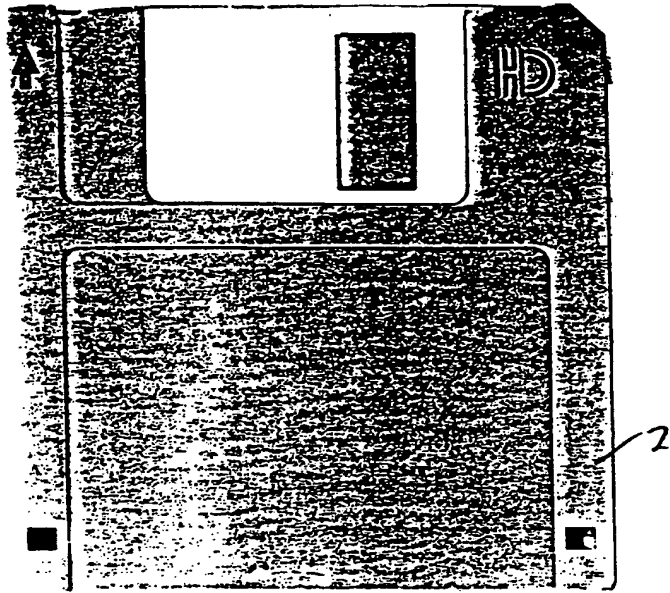


Figure 2

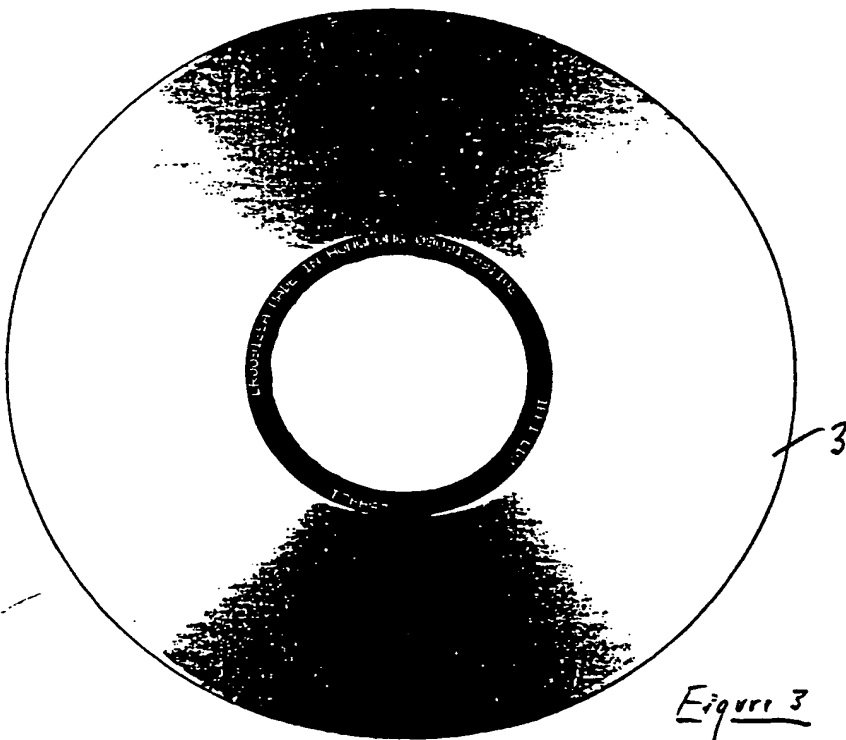


Figure 3

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TABLE I - PROPERTIES OF EXEMPLARY SPECIFIC TICKET TYPES

<u>Ticket Type</u>	<u>Anonymity</u>	<u>Transferability</u>	<u>Redemption Method</u> <u>Consume</u>	<u>Supported</u> <u>Present</u>
Event Ticket	Yes	Yes	Only once	Yes
Plane Ticket	No	No	Only once	Yes
Lottery Ticket	Yes	No	Only once	-
Car Wash Ticket	Yes	Yes	Only once	-
Telephone Card	Yes	Yes	at times	-
Digital Cash	Yes	Yes	to specified value	-
Software License	No	Yes	-	Yes
Transportation Pass	Yes	No	-	Yes
Gate Card	No	No	-	Yes
Driver's License	No	No	-	Yes

PRIOR ART

Figure 4

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Protocol for delivering a ticket

FIG. 5

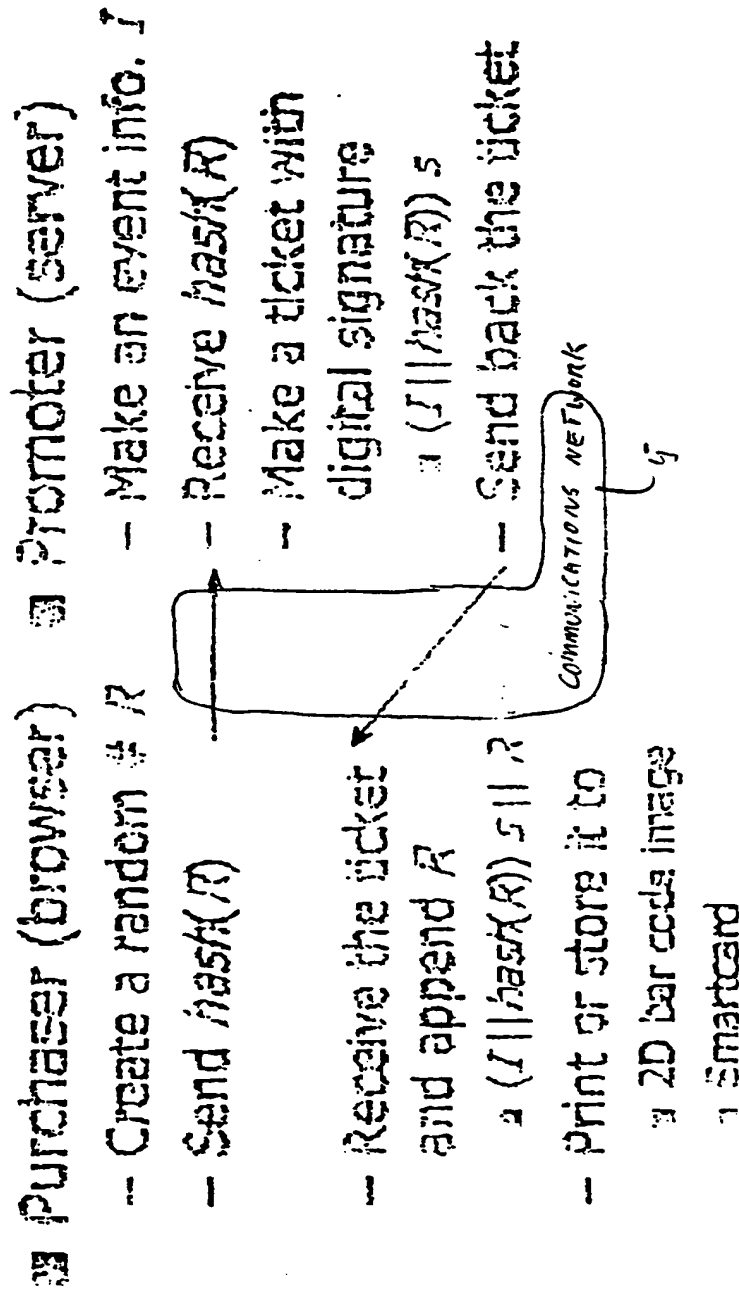


Fig. 5

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Protocol for verifying a ticket

- Exam. machine
 - Scan a ticket
 - $(I || \text{hash}(R)) \leq R$
 - Verify following
 - Digital signature
 - Event accordance
 - $\text{hash}(R) = R$
 - Check duplication
 - Update exam. log
 - Open the gate
- Log management
 - Append a record
 - $I, \text{hash}(R), R$
 - Making redemption evidence
 - Hashing of the log file
 - Putting time stamp
 - or Printing the log

Fig. 6

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INTERNATIONAL SEARCH REPORT

 International application No.
PCT/US00/14915

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : H04L 9/00 US CL : 713/176, 181; 705/67, 76, 14; According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 713/176, 178, 179, 181; 705/1, 5, 14, 67, 76, 79; Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) STN search terms: (electron? or digit?) in proximity to ((notar?) or ((contact?) in proximity to (sign?))) ; ticket, coupon, timestamp				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
Y	US 5,855,007 A (JOVICIC et al.) 29 December 1998, see entire document	1-55		
Y	US RE 34,954 A (HABER et al.) 30 May 1995 - entire document, see abstract	1-55		
Y	US 5,136,646 A (HABER et al.) 04 August 1992 - Abstract and entire document	1-55		
A	EP 0 917 119 A2 (PALTHENGE et al.) 19 May 1999 - See Figure 9 and column 16	1-55		
Y	US 5,673,320 A (RAY et al.) 30 September 1997 - entire document, see Abstract	1-55		
☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.				
<table border="0"> <tr> <td> * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed </td> <td> "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "Z" document member of the same patent family </td> </tr> </table>			* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "Z" document member of the same patent family
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "Z" document member of the same patent family			
Date of the actual completion of the international search 18 AUGUST 2000		Date of mailing of the international search report 18 SEP 2000		
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230		Authorized officer PINCHUS M. LAUFER Telephone No. (703) 306-4160		

Form PCT/ISA/210 (second sheet) (July 1998)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/14915

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,774,554 A (GILHAM) 30 June 1998 - entire document	29-37, 45-48 ----- 1-28, 38-44, 49-55

Form PCT/ISA/210 (continuation of second sheet) (July 1998)*



- 1 -

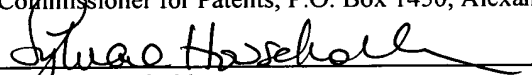
Attorney Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Not yet assigned
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 5th day of October, 2005.


Sylvia Householder

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits, please amend the above-identified application as follows. Changes to the Specification are shown by strike through (for deleted matter) and underlining (for added matter).

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Drawings begin on page 9 of this paper and include both attached Replacement Sheets and Annotated Sheets showing changes.

Remarks begin on page 10 of this paper.

Amendments to the Specification

Please replace the paragraph beginning at page 27, line 12 with the following:

After a promotion has been selected for processing, the reward terminal may check to see if any frequency (step ~~212~~ 214) or quantity (step ~~214~~ 216) restrictions exist for that promotion. It is to be appreciated that although the flow diagram illustrated in FIG. 7 check frequency constraints first and then quantity constraints, the method is not so limited and the steps may be performed in any order configured by the system manager. If the selected promotion has a frequency constraint, then the terminal may apply a frequency constraint test (step 216).

Please replace the paragraph beginning at page 27, line 19 with the following:

According to one embodiment, a frequency constraint test may be conducted as follows. The reward terminal may read the date from the card and check to see whether it matches the current date (step 212). If the current date does not match the date on the card, then the frequency list on the card is old and the card passes the frequency constraint and the reward terminal may continue processing at step ~~214~~ 216. If the current date does match the date on the card then the frequency list on the card is valid and may be examined to determine if the promotion passes. In one example, the reward terminal may scan the frequency list (step 213) on the card looking for the promotion code of the selected promotion. If no promotion code is found, then the card passes the frequency constraint and the reward terminal may continue processing at step ~~214~~ 216. If the promotion code is found, then the reward terminal may examine a frequency counter (step 218) on the card in the frequency list that includes the promotion code. If the frequency counter is less than the frequency constraint, then the promotion passes and the reward terminal may continue processing at step ~~214~~ 216. If the card's frequency counter is equal to the frequency count, then the promotion has been used and the reward terminal may display a message to tell the operator that the reward has already been used for the day (step 220) and processing is terminated. In one example, the reward terminal may store the promotion code and frequency counter in its memory for later update of the card state, as is discussed in more detail below. As one of ordinary skill would appreciate based on the disclosure provided herein, any number of possible frequency constraints maybe imposed for a

772233.1

particular promotion and the mechanisms for storing and tracking frequency constraints using the memory of a card device may be varied. As just one example, a frequency constraint may be depend on more than one variable, such as allowing a larger number of uses (or unlimited use) on weekdays, and lower frequency on weekends.

Please replace the paragraph beginning at page 28, line 12 with the following:

Returning to this example, once the reward terminal has processed any frequency constraints, the reward terminal may check to see if the selected promotion has a quantity constraint (step ~~214~~ 216). If the promotion does not have a quantity constraint, then the reward terminal may proceeds to step 224 to update the card state in the card memory, as is discussed in more detail below. If the promotion does have a quantity restriction, the reward terminal may scan the quantity list on the card looking for the promotion code of the selected promotion. If no promotion code is found, then the card passes the quantity constraint and the reward terminal may proceed to step 224. If the promotion code is found, then the reward terminal may examine a quantity counter (step 228) for the entry in the quantity list that contains the promotion code. If the card's quantity counter for that promotion is less than the quantity constraint, then the promotion passes and the reward terminal may proceed to step 224. If the card's quantity counter for that promotion is equal to the quantity count, then the promotion has been used and the reward terminal may display a message to tell the operator that the reward has already been used and processing is terminated (step 230). In one example, the reward terminal may store the promotion code and quantity count in its memory for later update of the card state, as is discussed in more detail below. As for frequency counters, the quantity counter tests may be formed from as logical tests, such as permitting any use after the first one only a weekday or a weekend day after 4pm.

Please replace the paragraph beginning at page 30, line 13 with the following:

As discussed above, the card may store a frequency list which may be a list of frequency promotions that have been used by the card-visitor during the current day. According to one example, the frequency list may contain number pairs. The first number of a pair may indicates

the number of times the promotion has been used (i.e., may correspond to the promotion counter). The second number of the pair may be used to indicate the promotion code. When a reward terminal checks to see if a frequency promotion is available, it may scan this list for the applicable promotion code (step ~~216~~ 213). It may then ~~compares~~ compare the number of times the promotion has been used with the promotion limits (step 218). If no more rewards are available, the reward terminal displays the “no more rewards” message (step 220). If more rewards are available, then the reward terminal may increment the promotion counter (step 224) and display the reward message (step 234).

Please replace the paragraph beginning at page 33, line 14 with the following:

According to one embodiment, reward terminals 120 and the enabler 140 may communicate with the gateway via phone lines or direct serial links, as indicated by lines 202 in FIG. 2. It is to be appreciated that although the following discussion may refer primarily to communication between reward terminals and the gateway, the same principles may apply to communication between an enabler and the gateway. Reward terminals 120 may log into the gateway computer 200 using a remote login, for example, a Unix style remote login. Once connected and recognized by the gateway computer ~~140~~ 200, the reward terminals 120 may invoke a gateway program to perform the communication protocol. In one example, the protocol allows for the reward terminal 120 to send its stored records to the gateway 200.

Please replace the paragraph beginning at page 33, line 24 with the following:

As discussed above, during enabling of a new card, the enabler stores in its memory a record containing the card properties and the card serial number (step 154, FIG. 4). According to one embodiment, these stored records may be uploaded 202 to the gateway ~~202~~ 200 and then stored in the central database 126. In one example, each day, the card enable records may be batched up and sent to the gateway 200. Similarly, when an activated card is swiped in a reward terminal, a record containing the card serial number and promotion code used is stored in the reward terminal's memory. Each day, the transaction records may be batched up and sent to the gateway 200.

Please replace the paragraph beginning at page 34, line 16 with the following:

To begin a batch upload, an operator may initiate communication between the terminal and the gateway, or the terminal may initiate communication on its own at a preprogrammed time. In one example, the terminal may communicate with the gateway over a phone line. In this example, the terminal may initialize a modem and dial a phone number of the gateway (step ~~204~~ 304). If the gateway does not respond, the terminal may terminate the process and display an error (step ~~206~~ 306). Once the gateway has been reached, the terminal may log into the gateway by giving it a username and a password, for example, using Unix rlogin (step ~~208~~ 308). If the gateway does not recognize the terminal, then communication may be terminated and the terminal may display an error (step ~~206~~ 306). When the terminal has connected to the gateway and logged in, the terminal may invoke the gateway program (step ~~210~~ 310) to handle the communication protocol, as discussed above. If the gateway does not start the program, then the communication is terminated and the terminal may display an error (step ~~206~~ 306).

Please replace the paragraph beginning at page 34, line 29 with the following:

In a next step, the terminal may send its stored records to the gateway (step ~~212~~ 312). In one example, each byte of a record may be compared with an echoed character and each record may be validated, e.g., by checksum. If a record transfer does not succeed, then communication is terminated and the terminal may display an error (step ~~206~~ 306). If the record transfer is successful, the gateway may write the records to its memory (step ~~214~~ 314) or an attached storage device. For example, the gateway may write the received records in an ASCII file which may be called a terminal data file and include a serial number of the terminal as its name with the extension “.in” to indicate that it is an incoming record file.

Please replace the paragraph beginning at page 35, line 6 with the following:

In a next step ~~216~~ 316, the gateway may send a record containing the current time and date to the terminal. This record may also be validated with checksum and further security or validation mechanisms may also be included. If the record transfer does not succeed, then

communication is terminated and the terminal may display an error (step ~~206~~ 306). Once the terminal has received the date and time from the gateway, it may update its internal records by setting its time and date to the information received from the gateway. In this manner, all terminals may be controlled to maintain the same system time that is regularly received from the central gateway. This may eliminate the potential of time drift among the different reward terminals which could potentially cause problems with properly validating cards at the reward terminals.

Please replace the paragraph beginning at page 35, line 16 with the following:

In one embodiment, the gateway may also send a stored configuration to the terminal (step ~~218~~ 318). The configuration may be stored in, for example, an ASCII file that includes the terminal serial number as its name with the extension '.out' to indicate that it is an outgoing configuration file. As discussed above, each byte may be compared with an echoed character and each record may be validated with checksum. If a record transfer does not succeed, then communication is terminated and the terminal may display an error (step ~~206~~ 306). The configuration file sent to each terminal may include, for example, updated product definitions that may add or subtract promotions from products. As discussed above, by implementing the product system wherein product definitions are stored on the reward terminals, the system manager is able to modify products by reconfiguring the product definitions at the reward terminals without needing access to the cards. Once the terminal has received the configuration file, the terminal may delete its old configurations and configure itself to the information downloaded from the gateway (step ~~220~~ 320). The terminal may then clear its memory of all records that have now been sent to the gateway and is ready to store new records.

Please replace the paragraph beginning at page 36, line 18 with the following:

Referring again to FIG. 2, the gateway computer ~~140~~ 200 may upload ~~222~~ and download ~~224~~ information to and from the database 126. According to one embodiment, the gateway may run an upload program once a day (or once every predetermined time period which may be longer or shorter than one day) to store any records uploaded from the enabler 140 and the

reward terminals 120 in the database 126. The upload program may be, for example, a C program that reads the record files sent by the terminals and stores the information in the database via SQL. However, it is to be appreciated that the upload program may be written in a language other than C and may use a different process to transfer data between the database and the gateway than is described herein. One example of a procedure for uploading a terminal data file from the gateway to the database is given below. However, one of skill in the art will recognize that there are many different methods for transferring data between computers and storage devices and the system is not limited to the example given below. In addition, as discussed above, the database and the gateway may reside on the same computer base and ordinary methods known in the art may be used to access and store data in the database.

Please replace the paragraph beginning at page 37, line 1 with the following:

Referring to FIG. 10, there is illustrated in flow diagram form one example of a procedure for uploading information from the gateway computer ~~140~~ 200 to the database 126. In a first step ~~230~~ 231, the upload program may open the terminal data file to obtain data from the terminal file. A terminal file may be a record file received by the gateway from either a reward terminal or the enabler. Next, the upload program may read the terminal report timestamp record and store that time (step ~~232~~ 233) in a report log table of the database, which is described in more detail below. This table may contain the report history of a terminal. In one example, the upload program may read a terminal record (step ~~234~~ 236). If that terminal record is a card enable record (received initially from the enabler), then the upload program may read the timestamp, serial number, period, type and product code of the card enable record (step ~~236~~ 238). The upload program may then locate the card in the database card table that has that serial number and update its properties to reflect the properties of the card as specified by the card enable record (step 240). If the card cannot be found, an error may be displayed and the process terminated. If the card is found, the state of the card may be updated in the database to reflect that the card is now enabled (step 242).

Please replace the paragraph beginning at page 40, line 18 with the following:

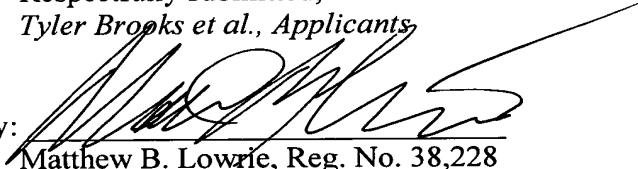
Referring again to FIG. 2, the system may include a central user interface 250. Via the user interface 250, a system manager controller may access the system network and run programs on the gateway or store or retrieve data from the database 126. It is to be appreciated that although the gateway ~~140~~ 200, the database 126 and the user interface 250 are illustrated in FIG. 2 as separate units, they may all be combined on a single (or distributed) central computer.

REMARKS

In this Preliminary Amendment, Applicant has amended the specification to address minor typographical errors noted during the preparation of formal drawings. No new matter has been added.

Favorable action is respectfully requested. If any questions arise regarding this application, the Examiner is respectfully requested to call the Applicant's attorney at the telephone number listed below.

Respectfully submitted,
Tyler Brooks et al., Applicants

By: 

Matthew B. Lowrie, Reg. No. 38,228
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park, One Main Street
Cambridge, MA 02142
Telephone: 617-395-7000
Facsimile: 617-395-7070

Dated: October 5, 2005

Amendments to the Drawings

Please replace Figs. 1-11, contained in drawing sheet(s) 1-9, with the attached Replacement Figures 1-11. Annotated sheets showing the changes in red for Figures 7, 9, 10 and 11 are attached. Entry and approval of the Replacement Drawings is respectfully requested.

BEST AVAILABLE COPY

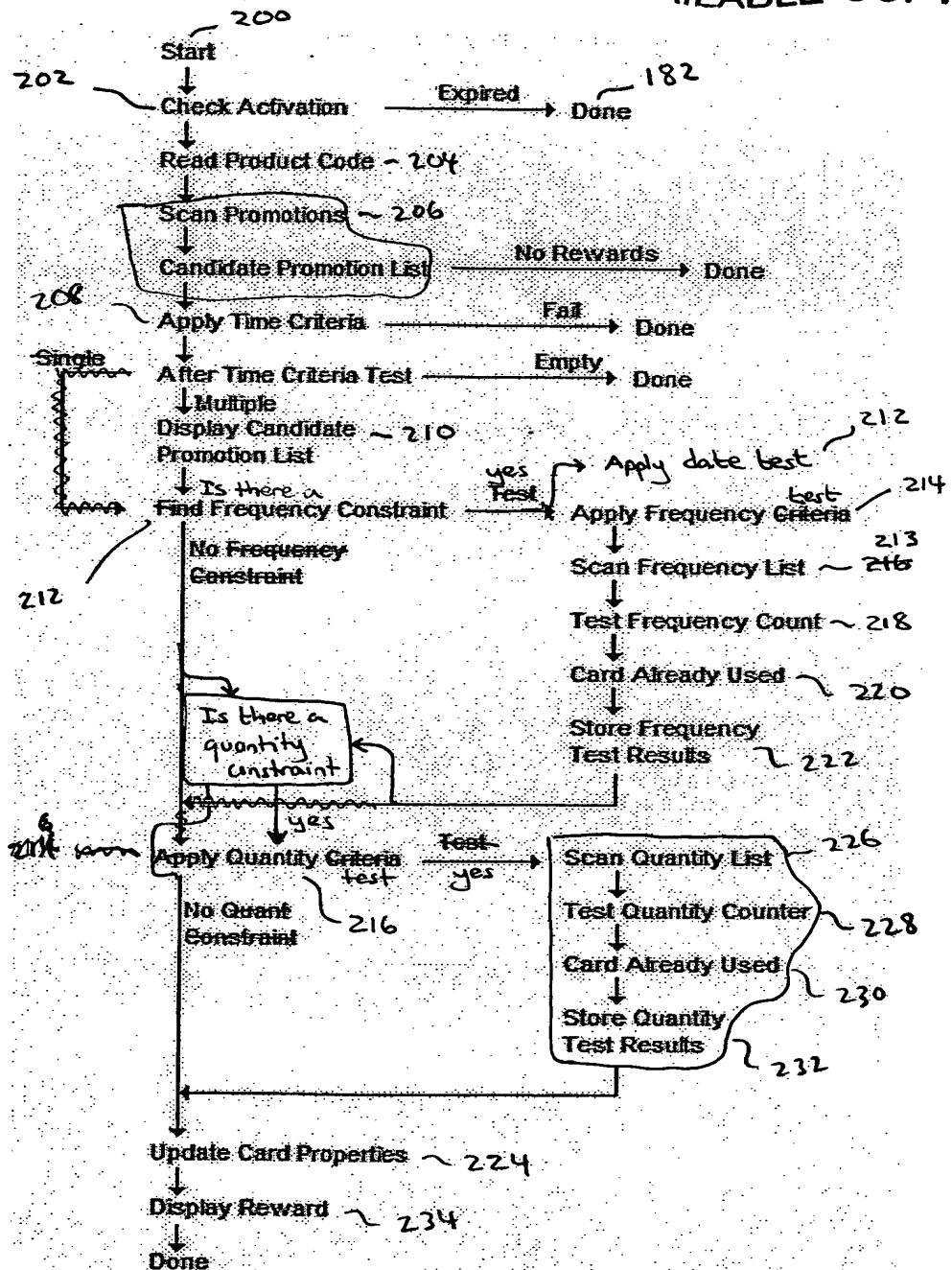


FIG. 7

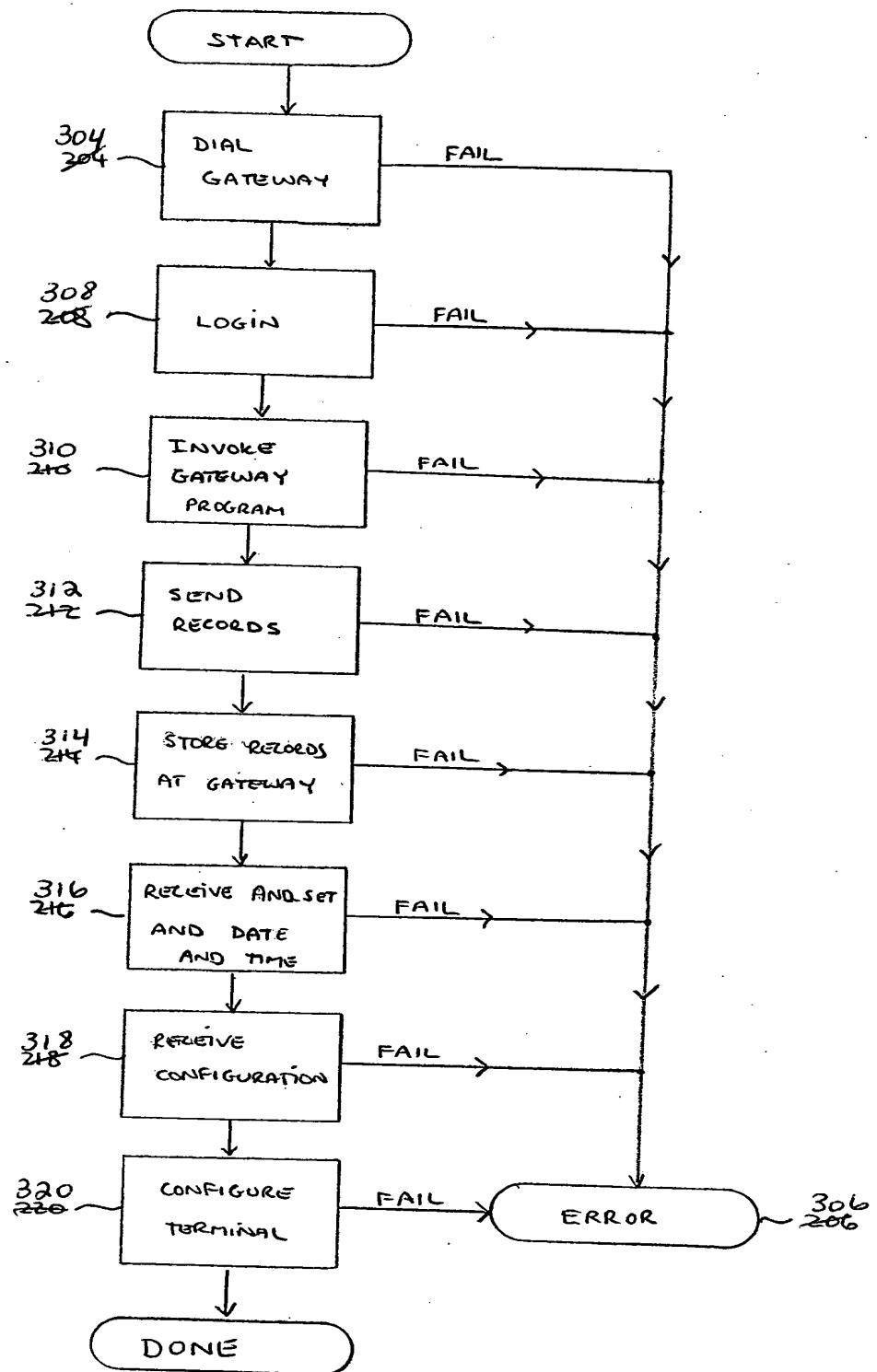


FIG. 9

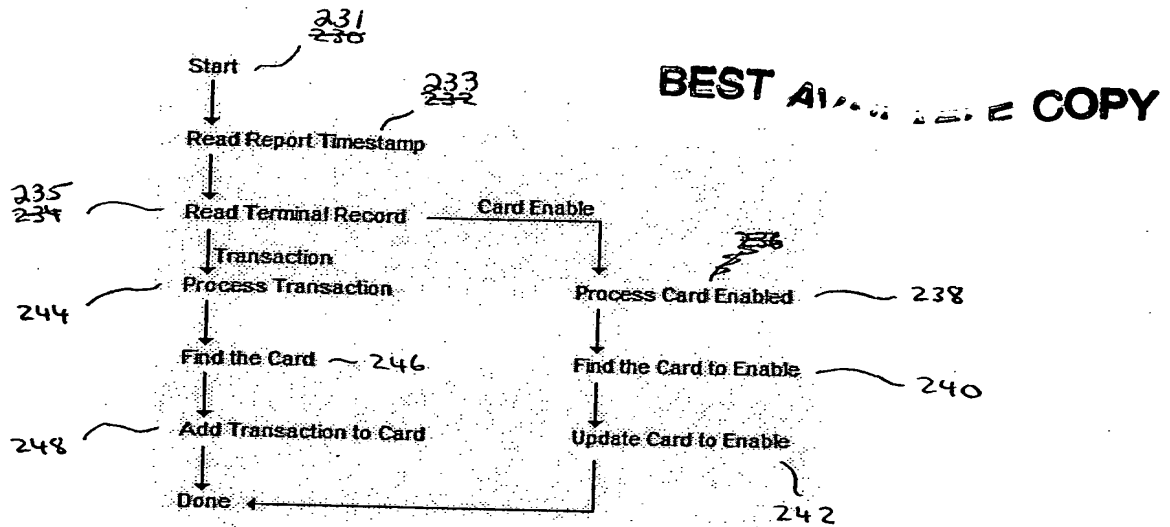


FIG. 10

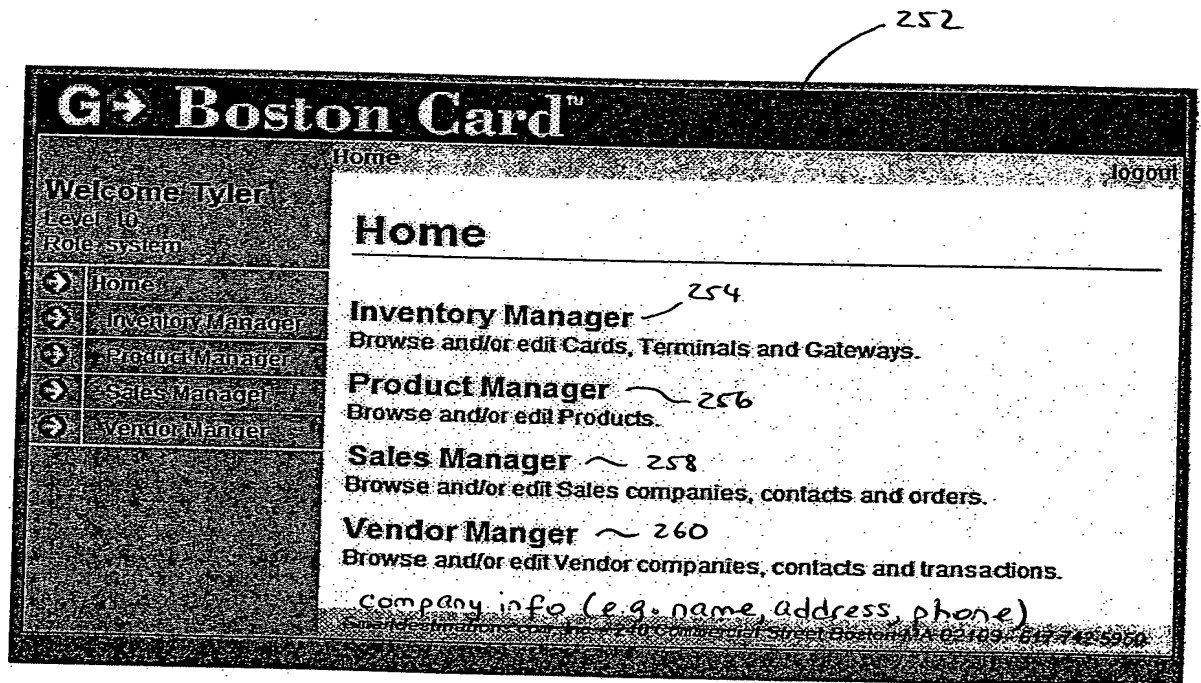


FIG. 11



1/9

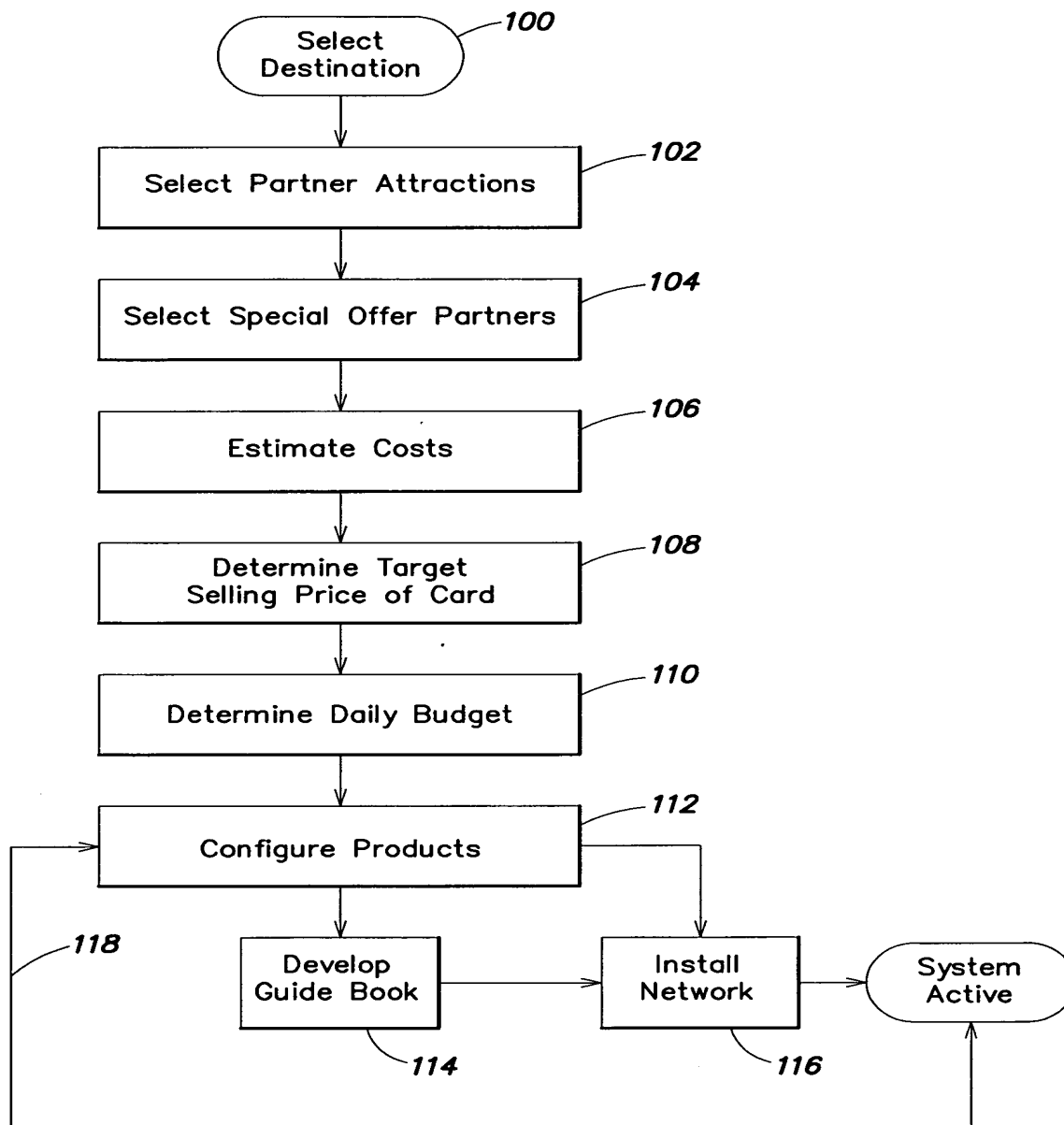


FIG. 1

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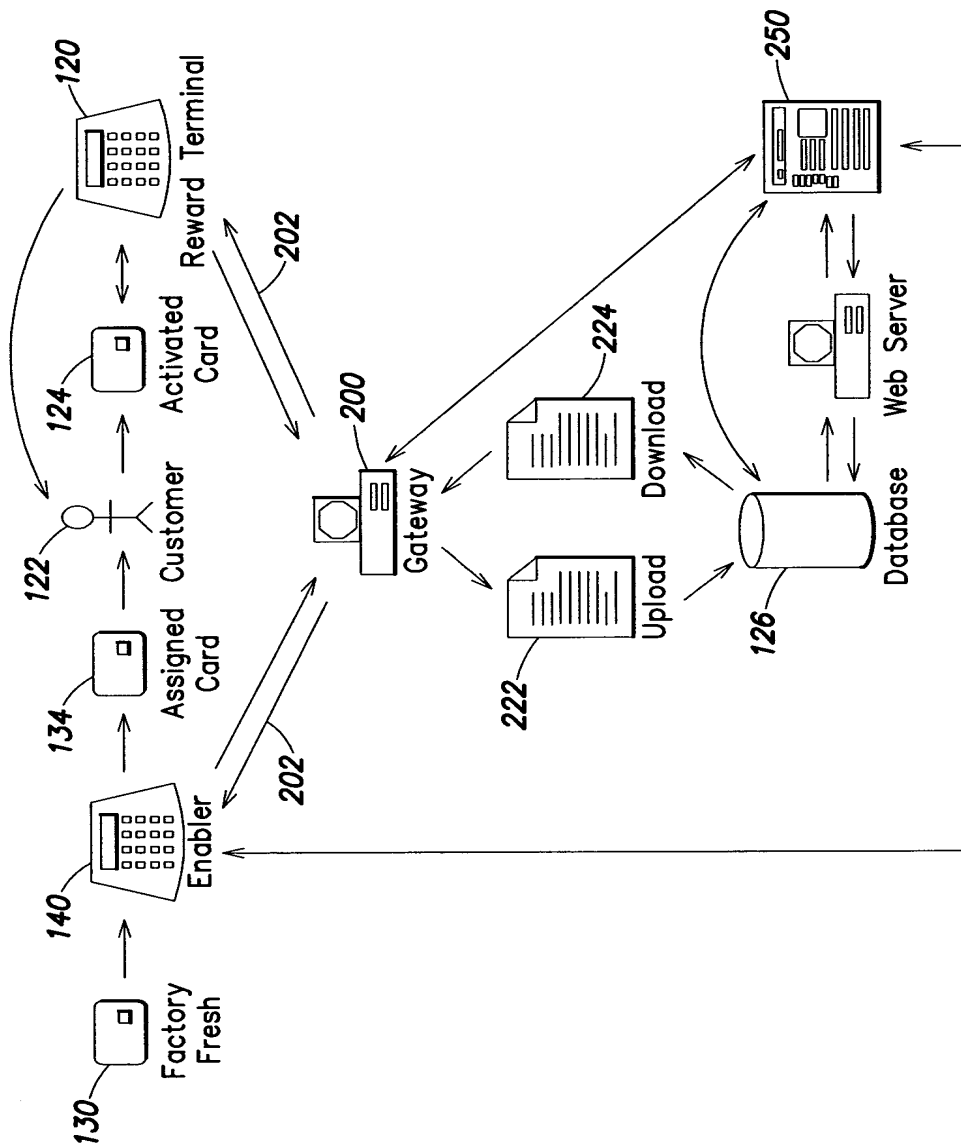


FIG. 2

3/9

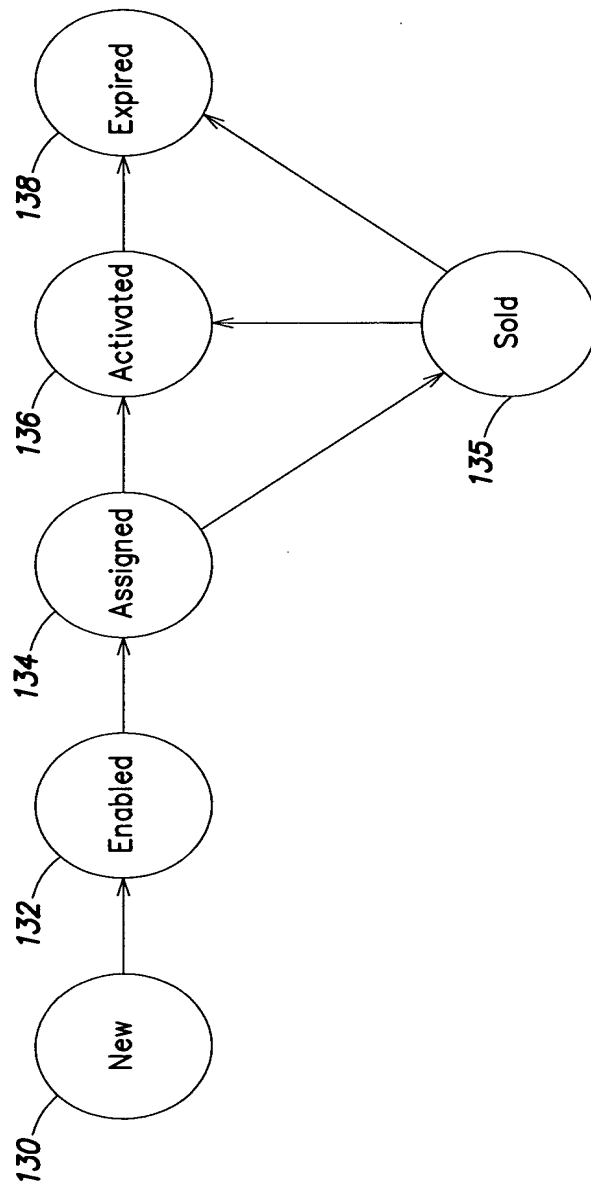


FIG. 3

4/9

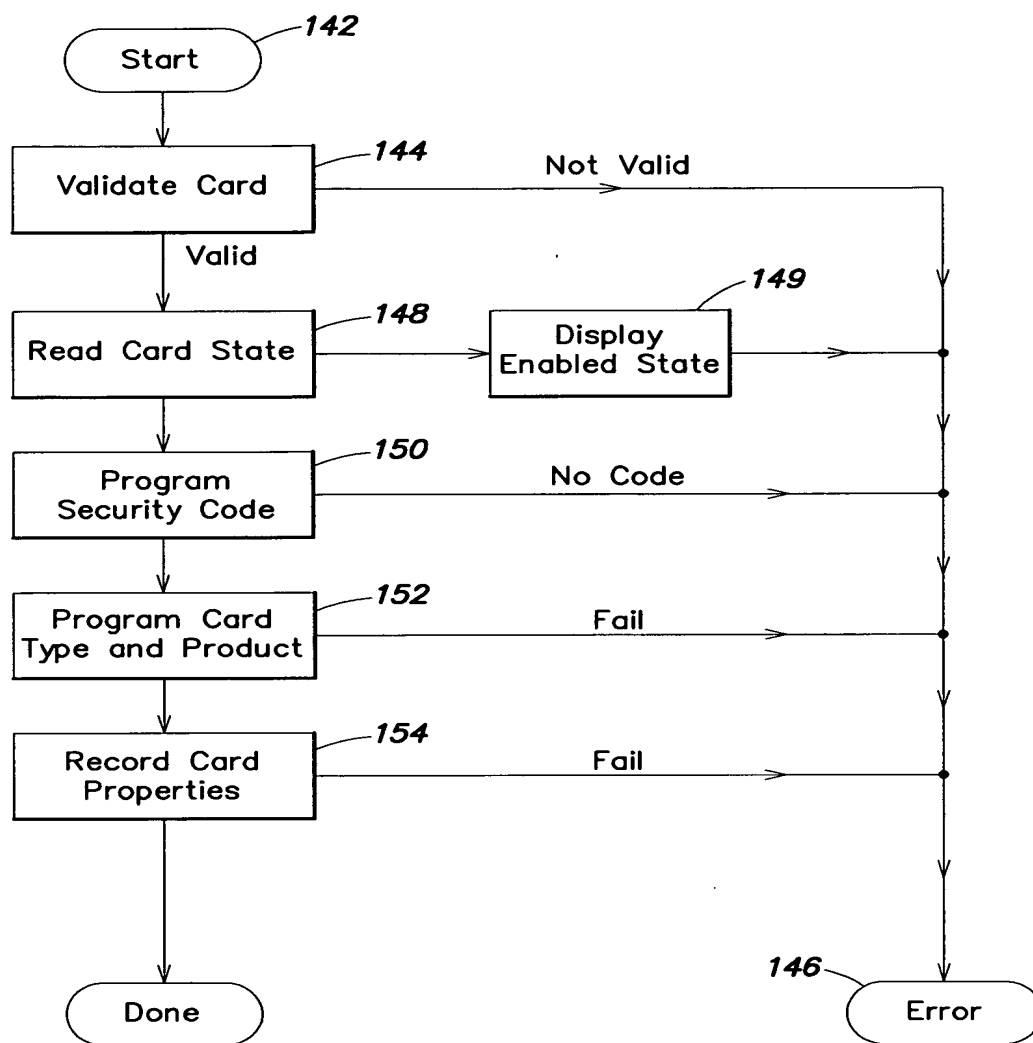


FIG. 4

5/9

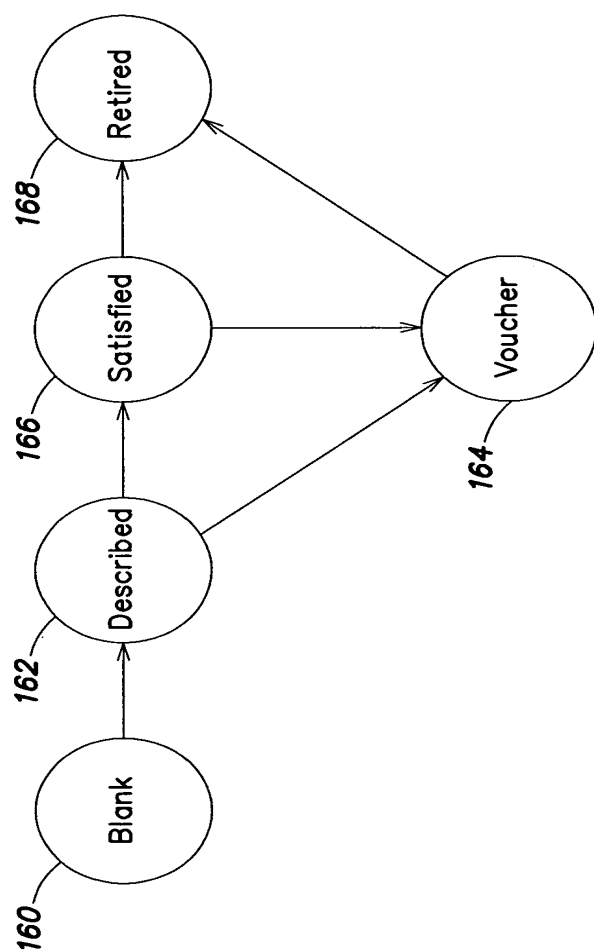


FIG. 5

6/9

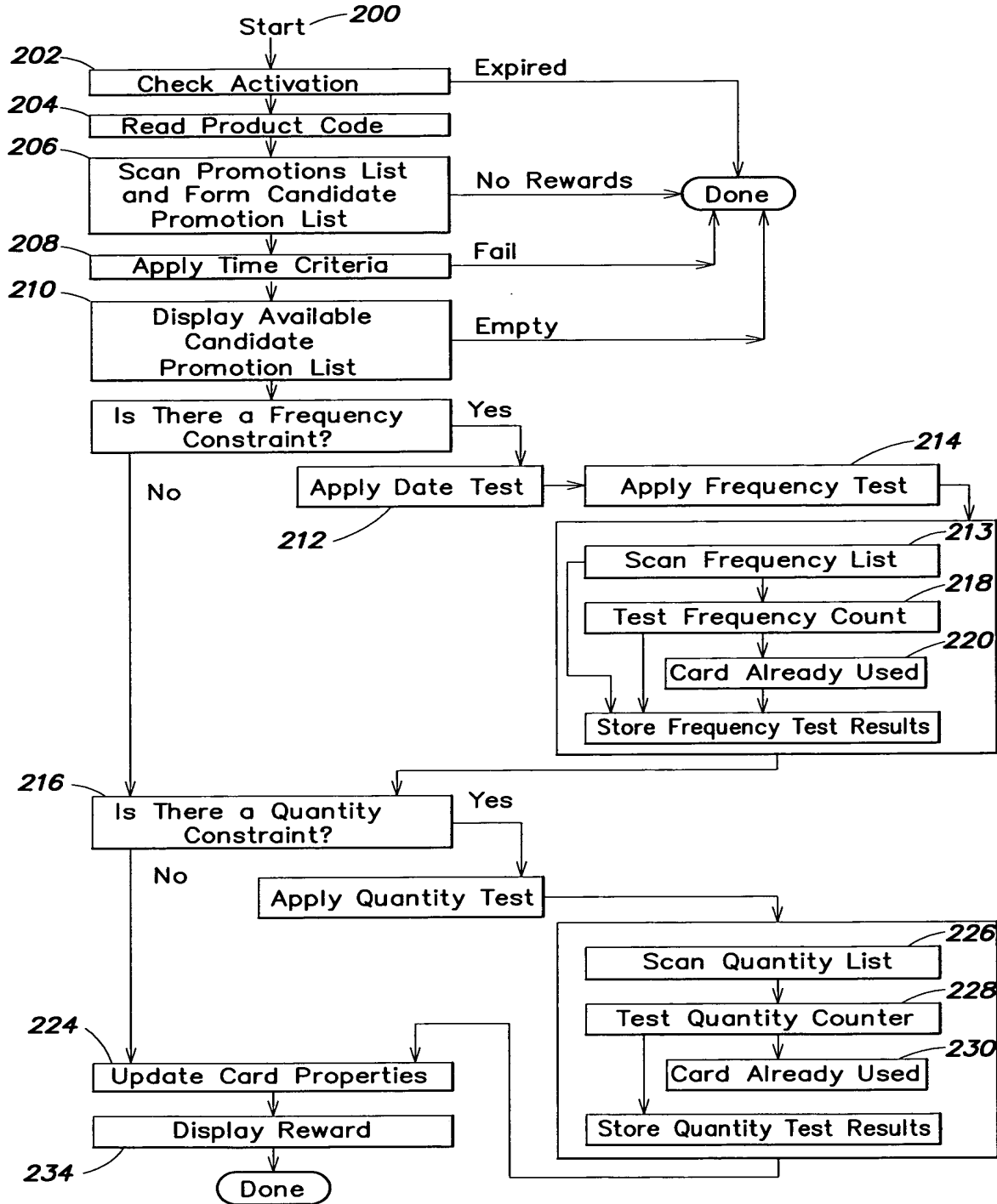


FIG. 7

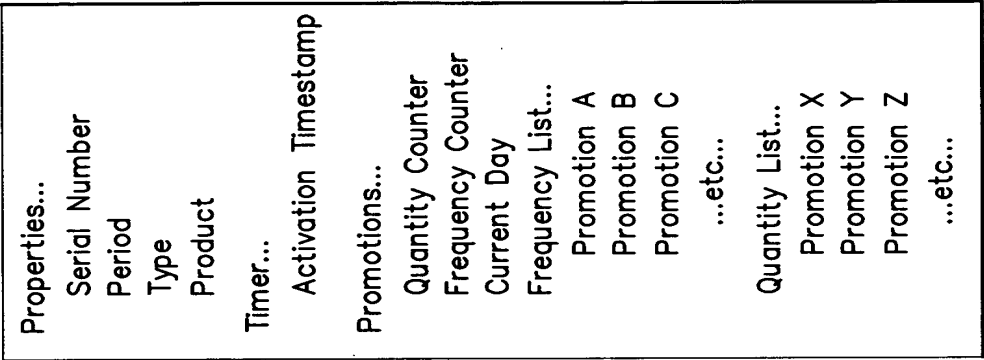


FIG. 8

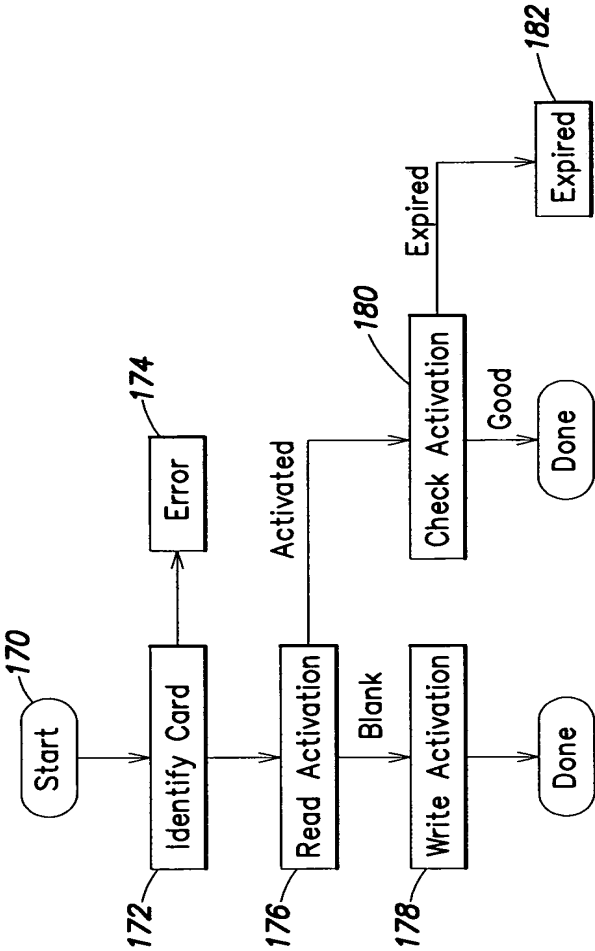


FIG. 6

8/9

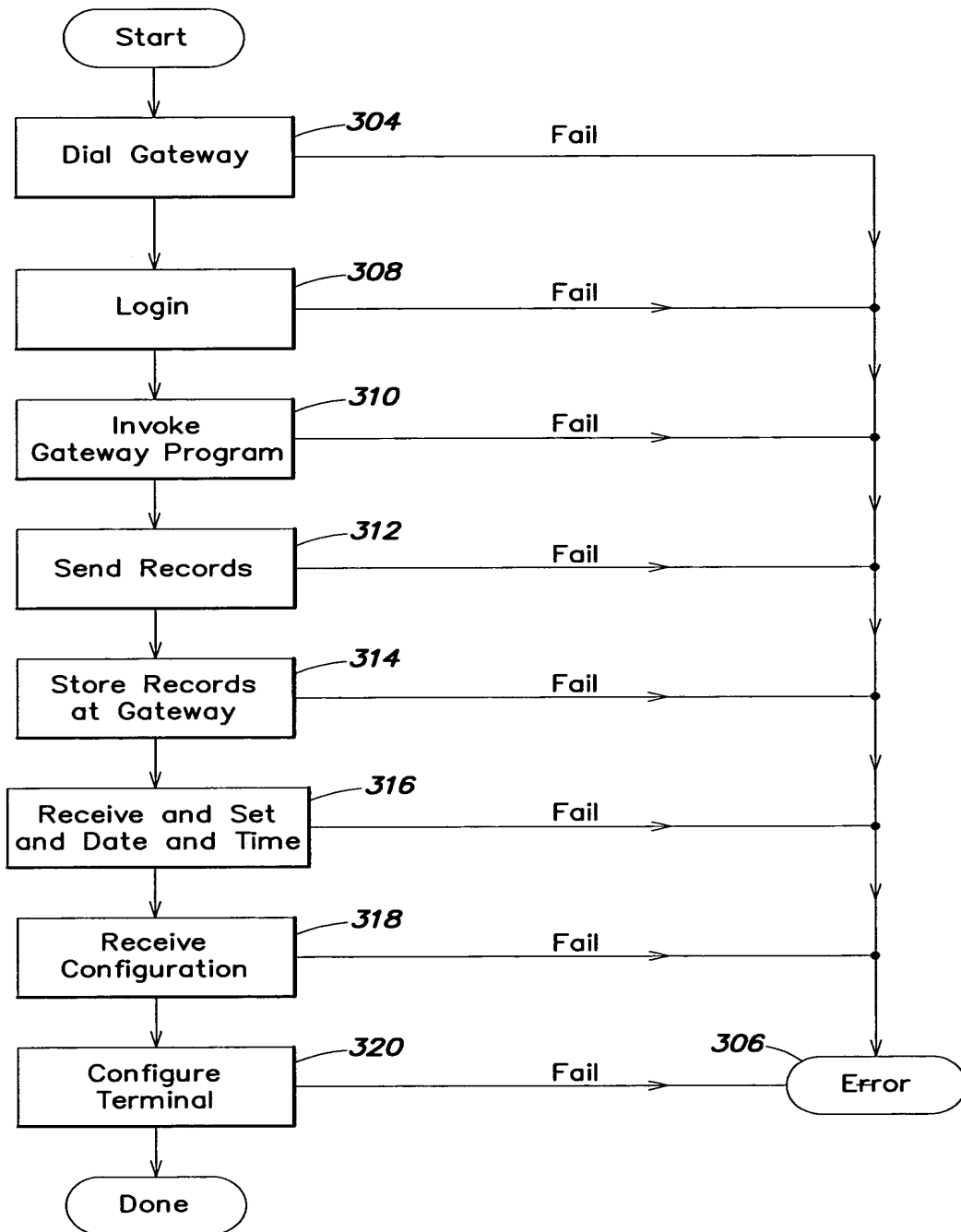


FIG. 9

9/9

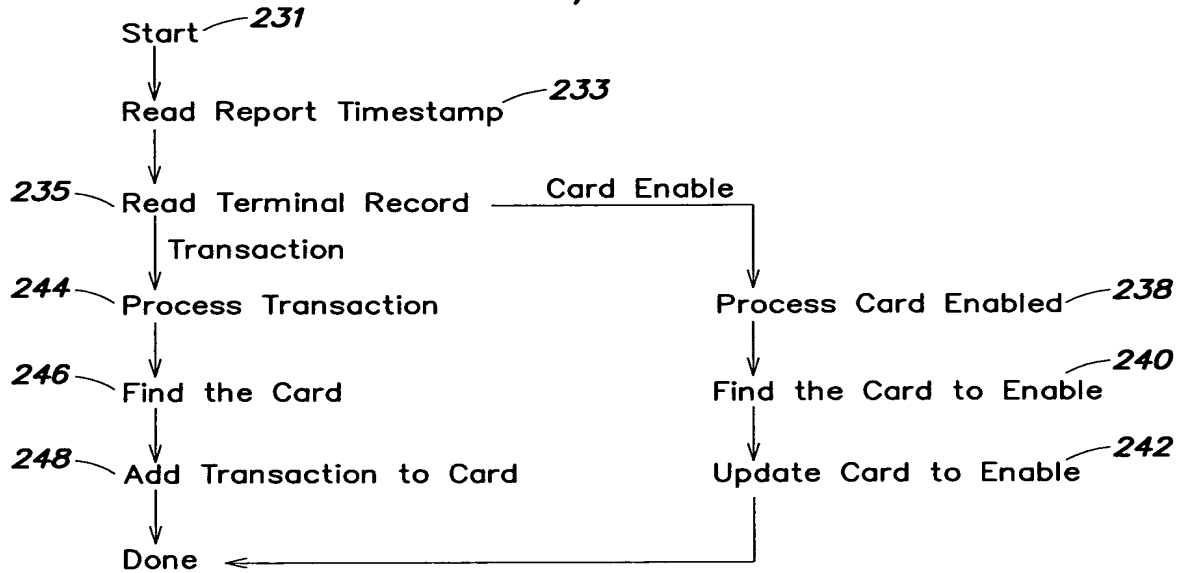


FIG. 10

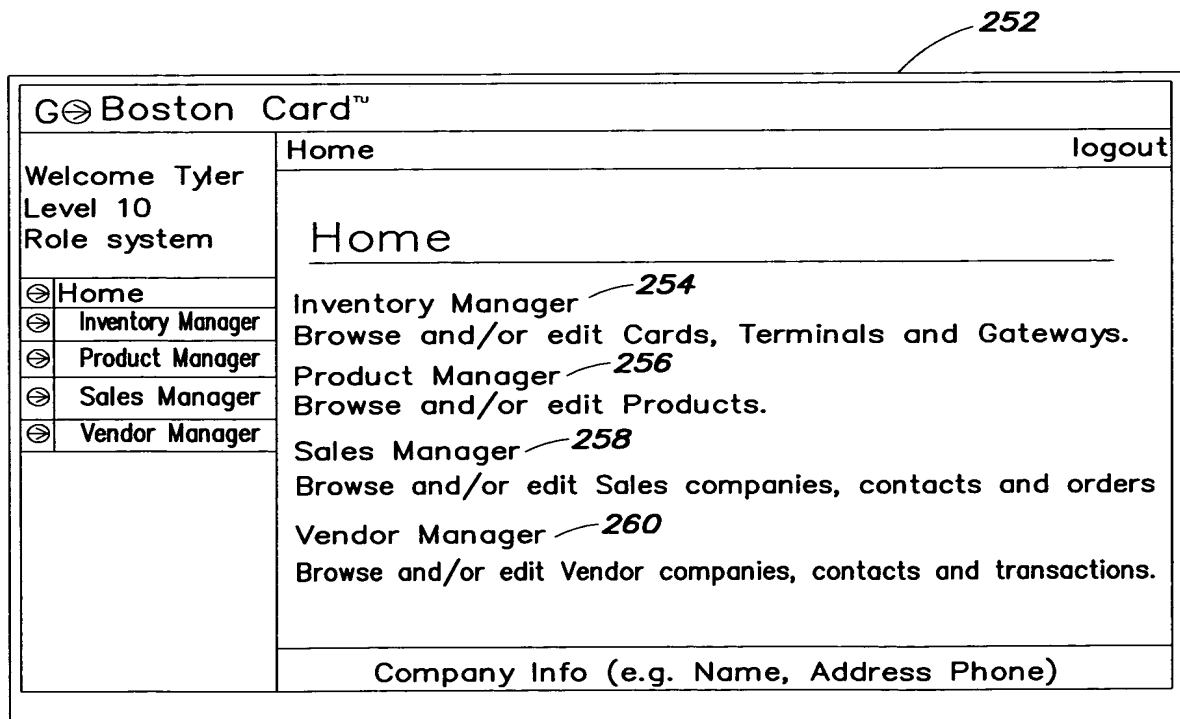
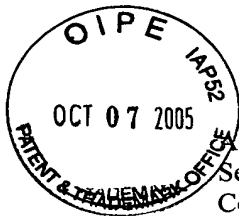


FIG. 11



IFW

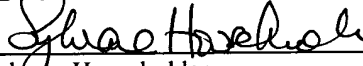
Attorney Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Not yet assigned
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 5th day of October, 2005.


Sylvana Householder

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are the following documents:

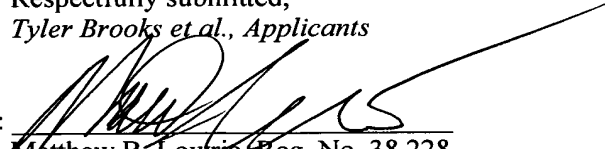
- ☒ Preliminary Amendment
- ☒ Replacement Sheets (for Figs. 1-11)
- ☒ Annotated Sheets (for Figs. 7, 9, 10 and 11)
- ☒ Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 395-7000.

A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 50/2762. A duplicate of this sheet is enclosed.

Respectfully submitted,
Tyler Brooks et al., Applicants

By:


Matthew B. Lowrie, Reg. No. 38,228
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park, One Main Street
Cambridge, MA 02142
Telephone: 617-395-7000
Facsimile: 617-395-7070

Dated: October 5, 2005

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2003

Application or Docket Number

0896287

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	34	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	34 minus 20 =	* 14
INDEPENDENT CLAIMS	9 minus 3 =	* 6
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

SMALL ENTITY TYPE ☐ OR

OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	385.00
XS 9=	106
X43=	258
+145=	
TOTAL	1769

RATE	FEE
BASIC FEE	770.00
XS18=	
X86=	
+290=	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	* 34	Minus ** 34	= 0
Independent	* 9	Minus *** 9	= 0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
XS 9=	
X43=	
+145=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
XS18=	
X86=	
+290=	
TOTAL ADDIT. FEE	

10 18 21 24 28 32
3 3 34
(Column 1) (Column 2) (Column 3)

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

RATE	ADDITIONAL FEE
XS 9=	
X43=	
+145=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
XS18=	
X86=	
+290=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

RATE	ADDITIONAL FEE
XS 9=	
X43=	
+145=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
XS18=	
X86=	
+290=	
TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	S2013-700019	7645
37462	7590	11/14/2006	EXAMINER	
LOWRIE, LANDO & ANASTASI RIVERFRONT OFFICE ONE MAIN STREET, ELEVENTH FLOOR CAMBRIDGE, MA 02142			DUNHAM, JASON B	
			ART UNIT	PAPER NUMBER
			3625	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/896,287

Applicant(s)

BROOKS ET AL.

Examiner

Jason B. Dunham

Art Unit

3625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-34 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____	6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-17,21-27,32, and 34, drawn to methods, apparatus, and mediums for using a smart card to access a facility, classified in class 705, subclass 41.
- II. Claims 18-20 and 28-31, drawn to systems that permit access to rewards and promotions, classified in class 705, subclass 14.
- III. Claim 33, drawn to a method of rating popularity of attractions, classified in class 705, subclass 26.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination II has separate utility such as permitting access to rewards and promotions that is not required for invention I, which utilizes a smart card. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and the search required for Group 1 is not required Group 2, restriction for examination purposes is proper.

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in

Art Unit: 3625

scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination III has separate utility such as rating popularity of attractions that is not required for invention I, which utilizes a smart card. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and the search required for Group 1 is not required Group 3, restriction for examination purposes is proper.

Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination III has separate utility such as rating popularity of attractions that is not required for invention II, which permits access to rewards and promotions. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and the search required for Group 2 is not required Group 3, restriction for examination purposes is proper.

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a

Art Unit: 3625

claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason B. Dunham whose telephone number is 571-272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JBD
Patent Examiner
11/2/06


YOGESH C. GARG
PRIMARY EXAMINER
TECHNOLOGY CENTER 3600



- 1 -

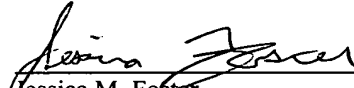
Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 13th day of December, 2006.



Jessica M. Foster

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO ELECTION/RESTRICTION REQUIREMENT
MAILED NOVEMBER 14, 2006

Sir:

In response to the Office Action mailed November 14, 2006, please amend the above-identified application as follows. Changes to the Claims are shown by ~~strike through~~ (for deleted matter) and underlining (for added matter).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (canceled)
8. (canceled)
9. (canceled)
10. (canceled)
11. (canceled)

12. (canceled)
13. (canceled)
14. (canceled)
15. (canceled)
16. (canceled)
17. (canceled)
18. (original) A product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:
 - a network interface to permit data access to reward terminals located in proximity to the plurality of promotions;
 - a database to store at least one product definition; and
 - a database to store data corresponding to actual use of the rewards.
19. (original) The product manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of promotions.
20. (original) The product manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.
21. (canceled)
22. (canceled)

23. (canceled)

24. (canceled)

25. (canceled)

26. (canceled)

27. (canceled)

28. (original) An access system for use with user codes comprising:

a controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period; and

a database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal;

wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code; and

wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period.

29. (original) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data to from the reward terminal.

30. (original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.

31. (original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.

32. (canceled)

33. (canceled)

34. (canceled)

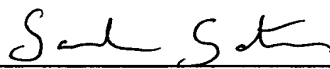
REMARKS

Claims 1-34 were originally filed in this application. In response to the Election/Restriction Requirement in the Office Action mailed November 14, 2006, Applicant hereby elects the claims of Group II, namely claims 18-20 and 28-31 for further prosecution. Applicant makes this election without traverse and without prejudice to the filing of one or more divisional applications directed to non-elected subject matter under 35 U.S.C. §121.

In view of the election of the claims of Group II, the non-elected claims, namely claims 1-17, 21-27 and 32-34, have been canceled without prejudice or disclaimer. No claims have been amended and no new claims have been added. As a result, claims 18-20 and 28-31 are pending for examination with claims 18 and 28 being independent claims. No new matter has been added.

An early and favorable action is respectfully requested. If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
Tyler Brooks, Applicant

By: 
Sarah M. Gates, Reg. No. L0045
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Docket No.: S2013-700019
Date: December 13, 2006



Docket No.: S2013-700019

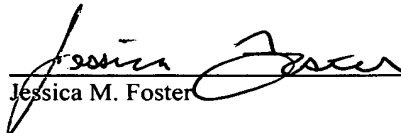
IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 13th day of December, 2006.


Jessica M. Foster

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are the following documents:

- ☒ Response to Election/Restriction Requirement
- ☒ Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 395-7000.

A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 50/2762. A duplicate of this sheet is enclosed.

Respectfully submitted,
Tyler Brooks et al., Applicant

By: 
Sarah M. Gates, Reg. No. L0045
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street
Cambridge, MA 02142
(617) 395-7000

Date: December 13, 2006

798665.1

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2003

Application or Docket Number

0896287

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	34	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	34 minus 20 =	14
INDEPENDENT CLAIMS	9 minus 3 =	6
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	34	34	0
Independent	9	9	0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

10 18 21 24 28 32
33 34

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	7	34	1
Independent	2	9	1
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total			
Independent			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

SMALL ENTITY TYPE ☐

OR OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
BASIC FEE	385.00	OR	BASIC FEE	770.00
XS 9=	186	OR	XS18=	
X43=	258	OR	X86=	
+145=		OR	+290=	
TOTAL	1769	OR	TOTAL	

SMALL ENTITY

OR OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL		OR	TOTAL	
ADDIT. FEE		OR	ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL		OR	TOTAL	
ADDIT. FEE		OR	ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL		OR	TOTAL	
ADDIT. FEE		OR	ADDIT. FEE	



Docket No.: S2013-700019 *JW*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks, et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Jason B. Dunham
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 21st day of December, 2006.

Jessica M. Foster

Jessica M. Foster

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are the following documents:

- ☒ Supplemental Information Disclosure Statement and Form 1449
- ☒ Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 395-7000.

A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 50/2762. A duplicate of this sheet is enclosed.

Respectfully submitted,
Tyler Brooks, et al, Applicant

By: *Sarah M. Gates*

Sarah M. Gates, Reg. No. L0045
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street
Cambridge, MA 02142
(617) 395-7000

Date: December 21, 2006



Docket No: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks, et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Jason B. Dunham
Art Unit: 3625

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 21st day of December, 2006


Jessica M. Foster

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT FILED PURSUANT TO THE DUTY OF
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98**

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

PART II: Compliance with 37 CFR §1.704(d)

Each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart application and this communication was not received by the office of the undersigned more than 30 days prior to filing of this Information Disclosure Statement.

PART III: Information Cited

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicant would like to bring to the Examiner's attention the enclosed search report from the corresponding International Application, PCT/US05/25865

PART IV: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

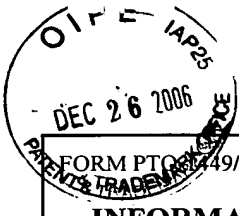
Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,
Tyler Brooks, et al, Applicant

By: 
Sarah M. Gates, Reg. No. L0045
LOWRIE, LANDO & ANASTASI, LLP
Riverfront Office Park
One Main Street
Cambridge, Massachusetts 02142
Tel. (617) 395-7000

Date: December 21, 2006



FORM PTO 149/A and B (Modified)				APPLICATION NO.: 10/896,287		ATTY. DOCKET NO.: S2013-700019	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				FILING DATE: July 21, 2004		CONFIRMATION NO.: 7645	
				APPLICANTS: Tyler Brooks, et al.			
				GROUP ART UNIT: 3625		EXAMINER: Jason B. Dunham	
Sheet	1	of	1				

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
		*6,078,928	A	John L. Schnase et al.	06-20-2000
		*2003/0105641	A1	Woodson C. Lewis	06-05-2003
		*6,609,655	B1	Martha F. Harrell	08-26-2003
		*6,813,608	B1	Robert Baranowski	11-02-2004
		*2004/0267619	A1	Gary Michael Watts	12-30-2004

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			

OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)	

EXAMINER	DATE CONSIDERED

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.
Include copy of this form with next communication to applicant.

*a copy of this reference is not because the reference is a published U.S. Patent or U.S. Patent application and the present application was filed after June 30, 2003.

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	("6738750").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:49
L2	47834	"705"/\$.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:49
L3	32764	smart adj card	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:51
L4	4360	2 and 3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:49
L5	78	code same reward same promotion	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:49
L6	19	4 and 5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:50
L7	382	("20010018660" "20010041994" "20020026348" "20020046116" "20020062253" "20020091793" "20020100802" "20020100803" "20020100808" "200201008085987430" "20030033272" "20030036425" "20030101145" "20030229793" "20040050933" "20040099723" "20040117250" "20040124246" "20040210759" "5309355" "5566327" "6085976" "6233604" "6283376" "6363351" "6386451" "6565000" "6601233" "6609655" "6657543" "6776332").PN"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:50
L8	17	("0117250" "20020112250" "20040112250" "6003014" "6018717" "6216227" "6609658" "6609659" "6738750").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:51
L9	2	"20060020517"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:51
L10	6322	705/26,27.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:51
L11	86	smart adj card same (attraction amusement)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:51
L12	23	2 and 11	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:51
L13	1	12 and dunk	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:52
L14	354	smart adj card same entertainment not 11	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:52
L15	84	2 and 14	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:52

View

View

Scan

Scan

View

View

View

EAST Search History

L16	13	15 and reward	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:53
L17	2	"20040267619".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:53
S1	1	brooks-tyler.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/05 16:49

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UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.

10/896,287

07/21/2004

Tyler Brooks

S2013-700019

7645

37462 7590 02/27/2007
LOWRIE, LANDO & ANASTASI
RIVERFRONT OFFICE
ONE MAIN STREET, ELEVENTH FLOOR
CAMBRIDGE, MA 02142

EXAMINER

DUNHAM, JASON B

ART UNIT

PAPER NUMBER

3625

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE

3 MONTHS

02/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary**Application No.**

10/896,287

Applicant(s)

BROOKS ET AL.

Examiner

Jason B. Dunham

Art Unit

3625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 1-17, 21-27 and 32-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-20 and 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/21/04, 3/11/05, 12/26/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 18-20 and 28-31 in the reply filed on December 18, 2006 is acknowledged. Claims 1-17, 21-27, and 32-34 are canceled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-20 and 28-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Watts (U.S. Patent Application Publication No. 2004/0267619).

Referring to claim 18. Watts discloses a product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:

- A network interface to permit data access to reward terminals located in proximity to the plurality of promotions (Watts: abstract and figure 1);
- A database to store at least one product definition (Watts: paragraph 43); and
- A database to store data corresponding to actual use of the rewards (Watts: paragraph 43).

Referring to claim 19. Watts further discloses a system wherein the at least one product definition includes a list of the plurality of promotions (Watts: paragraph 43).

Referring to claim 20. Watts further discloses a system wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals (Watts: figure 1).

Referring to claim 28. Watts further discloses an access system for use with user codes comprising:

- A controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period (Watts: paragraph 38-43);
- A database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal (Watts: figure 1);
- Wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code (Watts: abstract);
- Wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period (Watts: paragraphs 14 and 18).

Referring to claim 29. Watts further discloses a system wherein the database is configured to communicate with the at least one reward terminal with predetermined

Art Unit: 3625

periodicity to provide the information to the reward terminal and to receive the data from the reward terminal (Watts: paragraph 18).

Referring to claim 30. Watts further discloses a system wherein the predetermined periodicity is once a day (Watts: paragraph 18).

Referring to claim 31. Watts further discloses a system wherein the user codes are encoded on programmable smart cards (Watts: paragraph 4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason B. Dunham whose telephone number is 571-272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JBD
Patent Examiner
2/5/07


MATTHEW S. GART
PRIMARY EXAMINER
EBC - ELECTRONIC BUSINESS CENTER 3600

7/21/04

FORM PTO-1449/A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT		APPLICATION NO.: Not yet assigned		ATTY. DOCKET NO.: S2013-700019	
		FILING DATE: July 21, 2004		CONFIRMATION NO.: Not yet assigned	
		APPLICANTS: Tyler Brooks, et al.			
		GROUP ART UNIT: Not yet assigned		EXAMINER: Not yet assigned	
Sheet	1	of	1		

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
	A-1	*6,003,014		Lee, Alson A., et al.	12-14-1999
	A-2	*6,018,717		Lee, Alson, et al.	01-25-2000
	A-3	*6,216,227	B1	Goldstein, Theodore C., et al.	04-10-2001
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		Office/ Country	Number	Kind Code			
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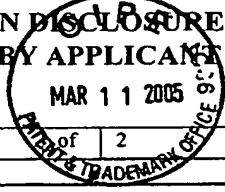
EXAMINER 	DATE CONSIDERED 2/5/07

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

* a copy of this reference need not be provided as the reference is a published U.S. Patent or U.S. Patent application and the present application was filed after June 30, 2003..

[NOTE - Must provide a copy of any patent, publication, other information listed, even if it was previously submitted to, or cited by, the U.S. Patent Office in an earlier application, unless the earlier application is identified by the IDS and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application.]

3/1/05

FORM PTO-1449/A and B (Modified)		APPLICATION NO.: 10/896,287	ATTY. DOCKET NO.: S2013-700019
INFORMATION DISCLOSURE STATEMENT BY APPLICANT 		FILING DATE: July 21, 2004	CONFIRMATION NO.: 7645
		APPLICANTS: Tyler Brooks, et al.	
Sheet 1	2	GROUP ART UNIT: 3625	EXAMINER: Not yet assigned

U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
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		Office/ Country	Number	Kind Code			
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jbd	A43	WO	00/74300	A1	The Regents of the Univ. of California	12-07-2000	
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EXAMINER <i>[Signature]</i>	DATE CONSIDERED <i>2/5/07</i>

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

* a copy of this reference need not be provided as the reference is a published U.S. Patent or U.S. Patent application and the present application was filed after June 30, 2003..

[NOTE - Must provide a copy of any patent, publication, other information listed, even if it was previously submitted to, or cited by, the U.S. Patent Office in an earlier application, unless the earlier application is identified by the IDS and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application.]



FORM PTO 449/A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT	APPLICATION NO.: 10/896,287		ATTY. DOCKET NO.: S2013-700019	
	FILING DATE: July 21, 2004		CONFIRMATION NO.: 7645	
	APPLICANTS: Tyler Brooks, et al.			
	GROUP ART UNIT: 3625		EXAMINER: Jason B. Dunham	
Sheet	1	of	1	

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Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
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FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			

OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No.	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)	

EXAMINER 	DATE CONSIDERED 2/5/07

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*a copy of this reference is not because the reference is a published U.S. Patent or U.S. Patent application and the present application was filed after June 30, 2003.

Notice of References CitedApplication/Control No.
10/896,287Applicant(s)/Patent Under
Reexamination
BROOKS ET AL.Examiner
Jason B. DunhamArt Unit
3625

Page 1 of 1

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	C	US-			
	D	US-			
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	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
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	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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Bib Data Sheet

CONFIRMATION NO. 7645

SERIAL NUMBER 10/896,287	FILING OR 371(c) DATE 07/21/2004 RULE	CLASS 705	GROUP ART UNIT 3625	ATTORNEY DOCKET NO. S2013-700019
APPLICANTS Tyler Brooks, Seattle, WA; Kevin McLaughlin, Charlestown, MA; Helga Cecilia Dahl, Boston, MA; Edward Kim, Seattle, WA;				
** CONTINUING DATA ***** none sbd				
** FOREIGN APPLICATIONS ***** none sbd				
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 09/24/2004 ** SMALL ENTITY **				
Foreign Priority claimed ☐ yes ☒ no 35 USC 119 (a-d) conditions met ☐ yes ☒ no ☐ Met after Allowance Verified and Acknowledged <u>Examiner's Signature</u> <u>Initials</u>		STATE OR COUNTRY WA	SHEETS DRAWING 9	TOTAL CLAIMS 34 INDEPENDENT CLAIMS 9
ADDRESS 37462				
TITLE Programmable ticketing system				
FILING FEE RECEIVED 769	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit	

Search Notes

Application/Control No.

10/896,287

Examiner

Jason B. Dunham

Applicant(s)/Patent under
Reexamination

BROOKS ET AL.

Art Unit

3625

SEARCHED

Class	Subclass	Date	Examiner
705	26,27	2/5/2007	JBD

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR
East Search History	2/5/2007	JBD

Serial No.: 10/896,287

- 1 -

Art Unit: 3625

Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being electronically filed in accordance with § 1.6(a)(4), on the 22nd day of August, 2007.

/Sarah M. Gates/
Sarah M. Gates

Commissioner for Patents
Alexandria, VA 22313-1450

AMENDMENT

Sir:

In response to the Office Action mailed February 27, 2007, please amend the above-identified application as follows.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 – 17. (canceled)

18. (original) A product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:

a network interface to permit data access to reward terminals located in proximity to the plurality of promotions;

a database to store at least one product definition; and

a database to store data corresponding to actual use of the rewards.

19. (original) The product manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of promotions.

20. (original) The product manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.

21 – 27. (canceled)

28. (original) An access system for use with user codes comprising:

a controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period; and

a database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal;

wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code; and

wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period.

29. (original) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data to from the reward terminal.

30. (original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.

31. (original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.

32 – 34. (canceled)

35. (new) The product manager system as claimed in claim 18, wherein the reward terminals include smart card readers.

36. (new) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in time.

37. (new) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in frequency of use.

38. (new) The access system as claimed in claim 28, wherein each promotion included in the promotion list and product list is defined by a unique promotion code.

39. (new) The access system as claimed in claim 38, wherein the unique promotion code includes information defining at least one access restriction for the promotion.

40. (new) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code.

41. (new) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined time period during which the promotion is valid.

REMARKS

Claims 18-20 and 28-31 were previously pending in this application. By this amendment, Applicant has added new claims 35-41. As a result claims 18-20, 28-31 and 35-41 are pending for examination with claims 18 and 28 being independent claims. No new matter has been added.

Rejection Under 35 U.S.C. § 102

Claims 18-20 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2004/0267619 to Watts (hereinafter Watts). Applicant respectfully traverses this rejection.

Provided herewith is a declaration of Kevin McLaughlin, and a declaration of Tyler Brooks, and supporting evidence, stating that Applicant conceived of and reduced to practice at least so much of the claimed subject matter of the above-identified claims as is shown in Watts, prior to June 14, 2004, the date by which Watts is available as a reference under 35 U.S.C. §102(e). These declarations and supporting evidence (see Exhibits A and B attached to the declaration) establishes invention of the claimed subject prior to the effective date of Watts, in accordance with 37 CFR §1.131.

In view of Applicant's declaration, Watts is removed as an available prior art reference, and Applicant thereby overcomes the Examiner's rejections of claims 18-20 and 28-31. Withdrawal of the rejection of these claims is therefore respectfully requested.

Newly Added Claims

Applicant has added new claims 35-41 to further define aspects of Applicant's contribution to the art. Each of these new dependent claims depends from one of independent claims 18 and 28 and is supported by the specification as originally filed. Each of claims 35-41 is believed to be in condition for allowance.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,
Tyler Brooks et al., Applicant

By: /Sarah M. Gates/
Sarah M. Gates, Reg. No. 60,661
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Conf. No.: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

DECLARATION OF TYLER BROOKS

Sir:

I, the undersigned, Tyler Brooks, declare that:

1. I am a co-inventor of the claimed subject matter of the above-identified patent application. I make this declaration in support of that application and in response to the Office Action mailed February 27, 2007.
2. Prior to July 13, 2003, my co-inventors and I conceived of a programmable ticketing system and began working to develop it. An embodiment of the programmable ticketing system was designed to be installed in Boston, Massachusetts. That system is referred to herein as the "Boston system" and comprises smart cards, several terminals capable of reading a smart card, a server, a central database, and network connections and communication protocols between the terminals, the server and the central database.
3. Attached as Exhibit A is a copy of technology scheduling document dated prior to July 13, 2003. The document describes steps taken to develop a programmable ticketing system.
4. Attached as Exhibit B is a copy of a technical planning document dated prior to July 13, 2003. The technical planning document describes several aspects and features of the programmable ticketing system.
5. Prior to July 13, 2003, a terminal was installed at the Fire and Ice restaurant in Harvard Square, Cambridge, MA. The terminal, forming part of the Boston system, was designed to receive and read a smart card, to record evidence of a smart card dunk, and to communicate that evidence to a central database coupled to the terminal.
6. On July 13, 2003, I (Tyler Brooks) tested the Boston system using the terminal installed at the Fire and Ice restaurant. The test included inserting a smart card into the terminal to determine whether the terminal would accept the card and correctly communicate the card activity to the central database. The dunk was registered in the database.
7. The July 13, 2003 test was the first successful test of the Boston system.

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Art Unit: 3625

8. Terminals forming part of the Boston system were also installed at the following locations by July 19, 2007:

Freedom Trail Audio Boston Common, Boston Common Visitor Center, Boston, MA, 02111
 Gift Shop at Harvard Museum of Natural History, 26 Oxford Street, Cambridge, MA, 02163
 Boston Duck Tours - Museum of Science, Science Park, Boston, MA, 02114
 Elephant and Castle, 161 Devonshire Street, Boston, MA, 02110
 Old State House Museum, 206 Washington Street, Boston, MA, 02116
 American Road Collection Boston, 1760 Revere Beach Parkway, Everett, MA, 02149
 Liberty Fleet of Tall Ships, 67 Long Wharf, Boston, MA, 02110
 Innovation Odyssey Tour, 650 Beacon Street, Boston, MA, 02215
 Red Hat Cafe, 9 Bowdoin Street, Boston, MA, 02114
 Fire and Ice Cambridge, 50 Church Street, Cambridge, MA, 02138
 Hennessey's of Boston, 25 Union Street, Boston, MA, 02108
 Women's Educational and Industrial Union, 356 Boylston Street, Boston, MA, 02116
 Kennedy's Midtown, 42 Province Street, Boston, MA, 02108
 Harvard Museum of Natural History, 26 Oxford Street, Cambridge, MA, 02138
 The Boston Beer Company, 75 Arlington Street, Boston, MA, 02116
 Caffe Panini, Prudential Center Shopping Plaza, Boston, MA, 02120
 Boston Duck Tours - Prudential Center, 790 Boylston St., Boston, MA, 02116
 Patina, 105 Main St., Charlestown, MA, 02129
 The Peabody Museum, 11 Divinity Ave, Cambridge, MA, 02138
 New England Zoo, 1 Franklin Park Rd., Boston, MA, 02121
 Isabella Stewart Gardner Museum, 2 Palace Rd., Boston, MA, 02115
 Zoinks, 213 Hanover Street, Boston, MA, 02113
 Mr. Dooleys Boston Tavern, 77 Broad Street, Boston, MA, 02109
 Paul Revere Memorial Association, 19 North Square, Boston, MA, 02113
 Museum of Science, Science Park, Boston, MA, 02114
 Q nightclub, 25 Union Street, Boston, MA, 02126
 Old South Meeting House, 310 Washington Street, Boston, MA, 02108
 Boston Steamship Company, 60 Rowes Wharf, Boston, MA, 02120
 The Grand Canal, 57 Canal Street, Boston, MA, 02114
 Green Dragon Tavern, 11 Marshall Street, Boston, MA, 02108
 The Living Room, 101 Atlantic Ave, Boston, MA, 02110
 JFK Library and Museum, Columbia Point, Boston, MA, 02125
 Paul Revere Memorial Association, 19 North Square, Boston, MA, 02113
 The Nichols House Museum, 55 Mount Vernon St., Boston, MA, 02108
 Gift Shop at Quincy Market, Quincy Market, Boston, MA, 02109
 Museum of Fine Arts-Boston, 465 Huntington Ave, Boston, MA, 02115
 Grayline booth at Transportation Bldg, Transportation Bldg, Randolph, MA, 02368
 Shops at Prudential, 111 Huntington Ave, Boston, MA, 02199
 The Mary Baker Eddy Library, 200 Massachusetts Ave, Boston, MA, 02115

Serial No.: 10/896,287

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Art Unit: 3625

9. A log file was first uploaded from at least one of the installed terminals identified in Paragraph 8 above on July 19, 2003. A log file is created when a terminal successfully connects with the server, and contains a record of every smart card dunk in the terminal since that terminal's last successful report.
10. Commercial use of smart cards in the Boston system was first recorded on July 23, 2003 at the Paul Revere House, the Massachusetts Bay Lines company and the Isabella Stewart Gardner Museum.

I, the undersigned, declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this document and any patent which may issue from the above-identified patent application.

Date:

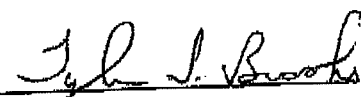
8/20/2007
Tyler Brooks
Seattle, WA

Exhibit A

GSS: Technology Deliverables

Priorities

1. Roundtrip demonstration (transaction in, reported out)
2. Complete review of marketing/business requirements.
3. Demonstrable system, even if completely fake.
 - o Stubbed out HTML and JavaScript as placeholders.
4. Base level of functionality with fake data, then basic functionality tied to the database.
5. Synchronize database schema with Tyler's design/systems.
6. Begin QA testing, stress testing and security audits for initial performance metrics.
 - o Create a testing goals and procedure document.
 - o TBD: Create a bug tracking DB and/or install CS ticket system.
7. Revamp user interface and branding with Ed/Cecilia.
8. Add functionality per team suggestions and customer requests!

Rough Schedule

- April 25:
 - o finish basic demo area
 - o work to sync with tyler's demo terminal/cards
 - o stub out sales section
 - o link to demo, allow everyone to ticker with demo area on intranet
- May 2:
 - o finish sales section
 - o begin card sales/management/inventory work with Tyler
- May 9:
 - o polish DM section with Cecilia
 - o begin quickbooks research
 - o add customer service basics
- May 15:
 - o polish accounting, reporting, invoicing, transaction logs
 - o polish customer service auto logs
 - o implement sales/credit caps?
 - o setup QA plan
- May 23:
 - o full week of QA and regression testing as functionality above finishes
- Funding:
 - o Procure, build, configure, and install per infrastructure tasks section

Tasks

The following is a rough list in basic order of priority or suggested accomplishment. Tasks ending in a question mark are yet to be defined, to be determined, or need policy resolution. Tasks that can be deferred are listed, but not designated as such yet. This task list is not complete and will grow.

Functionality Tasks:

- Sales:
 - Allow a sales agent to see a card or reservation voucher
 - redeem a voucher
 - collect customer demographics
 - Manager can see sales transactions and reports, manage staff accounts
 - Sales agent reports
- Destination Manager:
 - Manage inventory: card, terminal, guidebook
 - Manage sales commission schedule and agent staff
 - Manage attractions and distractions payment schedule
 - Implement territories.
- Accounting: (see Batch for more tasks)
 - Setup Quickbooks
 - Merchant funds account with e-commerce API
 - System invoicing and reports
 - Research and implement: Weekly/Monthly export to Quickbooks?
 - E-Commerce gateway for invoice payments and settlements
- Customer Service:
 - simple log and query section
 - trouble incident/ticketing? CRM?
 - add logs and auto logs for certain events in system such as: change contact role

Departmental Tasks:

- Creative:
 - Database for guidebook template with marketing information
- QA:
 - build demo/QA area script
 - QA plan, goals, and procedures
 - Stress testing harness for benchmarks with logs
 - create trace card/terminal/transaction with testing status?
 - Incident/Trouble ticketing DB for feature request/QA
 - CVS for docroot?
- Technology:
 - See infrastructure

Infrastructure Tasks:

- License:
 - Buy SecurePhpPages and JPCharts licenses.
 - Buy terminal SDK/compiler license?
- Smart Card Network:
 - Buy ISP account (eskimo)
 - Buy cards, terminals
- Batch:
 - Nightly:
 - Audit imported transactions?
 - Generate reports and archive
 - missing terminal report
 - export promotions/config by terminal to mothership
 - check credit/cap limits?
 - 120 day "archive" status for transactions in DB?
 - Monthly:
 - generate invoices and Quickbooks format?
 - generate web log reports and OpenTracker diagrams
 - Annually: archive one year of inventory/logs/transactions as a DB export by month?
- Security:
 - See: monitors, backups, and scalability for stability issues.
 - Add Linux firewall for LAN
 - https:// certificate for www
 - Do penetration testing with SATAN/etc. and lockdown server(s).
 - Check all DB queries and forms server side for attacks and robustness.
 - Encrypt passwords and other sensitive information?
 - https:// certificate for pubic facing app servers when separated?
 - Add honeypot/scanner/tripwire?
- Backups:
 - Contents:
 - configuration: DNS, batch scripts, passwords, .rc, apache + php + mysql conf/ini
 - docroots: public/production/demo/intranet
 - database: production/demo/development
 - transaction archive exports
 - CVS? Tyler's source code for terminal and mothership?
 - email?
 - Nightly: backup all contents with one week of local, online storage
 - Weekly?: secure copy to a second online storage location and/or offsite
 - Weekly/Monthly?: backups to offsite DVD/CD-R?
 - Quarterly: server partition image save to DVD/CD-R?
- Monitors:
 - Heartbeat pings for network connectivity (WAN/LAN)
 - Heartbeat app (web/db) monitors and measure transaction response times
 - Periodic status on network, memory, cpu, swap usage with warnings
- Scalability and Performance:

- Move to data center and add a switch (and firewall)
- First server: a combined email, web, app, and database server.
- Add a corporate server for email, (directory, calendar, webmail), and corporate web sites to separate them from application and database server.
 - Add a RAID5 device or configuration on email.
- Add a database server for separation.
 - Add a RAID5 device or configuration on database.
 - Add second database server as a replicated standby database
- Add and load balance second web application server.

Last revision by Mark Lavi on 4/22/2003.

Exhibit B

GoSmart Technical Planning Document

Table of Contents:

1. Overview
2. Marketing Requirements
3. System Diagrams
4. Infrastructure Plan
5. Engineering Plan

Overview

The GoBoston card presents customers convenience, value, and guidance on their visit to Boston to various attractions and "distractions" (other merchants and vendors which do not charge an admission). Travelers are incented to visit the attractions because all admissions are included in one price. Travel pass customers will also visit the distractions because they offer discounts and other promotions for food, souvenirs, and other services during their stay in Boston. GoBoston travel partners and affiliates will sell the GoBoston card to travelers in a variety of markets.

The GoBoston card is enabled by the GoSmart platform, smart card network, and marketing services. GoBoston will license and utilize the GoSmart platform. The GoSmart platform is an e-commerce transaction processing system, consisting of a smart card reader network and Extranet web service, enabling the attractions and distractions to conduct commerce with GoBoston travel pass customers.

Marketing Requirements

Relationships:

GoBoston has a number of business relationships which reflect a typical travel destination center. These relationships apply to almost all of GoSmart Services's licensees, affiliates, customers, and partners. The relationships include:

- Cardholders: (travelers, customers of GoBoston)
 - Cardholders may be organized as individuals, families, or groups.
 - Each cardholder may be a child, adult, fam, or other special type, TBD.
 - Child designation will be standardized to one age across attractions.
 - Fam is a travel industry member and is given a free admission.
 - Special types may be: no charge, senior, veteran, student, etc.TBD
 - Cardholders will purchase a GoBoston card or redemption receipt through any number of direct and indirect sales channels.

- Cardholders will redeem or purchase upgrades to their GoBoston card at a GoSmart or GoBoston service center, where billing and demographic information will be gathered or confirmed as the card is activated.
- Attractions: (destinations featured in the GoBoston Guide Book)
 - Museums, Parks, Institutions, and various other travel sights will accept the GoBoston card for admission.
 - An attraction may have multiple admission products (e.g.: attraction Boston Cruises - Cruise 1, 2, 3, whalewatch, etc.) and distraction-like promotions, as well.
 - Attractions will provide a ticketing desk, gate, window, kiosk, or booth area which will verify and accept an activated GoBoston card via a smart card point of sale terminal.
 - Attractions will be provided one mangement account to review GoBoston activity reports and statements.
 - GoBoston will pay attractions for each admission at a pre-negotiated rate schedule.
- Distractions: (merchants and services featured in the GoBoston Guide Book)
 - Stores, merchants, food vendors, and other services which cater to travelers will accept the GoBoston card for a discount or other promotional offering. This will expand to include MICE.
 - Distractions will provide a store register checkout area or payment assistance (clerk or hostess) which will verify the activated GoBoston card via a smart card terminal and identify the merchant discount or promotion in effect.
 - Distractions will be provided one mangement account to review GoBoston activity reports and invoice statements.
 - Distractions will pay a commission for each GoBoston promotion redeemed at a pre-negotiated rate schedule.
- Sales: (organizations who can sell and distribute GoBoston cards to customers)
 - Can be organized into wholeseller, reseller, and direct channels.
 - Sellers typically will sell over the phone, Internet, or in person.
 - Sellers can issue prepaid or unpaid card vouchers if they do not carry card stock that they fullfill themselves.
 - Sellers can sell upgrades to the GoBoston pass for more days or other products in the future.
 - A sales activity:
 1. Choose a product: GoBoston, GoNewEngland card
 - Choose a cardholder type: adult, child, FAM
 - Choose a activation period: 1, 2, 3, 5, or 7 days.
 - Choose a quantity for cardholder + activation
 2. Collect customer information.
 - TBD full schema
 - Arrival date
 - Length of stay
 3. Collect payment or issue/send/fulfill/deliver voucher or activate card and issue/send/fulfill/delivery with guidebook

- A voucher redemption activity:
 0. Customer presents voucher to a sales agent.
 1. Sales agent finds the voucher in system via the GSS Sales Portal.
 2. Sales agent offers an upgrade sale as an upsell opportunity.
 3. If the voucher or upgrade is unpaid, the the sales agent collects payment.
 4. Sales agent collects any missing customer information.
 5. Sales agent activates card product(s) and hands card(s)+guidebook(s) to customer.
- Travel Agents and Travel Wholesellers: will augment their travel package offerings with the GoBoston card and collect a commission for each card sold to a traveler via Affilitate channel partners and Direct sales.
- Each sales organization will provide a sales manager responsible for administration of sales agent accounts. The sales manager will be able to view and accept activity reports, transaction details, and financial statements via the GoSmart Extranet web site.
- Each organization will provide any number of sales agents, who will sell GoBoston cards and provide fulfillment information via the GoSmart Extranet web site.
- Customer service for the card: a seller may be able to activate, deactivate, upgrade, and verify a card.
- A voucher may be cancelled in the system.
- A card may be disabled in the system (phase X deliverable).
- Destination Manager (GoBoston staff):
 - Any number of accounts which will be allowed to have any number of privileges related to GoBoston:
 - Marketing functions:
 - administer attraction and distraction relationships
 - manage card products
 - WIZARD: add an attraction with a price schedule and staff
 - add, remove an attraction or distraction from a card product
 - add custom promotions to a card products
 - add, delete, suspend, modify an attraction
 - add, delete, suspend, modify an distraction
 - add, delete, suspend, modify a promotion:
 - get SKU (item description), for \$AMOUNT, limited to QUANTITY per card, on TIME at COMPANY (vendor or attraction) -- examples are:
 - (standard attraction) get an admission, free, limit 1, during activation, at Museum of Science
 - get a T-shirt, for \$5, limit 2 per card, anytime, at Boston Tea Party store

- get a baseball cap for free, unlimited, in March, at Fenway Park
 - get % discount, for \$10 spent, unlimited, anytime, at Burger King
 - get a map, for free, unlimited, on Wednesdays only, at Boston Trolley
 - administer attraction and distraction management and staff accounts
 - add, delete, suspend, or modify a person or manager
 - view attraction and distraction activity reports
 - view attraction and distraction invoices and history
- Sales functions:
 - administer sales management account relationships
 - view sales activity reports and invoices, export to Quickbooks or Quicken or spreadsheet
 - sell a card (see sales cycle)
 - adjust price schedules to attractions
 - adjust commission schedules to schedules
 - set caps on vendors for quantity/inventory sold or line of credit (to be defined?)
- System functions:
 - manage card and guidebook inventory
 - manage terminal inventory
 - administer all marketing and business accounts
 - view financial reports
 - view marketing reports
 - view sales reports
- System administration (GoSmart staff):
 - Any number of accounts which will be allowed to have any number of privileges:
 - administer all destination staff accounts.
 - View marketing, sales, system, and financial reports.
 - manage card and guidebook inventory
 - manage terminal inventory
 - Phase X: Content Management System/Database for guidebooks

Reports and Invoices:

- Initially will be generated at HTML + graphics
- Rev X: generated, converted, or inserted into PDF
- Vendor reports:
 - Visitor analysis for marketing:
 - (product, promotional) Admission types by country
 - (product, promotional) Admission types by time of day
 - (product, promotional) Admissions by day of week
 - (product, promotional) Admissions by type (child, adult, etc.)

- ?Redemption rate
- ?Lag time

Sales and Marketing Tools:

- Send a confirmation email of sale or voucher issuance
- Send a reminder email with destination events for arrival date

Card specifics:

This section is for informational purposes only, but for authoritative documentation, please see Tyler's work.

http://home.attbi.com/~tylerjbrooks/GoS_Network.htm

The GoSmart platform is predicated on SmartCard technology, which allows for very simple functionality. Admissions to an attraction for an adult, child, or special audience must be honored as a core feature. Promotional offers for discounts and other promotional offers. With time, the platform will mature and we will increase the capabilities of both the smart cards and terminals. They will grow to have increased functionality to enable new product offerings and increased intelligence to safeguard against fraud and abuse in the system.

The basic types of admission are based on a few assumptions for the early system:

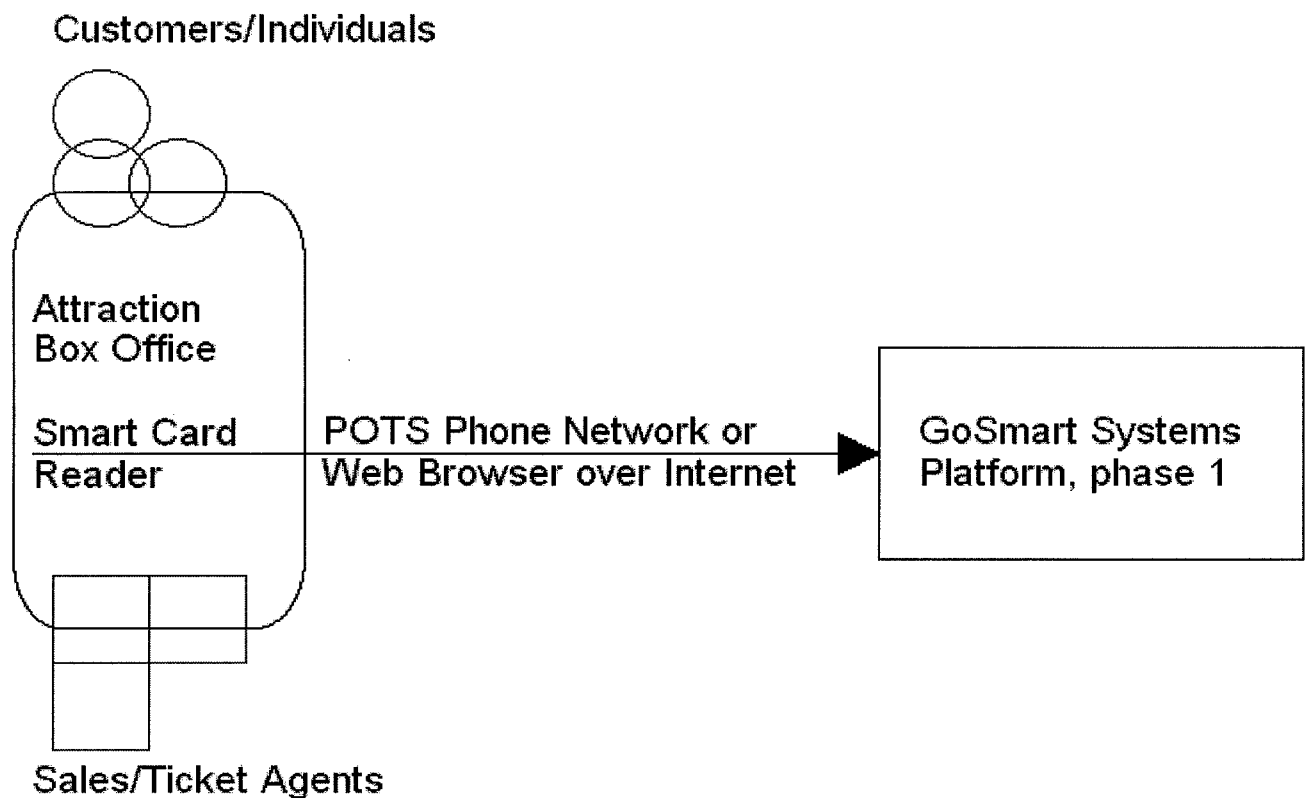
- *Each card has:*
 - *a permanent serial number*
 - *set by GoSmart systems or card fulfillment OEM*
 - *Issue/Phase X?: Additional parameters in each card*
 - *a birthdate*
 - *set by GoSmart systems or card fulfillment OEM*
 - *inventory control code*
 - *e.g.: batch1, phase1, GoBoston-2002, etc.*
 - *a deathdate: an absolute expiration date*
 - *e.g.: end of year, TBD, policy*
 - *Issue/Phase X? A secured area for information.*
- *One card per individual, a card cannot be transferred to another person.*
 - *Issue/Phase X?: one card per group*
- *An individual may be classified as:*
 - *Adult*
 - *Child*
 - *Senior/Military/etc.*
 - *Phase X: Group (future)*
- *A card is activated and has a finite amount of time before it expires.*
 - *The card is valid for the length of time purchased.*
 - *e.g.: a 1, 2, 3, 5, or 7 day pass*

- *Issues/PhaseX: Will we have monthly, weekly, annual, seasonal, arbitrary time length passes?*
- *An admission is good once per day for an individual to each attraction.*
 - *Issue/Phase X?: an admission is good only once to an attraction for the entire duration of time.*

System Diagrams

A quick overview of the GoSmart System

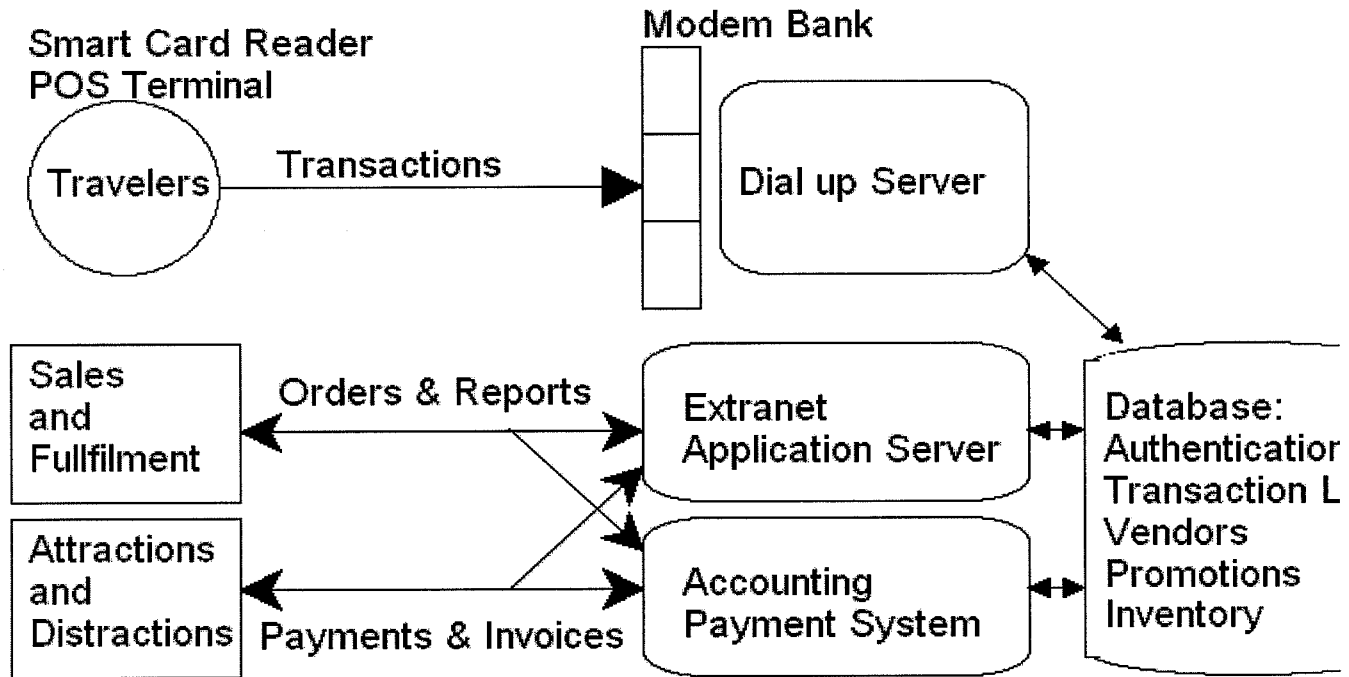
This diagram shows that travelers, carrying an activated GoSmart card, can gain admission to an attraction by presenting it at the box office. The attraction needs only provide a phone line and power to the Smart Card Reader at a ticket counter. As a backup for any failure in the system, any attraction sales agent with Internet connected computer and a web browser can also enter transaction or potentially activate a card.



The GoSmart System requires very little the way of realstate footprint or infrastructure.

A Better Look at the GoSmart Platform

This diagram shows how the admissions and other attractions are batch uploaded to a dial up server every night. The transactions are captured and databased. They feed into the extranet reporting system and back-end accounting systems. Sales and fulfillment channels access the extranet, to create orders and delivery inventory of smart cards. Attractions and distractions can review payments and invoices and other reports.



Lifecycle of a GoBoston card:

1. Initialization:
 - GoBoston creates a product and orders the product cards to be printed in an inactive state from GSS.
 - The card inventory may be held by GSS, GoBoston, or GoBoston's sales channels to distribute to customers.
2. Sales:
 - Sales force agent sells to a travel group, family, or individual a GoBoston card product or product upgrade and then collects and enters customer information on the GoBoston sales portal.
 - Sales agent may generate a prepaid or unpaid voucher for the GoBoston card product. on the GoBoston card sales portal or enter their voucher reference to guarantee a commission.
 - A sales agent may activate and issue a card to a customer (skipping the fulfillment and activation sections that follow) if their selling organization holds stock and guidebooks..
3. Fulfillment:

- Sales agent may ship a voucher to the customer.
 - Sales agent may activate a GoBoston product card and ship on-hand stock of card and guidebook to the customer before the trip.
 - Sales agent may have GoBoston or GSS activate and ship the customer the GoBoston product card before the trip.
 - Customer may pick up the card in person at an authorized selling location.
4. Activation:
- A traveler redeems a voucher to pick up a card and guidebook.
 - If the voucher is unpaid, then the sales agent collects payment.
 - A sales agent will activate a card for in-person sales and voucher redemptions with on-hand stock.
5. Cardholder Usage:
- Cardholder uses card at attractions for admission and other promotions.
 - Typically limited to one admission to an attraction per day.
 - Cardholder uses card at distractions for promotions.
 - Promotions will have their own unique constraints by quantity and time.
 - Cardholder throws away card when it expires or a terminal sets it to "deactivated" status.

Pattern of Money Flow:

1. Cardholder Sales cycle:
 1. GoBoston enters into a selling relationship with a sales agency.
 - The sales agency pays GoBoston for any card and guidebook stock they carry for their own fulfillment.
 - The sales agency pays GoBoston or GSS for any POS Smart Card terminals, support, and training for activating card stock.
 - GoBoston and the Sales agency may enter into a different arrangement for card distribution and payment schedules, TBD.
 2. A sales agent enters sales information on Sales Portal and issues one of the following:
 - a paid voucher
 - Customer pays sales agency.
 - Sales commission paid by GoBoston to the sales organization account, referencing the sales agent.
 - an unpaid voucher
 - Unpaid vouchers have a sales organization's internal reference number entered into the Sales Portal.
 - a paid, activated GoBoston product card and Guidebook from on-hand stock.
 - Customer pays sales agency.
 - Sales commission paid by GoBoston to the sales organization account, referencing the sales agent.
 3. A customer redeems a voucher at a sales, customer service, or fulfillment location:

- Unpaid vouchers are found in the system.
 - Customer pays location.
 - Sales commission paid by GoBoston to the sales organization account, referencing the sales agent.
 - GoBoston or GSS pays a fulfillment fee per card to the location.
 - Paid voucher found in the system:
 - GoBoston or GSS pays a fulfillment fee per card to the location.
2. GoBoston Sales Cycle:
1. GoBoston enters into a selling relationship with an attraction or distraction
 - Prenegotiated admission rates and price schedule.
 - Prenegotiated distraction promotions and commissions.
 - Attractions and Distractions pay GoBoston for guidebook listing and provide marketing materials and media assets for the guidebook.
 - Attractions and Distractions pay GSS for the smart card POS terminal setup, installation, and training as a one time fee. Fee includes free 1 year subscription to the GSS network. Monthly subscription TBD.
 - GoBoston pays GSS for terminals and installation and extranet access.
 2. Cardholder redeems an admission or promotion, transaction logs are uploaded from terminals to GSS.
 3. Monthly invoices are generated by GSS for GoBoston:
 1. GoBoston pays attractions for admissions on a price schedule.
 2. Distractions pay GoBoston commissions for delivering customer.
 3. GoBoston pays GSS for invoicing?

Engineering Plan

Development Strategies

Phase 1 overview:

- Smart Card Platform: Embedded terminal smart card readers, usually with a proprietary SDK. We will write a card promotion (admission, discount, etc.), transaction, and activation application.
- Dialup Server: ?Windows NT/2000/XP or Linux? server running a modem pool for the terminals to dial in and batch upload their transactions, it may be a required platform for the terminals.
- Extranet: a Unix/Linux based server deployment using open source facilities: Apache + MySQL + Perl & PHP for rapid prototyping. No licensing costs and suitable scalability for a beta test and initial deployment.

We could consolidate all of the extranet operations onto one server, but from a pragmatic security and performance standpoint, this is not advisable because it would be a single point of failure.

SmartCards comply to standards. JavaCards exist and would solve many many developmental problems, but initial research says they have not reached a maturity standpoint where economies of scale make the viable for a disposable product at this time.

Phase 2 overview:

An enterprise framework, as a redevelopment effort to bring as much of the functionality into a Java codebase. The system will be well tested and scoped out for the future features with real metrics of usage, making this redevelopment effort grounded in reality for the entire system. The redeployment would probably factor in better hardware, network, multiple application & database servers for replication/scalability/fault tolerance, multiple data centers, and back-end system (payment/accounting/reporting) integration efforts.

Phase 3 overview:

Additional work to expand the system for better security (PKI) on the cards and terminals, software updates to the terminals, and a full localization and internationalization effort of the products, cards, and all software and systems.

Product delivery:

- Standard:
 - The GSS system manager is a web based product using the application service provider (ASP) model, so it is distributed via the Internet. Internet access is all that is required along with an account in the system.
 - We envision GSS points of presence (POPs) either co-located at each destination city with
- Standalone product (for special negotiations):
 - Binary release: product will be delivered as compiled modules and web materials and setup scripts for a PHP/Apache/MySQL environment.
 - Source code release: produce delivered as all web materials and PHP source code along with setup scripts for a PHP/Apache/MySQL environment
 - Hardware release: "sealed" tamper-proof servers may be delivered ready to be plugged onto a network with or without GSS maintenance and administration.

Major development tasks for phase 1:

- Smart Card Platform:

- Research and procure Smart Card Point of Sale terminals, cards, and SDK
 - Build Smart Card Reader and card application
 - Research, procure, and build Dial up server
 - Procure phone line(s) for modems
 - Test system and benchmark
 - Deploy and secure systems
- Build Extranet:
 - Create database
 - Create web application
 - Polish user interface
 - Test system
 - Procure network connectivity and datacenter?
 - Deploy and secure systems

Infrastructure Plan

TBD

Last modified by Mark Lavi on 12/20/2002.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Conf. No.: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

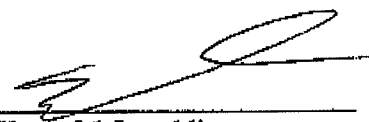
DECLARATION OF KEVIN MCLAUGHLIN

Sir:

I, the undersigned, Kevin McLaughlin, declare that:

1. I am a co-inventor of the claimed subject matter of the above-identified patent application. I make this declaration in support of that application and in response to the Office Action mailed February 27, 2007.
2. Prior to July 13, 2003, my co-inventors and I conceived of a programmable ticketing system and began working to develop it. An embodiment of the programmable ticketing system was designed to be installed in Boston, Massachusetts. That system is referred to herein as the "Boston system" and comprises smart cards, several terminals capable of reading a smart card, a server, a central database, and network connections and communication protocols between the terminals, the server and the central database.
3. The first commercial sale of smart cards for use with the Boston system occurred on July 23, 2003.

I, the undersigned, declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this document and any patent which may issue from the above-identified patent application.

Date: 8/20/07
Kevin McLaughlin
Boston, MA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being electronically filed in accordance with § 1.6(a)(4), on the 22nd day of August 2007.

/Sarah M. Gates/

Sarah M. Gates

Commissioner for Patents
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT FILED PURSUANT TO THE DUTY OF
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98**

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed more than three months after the filing date of this application and after the mailing date of the first Office Action, but before the mailing date of either a final action under 37 C.F.R. §1.113 or a Notice of Allowance under 37 C.F.R. §1.311, or an action that otherwise closes prosecution in this application.

The fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) is enclosed.

PART II: Information Cited

The Applicant hereby makes the following information of record in the above-identified application.

The Applicant directs the Examiner's attention to the attached Declarations by Tyler Brooks and Kevin McLaughlin detailing development and testing of a system disclosed in the

present application, and subsequent sales of smart cards for use with the system, and use of the system.

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that the Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,
Tyler Brooks et al., Applicant

By: /Sarah M. Gates/
Sarah M. Gates, Reg. No. 60,661
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Electronic Patent Application Fee Transmittal				
Application Number:		10896287		
Filing Date:		21-Jul-2004		
Title of Invention:		Programmable ticketing system		
First Named Inventor/Applicant Name:		Tyler Brooks		
Filer:		Sarah May Gates/Jessica Foster		
Attorney Docket Number:		S2013-700019		
Filed as Large Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt	
EFS ID:	2113527
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	37462
Filer:	Sarah May Gates
Filer Authorized By:	
Attorney Docket Number:	S2013-700019
Receipt Date:	22-AUG-2007
Filing Date:	21-JUL-2004
Time Stamp:	17:40:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 180
RAM confirmation Number	2339
Deposit Account	502762
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		S2013_Response.pdf	36630	yes	6
			100732ae53eb4fb12f76c13d1aca50d1454edfa3		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment - After Non-Final Rejection		1	1	
	Claims		2	4	
	Applicant Arguments/Remarks Made in an Amendment		5	6	
Warnings:					
Information:					
2	Rule 130, 131 or 132 Affidavits	Declaration_1.pdf	883657	no	20
			340ce712b86369492c4ddfc433cdd4ba2ed01c29		
Warnings:					
Information:					
3	Rule 130, 131 or 132 Affidavits	Declaration_2.pdf	49303	no	1
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Warnings:					
Information:					
4	Information Disclosure Statement Letter	S2013_IDS.pdf	27228	no	2
			7023bf427e10243bed647a9946240b072ce15bd8		
Warnings:					
Information:					
5	Fee Worksheet (PTO-06)	fee-info.pdf	8153	no	2
			b16de878766eeee21881b9a94a64f2542f7a117c		
Warnings:					
Information:					
Total Files Size (in bytes):			1004971		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Patent Application Fee Transmittal				
Application Number:		10896287		
Filing Date:		21-Jul-2004		
Title of Invention:		Programmable ticketing system		
First Named Inventor/Applicant Name:		Tyler Brooks		
Filer:		Sarah May Gates		
Attorney Docket Number:		S2013-700019		
Filed as Large Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with \$0 paid	1253	1	1020	1020

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				1020

Electronic Acknowledgement Receipt

EFS ID:	2114615
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	37462
Filer:	Sarah May Gates
Filer Authorized By:	
Attorney Docket Number:	S2013-700019
Receipt Date:	22-AUG-2007
Filing Date:	21-JUL-2004
Time Stamp:	21:21:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 1020
RAM confirmation Number	3564
Deposit Account	502762
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (PTO-06)	fee-info.pdf	8116 bb4f7da59df94552443ddc1bf89a4defb a1a0d65	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			8116		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2003

Application or Docket Number

0896287

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	34	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	34 minus 20 =	14
INDEPENDENT CLAIMS	9 minus 3 =	6
MULTIPLE DEPENDENT CLAIM PRESENT ☐		

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

5.1

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	34	34	0
Independent	9	9	0
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

10 18 21 24 28 32
3 3 34

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	14	34	1
Independent	2	9	1
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	14	34	1
Independent	2	9	1
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM ☐			

SMALL ENTITY TYPE ☐

OR OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
BASIC FEE	385.00	OR	BASIC FEE	770.00
XS 9=	106	OR	XS18=	
X43=	236	OR	X86=	
+145=		OR	+290=	
TOTAL	769	OR	TOTAL	

SMALL ENTITY OR OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, enter "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
 *** If the "Highest Number Previously Paid For" ON THIS SPACE is less than 3, enter "3."
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.

10/896,287

07/21/2004

Tyler Brooks

S2013-700019

7645

37462 7590 10/31/2007
LOWRIE, LANDO & ANASTASI
RIVERFRONT OFFICE
ONE MAIN STREET, ELEVENTH FLOOR
CAMBRIDGE, MA 02142

EXAMINER

DUNHAM, JASON B

ART UNIT

PAPER NUMBER

3625

NOTIFICATION DATE	DELIVERY MODE

10/31/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Office Action Summary	Application No.	Applicant(s)	
	10/896,287	BROOKS ET AL.	
	Examiner	Art Unit	
	Jason B. Dunham	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-20, 28-31 and 35-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-20, 28-31, and 35-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)	5) ☐ Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The declaration filed on August 22, 2007 under 37 CFR 1.131 is sufficient to overcome the Watts (US 2004/0267619) reference. Applicant added claims 35-41 in the response filed August 22, 2007 to the office action dated February 27, 2007. Claims 18-20, 28-31, and 35-41 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20, 28-31, and 35-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Suchocki (US 2002/0151364).

Referring to claim 18. Suchocki discloses a product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:

- A network interface to permit data access to reward terminals located in proximity to the plurality of promotions (abstract and figure 1);
- A database to store at least one product definition (paragraph 33, "types of prizes"); and

- A database to store data corresponding to actual use of the rewards (paragraph 33, "updating information regarding rewards").

Referring to claim 19. Suchocki further discloses a system wherein the at least one product definition includes a list of the plurality of promotions (paragraph 33).

Referring to claim 20. Suchocki further discloses a system wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals (figure 1).

Referring to claim 28. Suchocki further discloses an access system for use with user codes comprising:

- A controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period (paragraph 31, "game tracking");
- A database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal (paragraph 33);
- Wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code (paragraph 33);
- Wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period (paragraph 33).

Referring to claim 29. Suchocki further discloses a system wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data from the reward terminal (figure 1 and paragraph 31).

Referring to claim 30. Claim 30 is rejected under the same rationale set forth above in the rejection of claim 29, as the periodicity is a matter of design choice.

Referring to claim 31. Suchocki further discloses a system wherein the user codes are encoded on programmable smart cards (paragraph 35).

Referring to claim 35. Suchocki further discloses a system wherein the reward terminals include smart card readers (paragraph 35).

Referring to claims 36-37. Suchocki further discloses a system wherein at least one promotion of the plurality of promotion(s) is constrained in time or frequency of use (paragraphs 30-31).

Referring to claim 38. Suchocki further discloses a system wherein each promotion included in the promotion list is defined by a unique promotion code (paragraph 33, "types of prizes to which the points correspond").

Referring to claim 39. Suchocki further discloses a system wherein the unique promotion code includes information defining at least one access restriction for the promotion (paragraph 24, access is restricted to a limited number and type of plays).

Referring to claim 40. Suchocki further discloses a system wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code (paragraph 24).

Referring to claim 41. Suchocki further discloses a system wherein the at least one access restriction includes a predetermined time period during which the promotion is valid (paragraph 24, "tournament involving seven different plays may have a duration of three days").

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason B. Dunham whose telephone number is 571-272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JBD
Patent Examiner


MATTHEW S. GART
PRIMARY EXAMINER
TECHNOLOGY CENTER 3600

Notice of References Cited	Application/Control No. 10/896,287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.	
	Examiner Jason B. Dunham	Art Unit 3625	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0151364 A1	10-2002	Suchocki, Edward J.	463/42
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

10/896,287

Jason B. Dunham

BROOKS ET AL.

3625

[illegible]

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

[illegible]



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	S2013-700019	7645
37462 7590 02/13/2008 LOWRIE, LANDO & ANASTASI, LLP ONE MAIN STREET, SUITE 1100 CAMBRIDGE, MA 02142			EXAMINER DUNHAM, JASON B	
			ART UNIT 3625	PAPER NUMBER
			NOTIFICATION DATE 02/13/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Interview Summary	Application No. 10/896,287	Applicant(s) BROOKS ET AL.	
	Examiner JASON DUNHAM	Art Unit 3625	

All participants (applicant, applicant's representative, PTO personnel):

(1) Jason Dunham. (3) Sarah Gates.

(2) Tom McGinnis. (4) ____.

Date of Interview: 05 February 2008.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: all.

Identification of prior art discussed: Suchocki (US 2002/0151364).

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Jason Dunham/
Examiner, Art Unit 3625

Examiner's signature, if required

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Mr. McGinnis, attorney of record, gave an overview of the applicant's invention. He indicated that one embodiment of the invention is tourists using a smart card in a package deal when traveling to view common geographic attractions in various cities. Mr. McGinnis indicated he did not feel that the prior art of record, Suchocki, anticipated the limitations of claim 1. Examiner Dunham stated his position that the promotions and rewards recited in claim 1, give their broadest reasonable meaning, were anticipated by the prizes and amusement games disclosed within Suchocki, as indicated in the office action dated October 31, 2007. Examiner Dunham suggested further defining the claim limitations in view of the embodiment described above.

Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being electronically filed in accordance with § 1.6(a)(4), on the 29th day of February, 2008.

/Thomas J. McGinnis/
Thomas J. McGinnis

Commissioner for Patents

AMENDMENT

Sir:

In response to the Office Action mailed October 31, 2007, please amend the above-identified application as follows.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 – 17. (canceled)

18. (original) A product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:

a network interface to permit data access to reward terminals located in proximity to the plurality of promotions;

a database to store at least one product definition; and

a database to store data corresponding to actual use of the rewards.

19. (original) The product manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of promotions.

20. (original) The product manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.

21 – 27. (canceled)

28. (original) An access system for use with user codes comprising:

a controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period; and

a database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal;

wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code; and

wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period.

29. (original) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data to from the reward terminal.

30. (original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.

31. (original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.

32 – 34. (canceled)

35. (previously presented) The product manager system as claimed in claim 18, wherein the reward terminals include smart card readers.

36. (previously presented) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in time.

37. (previously presented) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in frequency of use.

38. (previously presented) The access system as claimed in claim 28, wherein each promotion included in the promotion list and product list is defined by a unique promotion code.

39. (previously presented) The access system as claimed in claim 38, wherein the unique promotion code includes information defining at least one access restriction for the promotion.

40. (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code.

41. (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined time period during which the promotion is valid.

42. (new) A computer-implemented method of managing access to a promotion associated with at least one tourist attraction, the method comprising:

associating a user code with a product, the product including a plurality of promotions, the plurality of promotions including the promotion associated with the at least one tourist attraction;

providing a reward terminal configured to receive the user code, the reward terminal being located in proximity to the at least one tourist attraction; and

recording, by the reward terminal, the use of the user code to access the promotion associated with the at least one tourist attraction.

43. (new) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product definition that comprises a list of the plurality of promotions.

44. (new) The method as claimed in claim 42, further comprising periodically exchanging information between the reward terminal and a remote system.

45. (new) The method as claimed in claim 42, wherein providing the reward terminal includes providing a reward terminal comprising a smart card reader.

46. (new) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one promotion that is constrained in time.

47. (new) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one promotion that is constrained in frequency of use.

REMARKS

Claims 18-20, 28-31 and 35-41 were previously pending in this application. By this amendment, new claims 42-47 have been added. As a result claims 18-20, 28-31 and 35-47 are pending for examination with claims 18, 28 and 42 being independent claims. No new matter has been added. The application as presented is believed to be in condition for allowance.

Summary of Telephone Conference with Examiner

The Applicant thanks Examiner Dunham for his time and courtesy during the telephone interview conducted on February 4, 2008 with the Applicant's representatives Sarah Gates and Thomas McGinnis. Aside from the reported date of the telephone conference, which is listed as February 5, 2008, Applicant accepts as accurate the summary of the telephone conference provided by the Examiner on February 13, 2008.

Rejection Under 35 U.S.C. § 102

Claims 18-20, 28-31 and 35-41 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2002/0151364 to Suchocki (hereinafter Suchocki). Applicant respectfully traverses this rejection.

Claims 18-20 and 35-37

Independent claim 18 recites a system "that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product" including "a network interface to permit data access to reward terminals located in proximity to the plurality of promotions; a database to store at least one product definition; and a database to store data corresponding to actual use of the rewards." Contrary to the assertions in the Office Action, these limitations are not disclosed or suggested by Suchocki.

Suchocki is directed toward a "system for providing incentives to promoters for recommending games to players" (abstract). Suchocki discloses "a tournament incentive point system ('TIPS rewards program') that rewards employees of an establishment having amusement games for the promotion of those amusement games" (paragraph [0029]). Suchocki continues, "[a]t certain times or on the accumulation of a predetermined number of points, a promoter may exchange that promoter's accumulation of points for prizes and/or cash" (paragraph [0030]).

Suchocki discloses, with reference to FIG. 1, that “[e]ligible promoters ... register with the tournament network 10 through one of the gaming devices 12-18” (paragraph [0032]). Suchocki discloses, with reference to FIG. 2, a “tournament update routine 36” that updates “TIPS information including which promoters have endorsed which games,” “TIPS point boards including the number of points per promoter” and “information regarding the value of the TIPS rewards points and the types of prizes to which the points correspond” (paragraph [0033]). Suchocki alternatively discloses that “a separate TIPS update routine, similar to the tournament update routine, ... can be implemented to update information regarding the TIPS rewards program” (paragraph [0033]).

Contrary to the assertions in the Office Action, Suchocki does not disclose a system including “a network interface to permit data access to reward terminals located in proximity to the plurality of promotions” or “a database to store data corresponding to actual use of the rewards.” Rather, as discussed above, Suchocki discloses a system that rewards gaming promoters with cash or non-monetary gifts or services but lacks detail regarding how, when and where these rewards are acquired.

In particular, Suchocki does not disclose a “reward terminal located in proximity to the plurality of promotions” or any “reward terminal,” at all. While Suchocki discloses the exchange of accumulated points for cash and/or prizes and that eligible promoters register via gaming devices, Suchocki does not disclose that these gaming devices are used to exchange accumulated points. In fact, Suchocki is silent regarding the means of the exchange. Thus Suchocki does not disclose, teach or suggest the use of a reward terminal. Even further removed from Suchocki is the additional limitation that the reward terminal is “located in proximity to the plurality of promotions” because Suchocki does not address how the exchange is conducted or where the exchange is performed.

Furthermore, Suchocki does not disclose “a database to store data corresponding to actual use of the rewards.” Instead, as discussed above, Suchocki focuses on the maintenance and display of aggregate TIPS information. While Suchocki does disclose “a separate TIPS update routine, similar to the tournament update routine,” fairly read in the context paragraph [0033] this routine is disclosed as an alternative to “tournament update routine 36” and, consequently, deals with the same data as routine 36, namely, “TIPS information including which promoters have endorsed which games,” “TIPS point boards including the number of points per promoter”

and “information regarding the value of the TIPS rewards points and the types of prizes to which the points correspond.” Nowhere does Suchocki disclose how, if at all, this information is affected when a promoter exchanges TIPS points for prizes. Thus, disclosure of “a separate TIPS update routine” does not disclose “a database to store data corresponding to actual use of the reward.”

Suchocki, therefore, cannot anticipate claim 18 because Suchocki fails to disclose at least several limitations recited in claim 18. Accordingly, withdrawal of the rejection of claim 18 is respectfully requested. Claims 19, 20 and 35-37 depend from claim 18 and are, therefore, allowable for at least the same reasons as claim 18. Accordingly, withdrawal of the rejection of claims 19, 20 and 35-37 is respectfully requested.

Claims 28-31 and 38-41

Independent claim 28 recites a system including “a controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period; a database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal; and wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code; and wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period.”

Suchocki does not disclose or suggest “a controller configured to be coupled to at least one reward terminal” or a database that stores “a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period” because, as discussed above, Suchocki does not disclose a reward terminal or a database to store data corresponding to actual use of the reward. Suchocki, therefore, cannot anticipate claim 28 because Suchocki fails to disclose at least several limitations recited in claim 28. Accordingly, withdrawal of the rejection of claim 28 is respectfully requested.

Claims 29-31 and 38-41 depend from claim 28 and are, therefore, allowable for at least the same reasons as claim 28. Accordingly, withdrawal of the rejection of claims 29-31 and 38-41 is respectfully requested.

Newly Added Claims

Applicant has added new claims 42-47 to further define Applicant's contribution to the art. Support for each of the new claims is provided by the specification as filed. More particularly, support for the subject matter of claims 42-47 is provided, for example, in paragraphs [0032]-[0038].

New independent claim 42 recites a method including "associating a user code with a product, the product including a plurality of promotions, the plurality of promotions including the promotion associated with the at least one tourist attraction; providing a reward terminal configured to receive the user code, the reward terminal being located in proximity to the at least one tourist attraction; and recording, by the reward terminal, the use of the user code to access the promotion associated with the at least one tourist attraction." As discussed above, the references of record do not disclose or suggest a reward terminal or a database to store data corresponding to actual use of the reward. For at least this reason, new claim 42 is patentable over the art of record and is believed to be in condition for allowance. New claims 43-47 depend from claim 42 and are, therefore, allowable for at least the same reasons as is claim 42.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this Amendment, including an extension fee that is not covered by any accompanying payment, please charge any deficiency to Deposit Account No. 50/2762, Ref. No. S2013-700019.

Respectfully submitted,

Tyler Brooks et al., Applicant

By: /Thomas J. McGinnis/
Thomas J. McGinnis, Reg. No. 58,026
Sarah M. Gates, Reg. No. 60,661
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Date: February 29, 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM
Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being electronically filed in accordance with § 1.6(a)(4), on the 29th day of February, 2008.

/Thomas J. McGinnis/
Thomas J. McGinnis

Commissioner for Patents

PETITION FOR ONE MONTH EXTENSION OF TIME

Sir:

A one (1) month extension of time, to and including February 29, 2008, is requested for response to the Patent Office Communication of October 31, 2007.

The Commissioner is hereby authorized to charge any deficiencies or overpayments to Deposit Account No. 50/2762, Ref. No. S2013-700019.

Respectfully submitted,

Tyler Brooks et al., Applicant

By: _____
/Thomas J. McGinnis/
Thomas J. McGinnis, Reg. No. 58,026
Sarah M. Gates, Reg. No. 60,661
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Date: February 29, 2008
884253.1

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10896287	
	Filing Date		2004-07-21	
	First Named Inventor	Tyler Brooks		
	Art Unit	3625		
	Examiner Name	Jason B. Dunham		
	Attorney Docket Number	S2013-700019		

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10896287
Filing Date	2004-07-21
First Named Inventor	Tyler Brooks
Art Unit	3625
Examiner Name	Jason B. Dunham
Attorney Docket Number	S2013-700019

1	The New York Pass - Making the most of your trip to New York, 1 page printed from http://web.archive.org/web/20020720081557/http://www.newyorkpass.com/ , printed on February 29, 2008.	☐
2	KiwiAble Leisure Card, 2 page document printed from http://web.archive.org/web/20010828155758/http://www.ccc.govt.nz/Programmes/KiwiAble/LeisureCard.asp , printed on February 29, 2008.	☐
3	Birmingham Sport and Leisure Lesiure Card, 3 page document printed from http://web.archive.org/web/20030618051258/http://www.leisure.birmingham.gov.uk/_card/_card.htm , printed on February 29, 2008.	☐

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Examiner Signature		Date Considered	

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¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10896287
Filing Date	2004-07-21
First Named Inventor	Tyler Brooks
Art Unit	3625
Examiner Name	Jason B. Dunham
Attorney Docket Number	S2013-700019

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Thomas J. McGinnis/	Date (YYYY-MM-DD)	2008-02-29
Name/Print	Thomas J. McGinnis	Registration Number	58,026

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

(12) UK Patent Application (19) GB (11) 2 403 839 (13) A

(43) Date of A Publication 12.01.2005

(21) Application No: 0413266.8
 (22) Date of Filing: 14.06.2004
 (30) Priority Data:
 (31) 0313530 (32) 12.06.2003 (33) GB

(71) Applicant(s):
Applied Card Technologies Ltd
 (Incorporated in the United Kingdom)
 Langley Gate, Swindon Road,
 Kington Langley, CHIPPENHAM, Wilts,
 SN15 5SE, United Kingdom

(72) Inventor(s):
Gary Michael Watts

(74) Agent and/or Address for Service:
Urquhart-Dykes & Lord LLP
 Three Trinity Court, 21-27 Newport Road,
 CARDIFF, CF24 0AA, United Kingdom

(51) INT CL⁷:
G07B 15/00

(52) UK CL (Edition X):
G4T TAE

(56) Documents Cited:
GB 2376785 A EP 0969426 A
EP 0713198 A WO 1999/038129 A
WO 1998/011517 A US 20010018660 A

(58) Field of Search:
 UK CL (Edition W) **G4T**
 Other: **EPODOC, WPI, JAPIO**

(54) Abstract Title: **Multi-application smart cards**

(57) A transaction system for tourist attractions comprises a plurality of merchant terminals 2 at respective attractions and a plurality of pass cards 4, 6. Each card 4,6 is loaded with token which defines the attributes of the pass or passes provided by the card. Each merchant terminal 2 can write data to the cards to amend the tokens or to add new tokens.

The system allows customers to re-use existing cards at tourist attractions worldwide. Also, the system enables the activities of the customer to be controlled in accordance with their previous activities which are stored on the card.

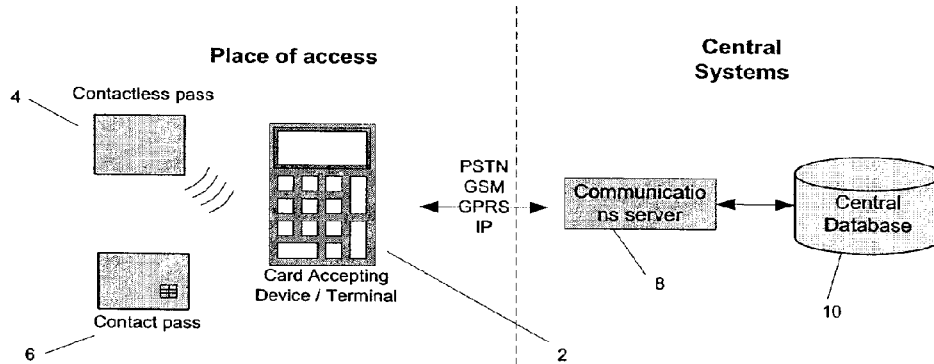
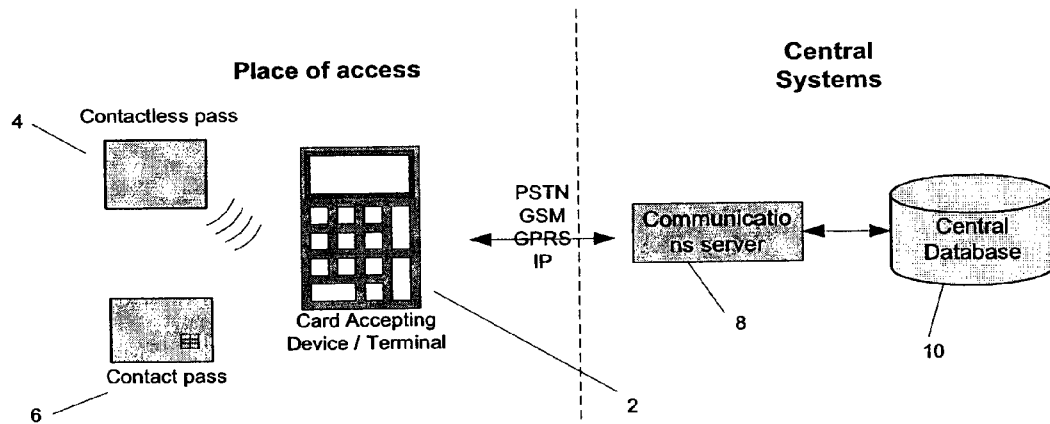


Figure 1

Original Printed on Recycled Paper

GB 2 403 839 A

**Figure 1**

Field name	Mandatory or Optional?	Description	Format	Data type	Size (bytes)
Max number of PDE	M	Numeric Id	0..16 (nibble)	BYTE	1
Current Number of PDE	M	Numeric Id	0..16 (nibble)		
PID Sequence Log	M	Positive Integer	0..255	BYTE	1
					4
PDE - PID Sequence	O	Positive Integer	0..255	BYTE	1
PDE - Status	O	Positive Integer	0..255	BYTE	1
PDE - Pass	O	Numeric Id	0..255	BYTE	1
Pass Sector					
PDE - Pass Offset	O	Integer	0..255	BYTE	1
PDE - Log Sector	O	Numeric Id	0..255	BYTE	1
PDE - Log Offset	O	Integer	0..255	BYTE	1
					10
Further directory entries	O	-	-	BYTE	6
	O	-	-	BYTE	n
					15...n

Pass Directory

The directory will always be present at the start of the Directory & Log sectors. The Pass directory

Where PDE Limit represents the max number of Pass Directory Entries (passes) definable in the pass directory.

Where Current Num of PDE's represents the number of directory entries (passes) currently on the card (in any state)

Where PID Sequence Log represents the storage of the next PID sequence number and is incremented every time a pass is loaded onto a card.

Where PDE - PID Seq represents the sequence number assigned to the pass referred to by the e PDE.

Where PDE - Status represents the status of the pass referred to by the PDE

Where PDE - Pass Sector represents the pass definition record sector relative to the sector defined in the Destiny directory.

Where PDE - Pass Offset represents the memory offset to the start of the pass definition record.

Where PDE - Log Sector represents the visit / discount log record sector relative to the sector defined in the Destiny directory.

Where PDE - Log Offset represents the memory offset to the start of the visit / discount log.

Figure 2

Field name	Mandatory or Optional?	Description	Format	Data type	Size (bytes)
First Use	M	Date	YYYYMMDDHHMM	BCD	6
Current Use	M	Date	YYYYMMDD	BCD	3
Optional Field Flags	M	Bitmask	Bitfieldnamecomment	BYTE	1
Location Log	O	Integer	0..255	BYTE	1
Length	O	Positive integer	0..65535	BYTE	2
Location	O	...	...	...	...
Log	O	Positive integer	0..65535	BYTE	n
Flags	O	Bitmask	nnnnnnnn	BYTE	1

Visit / Discount Log Record

A visit / discount log record can be described as follows:

First Use - the timestamp of first use of pass usage

Current Use - the current usage date stamp (the last activity on the card)

Optional Fields Flags - the optional pass parameters are registered here

Field order is important. Fields are always found in the order shown in this document.

Figure 3

Electronic Transaction System

The present invention relates to a transaction system and more particularly but not solely to a transaction system in which tourism pass cards are held by persons and used when entering attractions participating in one or more tourism
5 schemes.

It is known to run tourism schemes, in which persons are issued with tourism pass cards that may be used when visiting tourist attractions within a particular tourism scheme. One such system involves the use of simple pre-
10 programmed memory cards (such as cards incorporating magnetic strips or electronic memory devices such as smart cards), which record the validity of the card prior to use, such that it can be checked on each use of the card at an attraction.

The information (the "Pass") within the card memory is
15 can be read and processed to determine if access to an attraction should be given to the card holder. As an example, a family wishing to visit a plurality of attractions in London over a 2 day period would purchase one 2 day card for each family member. The cards are then presented at each attraction,
20 where the validity of the cards is checked before access is granted. At the end of the 2 day period, the cards are no longer valid and can be discarded.

The system suffers the drawback that one card is required by each customer for each visit that they make to a
25 particular locality. This creates additional collateral and distribution expenses for tourism scheme operators. Another disadvantage is that the same card can be used to gain access to the same attraction more than once, thereby making it possible for customers to pass their cards back to others to
30 gain access without the need for their own card.

We have now devised an arrangement which overcomes the limitations of existing transaction systems.

In accordance with the present invention there is provided a transaction system comprising:

a plurality of merchant terminals each having a device for reading data from and writing data to a card; and

a plurality of multi-application cards arranged to store data and arranged to interact with said read/write
5 device, each terminal being arranged to interrogate a card inserted into the card reader thereof to determine for the presence of a valid data token and to provide a pass indication in the event that a valid token is detected, the terminals being arranged to write tokens onto the cards and/or to vary
10 the validity of existing tokens.

In use, a family wishing to obtain passes to visit a plurality of attractions in say London over a 2 day period would only need to purchase one card loaded with a token or containing details of the purchase, such as the time duration
15 of the pass, the number, the location (eg London), the number of people and their status (e.g. child, adult, OAP etc). The passes may be ordered via the Internet. The card containing the token would then be mailed together with a guide book containing a list of the attractions at which the card is
20 accepted.

Once at an attraction, the validity of the token is checked before access is granted by way of the pass indication. Also, once at an attraction, a customer will be able to purchase further passes or extend the duration of existing
25 passes, and this is achieved by writing a new token to the card or by amending an existing token.

In this manner, if the adults of the same family then visit Washington DC later in the same year, the same card can be re-used by paying for the required passes at the first
30 attraction which they visit. Alternatively, the passes can be purchased over the Internet and loaded onto the card upon its presentation at the first attraction which they visit.

Upon each use of the card, details of the use are written to the card or stored remotely, which details can be
35 interrogated to prevent re-use at the same attraction.

The system in accordance with the present invention therefore uses a passes and pass data residing on a smart card (e.g. that of a transport operator or), preferably together with information related to the current transaction, and
 5 customised business rules in order to evoke the Pass residing on the card to either allow entry to a facility or reject the Pass on the card and refuse entry.

The cards may be dedicated cards, alternatively the tokens and data may be written onto an area of the user's
 10 personal bank or identification card: many banks and financial institutions etc. already issue cards having this capability.

Preferably the token carries an expiry date, which may be an actual date in time, or which can be calculated as a predetermined number of days from first use of the card. Thus,
 15 the pass can be set to expire any number of days/hours/minutes from the first use or after a certain period of time (e.g. after a predetermined number of days or non-consecutive days from first use).

It will be appreciated that the business rules operated
 20 by the terminal can be tailored to make a vary the token in response to a predetermined usage pattern on the part of the card holder. In this manner, for example, the user could be prevented from visiting more than 2 art galleries in any one day.

25 Preferably, the token comprises one or more of the following data items:

- a) A date of issue field comprising the date on which the issue took place;
- b) A device ID field comprising an identification
 30 number or code for the terminals at which the card was processed;
- c) An expiry field, defining the date on which the token expires or the length of time it remains valid;
- d) A token duration defining the number of hours,
 35 days, months, 30 months, years the token is valid for;

e) A date of unused token expiry defining the ultimate expiry date for an unused token.

f) A scheme identifier defining the scheme (e.g. the location) at which the token can be used.

5 g) A number of pass profile identifiers defining the type of visitor (e.g. Adult, Child, VIP, Senior citizen, Student etc).

h) A digital signature to prove data authenticity of the card. The signature will preferably be a signed
10 cryptographic hash (for example MD5) of Pass data, encrypted using an encryption algorithm and a set of keys. The exact nature of the algorithm will depend on the capabilities of the target card platform. RSA, 3DES and Elliptic Curve algorithms would all be applicable to such a signature.

15 I) A unique ID allowing a token on a card to be uniquely referenced for the purposes of pass update, upgrade, cancellation etc.

Preferably data is encrypted before it is written to the card.

20 Preferably the terminals are connected to each other via a networks. Preferably the terminals are connected to a central database arranged to manage and update or modify the business rules and financial reports for the respective tourism scheme.

25 Also in accordance with the present invention, there a method for providing access to the facilities of a tourist attraction, wherein an electronic memory card reader is used to selectively provide a person with access to, or deny the person access to, the facilities of a tourist attraction,
30 according to data stored in the memory of a multi-application memory card presented by that person.

Further in accordance with the present invention, there is provided a tourism attraction having an electronic memory card reader for selectively providing a person with access to,
35 or denying the person access to, the facilities of the tourist

attraction, according to data stored in the memory of a multi-application memory card presented by that person.

Still further in accordance with the present invention, there is provided a business scheme, wherein data for providing
5 access to a tourist attraction operated by a first business concern is stored on a multi-application memory card issued by a second business concern for at least one alternative purpose.

An embodiment of the present invention will now be described by way of an example only and with reference to the
10 accompanying drawings, in which:

Figure 1 is a schematic block diagram of a portion of a transaction system in accordance with the present invention;

Figure 2 is a schematic diagram showing the Pass Directory used to give the location of passes and any related
15 logs in the Pass Directory held in memory of a card used in the system of the present invention; and

Figure 3 is a schematic diagram showing the Pass visit and Discount log structure held in the memory of the card used in the system of the present invention.

Referring to Figure 1 of the drawings, there is shown
20 an apparatus, provided at each entry point in a tourism outlet. The apparatus comprises a merchant terminal 2 having a device for reading and writing data to cards.

Each connected terminal 2 is connected to via a server
25 8 to a central database 10. The pass functionality at each terminal 2 may be incorporated into the terminal 2, such that the card read/write device may operate in an off-line mode. Alternatively, the pass functionality may be provided by the database 10 remote from the terminal.

30 The network may comprise an Ethernet, rs232 or wireless configuration, for example. The terminal apparatus 2 needs to communicate with any other servers which are central to the tourism scheme: this communication may be effected over a dedicated line (e.g. telephone line) or over the till network.
35 The terminal apparatus 2 may, for example, comprise the

MAGIC6100 unit marketed by the French company SchlumbergerSema the OMNI 3750 from the USA company Verifone or the 8550 unit marketed by the Australian company Intellect.

The card read/write device includes a card interface,
5 a visual display and a printer (optional), in addition to a data processor and communications device.

The system uses microprocessor cards 4,6 held by customers wishing to use the scheme. In use, and at each new transaction, a card, e.g. 4, is presented to the terminal
10 device 2, which reads the card. Should no pass application be present on the card, the card accepting device will, on demand, load a pass application onto the card. Once the pass application is present on the card, scheme and pass data (Figure 2) can be loaded for processing in accordance with
15 customised business rules. If the card holder wishes to use the Pass at the premises of trader participating in the scheme, a card accepting device 2 at those premises will read the Pass from the card 4, determine if the Pass is valid and write a code back to the card.

20 The tourism terminal or card accepting device 2 uses predetermined business rules to take into account the profile of the card holder and card 4 and the current transaction details recorded on the card, in order to determine whether access is to be permitted to a particular attraction. The
25 terminal 2 holds a set of business rules which have been transmitted to it, via a communications server 8, from a central database 10. The particular set of rules can be limited in date and/or specific to specific days of the week and/or hours of the day. It is accordingly simple to formulate
30 a set of rules which promote one attraction over another or a certain pass type within a certain time period.

The following represents, by way of an example, a set of business rules which may be operated by the terminal or CAD
2 -

35 i) A card is inserted at the terminal, the card is

checked as valid or not valid and verified as having the pass application on the card.

ii) If the card is valid but no pass application resides on the card, the customer will have the pass application loaded onto the card together with an appropriate 'pass' for use immediately or at a future date. This allows the card holder to have immediate redemption of the Pass at the traders outlet.

iii) Upon first use, the pass is activated and is only valid for the duration of the pass from that moment onwards (i.e. a 7 day pass would be valid for 7 days from the date of first use) and in accordance with the business rules in place for the card and scheme.

iv) Upon each use of the card, data in relation to the current transaction is captured by the terminal 2, which data typically includes card number, date of card visit, card type, card duration, scheme identifier. The terminal typically applies the predetermined business rules to process data relating to the current transaction to determine what action, if any, is to be taken, then to write corresponding data to the card and update the transaction.

The invention thus allows complete flexibility on the part of the trader participating in or running the tourism scheme. The Pass application and Pass Data can be resident on the third party cards thereby providing tourism scheme operators access to many more potential card holders.

By allowing the pass application and pass data onto their card, the card issuer will be able to offer existing card holders access to tourist attractions, thereby uplifting the value of owning the card to the card holder.

Claims

1. A transaction system comprising:
 - a plurality of merchant terminals each having a device for reading data from and writing data to a card; and
 - 5 a plurality of multi-application cards arranged to store data and arranged to interact with said read/write device, each terminal being arranged to interrogate a card inserted into the card reader thereof to determine for the presence of a valid data token and to provide a pass indication
 - 10 in the event that a valid token is detected, the terminals being arranged to write tokens onto the cards and/or to vary the validity of existing tokens.
2. A transaction system as claimed in claim 1, in which at least one of said card is a bank card or identification card.
- 15 3. A transaction system as claimed in claim 1, in which said token comprises one or more of the following data items:
 - a) A date of issue field comprising the date on which the issue took place;
 - b) A device ID field comprising an identification
 - 20 number or code for the terminals at which the card was processed;
 - c) An expiry field, defining the date on which the token expires or the length of time it remains valid;
 - d) A token duration defining the number of hours,
 - 25 days, months, 30 months, years the token is valid for;
 - e) A date of unused token expiry defining the ultimate expiry date for an unused token.
 - f) A scheme identifier defining the scheme (e.g. the location) at which the token can be used.
 - 30 g) A number of pass profile identifiers defining

the type of visitor (e.g. Adult, Child, VIP, Senior citizen, Student etc).

h) A digital signature to prove data authenticity of the card. The signature will preferably be a signed
5 cryptographic hash (for example MD5) of Pass data, encrypted using an encryption algorithm and a set of keys. The exact nature of the algorithm will depend on the capabilities of the target card platform. RSA, 3DES and Elliptic Curve algorithms would all be applicable to such a signature.

10 I) A unique ID allowing a token on a card to be uniquely referenced for the purposes of pass update, upgrade, cancellation etc.

4. A transaction system as claimed in claim 1, in which data is encrypted before it is written to the card.

15 5. A transaction system as claimed in claim 1, in which the terminals are connected to each other via a network.

6. A transaction system as claimed in claim 1, in which the terminals are connected to a central database arranged to manage and update or modify the business rules and financial
20 reports for the respective tourism scheme.

7. A transaction system for tourist attractions comprising means, operable when a transaction system is affected, for:
executing a pass application on a multi-application card, which card stores records of a plurality of 'pass'
25 permissions, 'pass profiles' (adult, child, OAP), types and previous transactions made by the 'pass';
determining what, if any, access to an attraction is to be granted to the card holder;

enabling said card holder to reload the card with
30 another pass profile, type and duration ; and,
writing a code to said pass area in the card to

identify said access conditions.

8. A transaction system as claimed in Claim 7, in which said pass comprises a date of issue field comprising the date on which the pass issue took place.

5 9. A transaction system as claimed in Claim 7, in which said pass comprises a device ID field comprising an identification number or code for the terminal at which the card was processed.

10 10. A transaction system as claimed in Claim 7, in which said pass comprises a pass expiry field, defining the date on which the pass expires or the length of time it remains valid.

11. A transaction system as claimed in Claim 7, in which said pass comprises pass duration defining the number of hours, days, months, 30 months, years the pass is valid for.

15 12. A transaction system as claimed in Claim 7, in which said pass comprises date of unused pass expiry defining the ultimate pass expiry date for an unused Pass.

13. A transaction system as claimed in Claim 7, in which said pass comprises a scheme identifier defining the scheme to
20 which the pass belongs.

14. A transaction system as claimed in Claim 7, in which said pass comprises a number of pass profile identifiers defining the type of visitor.

15. A transaction system as claimed in Claim 7, in which
25 said pass comprises a digital signature to prove data authenticity of the pass.

16. A transaction system as claimed in claim 15, in which said signature is a signed cryptographic hash (for example MD5) of pass data, encrypted using an encryption algorithm and a set of keys.

5 17. A transaction system as claimed in claim 16, in which said algorithm depends on the capabilities of the target card platform.

18. A transaction system as claimed in Claim 7, in which said pass comprises a unique PASS ID allowing a pass on a card
10 to be uniquely referenced for the purposes of pass update, upgrade, cancellation etc.

19. A transaction system as claimed in claim 7, in which said pass is written to a third parties card and comprises pre-determined logic values written to a dedicated area on the
15 third parties card.

20. A transaction system as claimed in Claim 7, in which data is encrypted before it is written to the card.

21. A transaction system as claimed in Claim 7, in which the terminal apparatus stores data relating to each pass loaded
20 or presented for subsequent transmission to a central database which is arranged to manage and update or modify the business rules and financial reports for the respective tourism scheme.

22. A method for providing access to the facilities of a tourist attraction, wherein an electronic memory card reader
25 is used to selectively provide a person with access to, or deny the person access to, the facilities of a tourist attraction, according to data stored in the memory of a multi-application memory card presented by that person.

23. A tourism attraction having an electronic memory card reader for selectively providing a person with access to, or denying the person access to, the facilities of the tourist attraction, according to data stored in the memory of a multi-
5 application memory card presented by that person.

24. A business scheme, wherein data for providing access to a tourist attraction operated by a first business concern is stored on a multi-application memory card issued by a second business concern for at least one alternative purpose.

10 25. A transaction system essentially as herein described and with reference to the accompanying drawings.

26. A tourism attraction essentially as herein described and with reference to the accompanying drawings.

27. A business scheme essentially as herein described and
15 with reference to the accompanying drawings.



Application No: GB0413266.8

Examiner: Tom Sutherland

Claims searched: 1 - 23

Date of search: 3 November 2004

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1 - 23	GB 2376785 A (HALPERN) Whole document relevant.
X	1 - 23	EP 0969426 A (SUN MICROSYSTEMS INC) Whole document relevant
X	1 - 23	EP 0713198 A (HITACHI) Whole document relevant.
X	1 - 23	WO1999/38129 A (AMERICAN EXPRESS) Whole document relevant.
X	1 - 23	WO1998/11517 A (NEDERLAND PTT) Whole document relevant
X	1 - 23	US 2001/0018660 A (SEHR) Whole document relevant.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^w :

G4T

Worldwide search of patent documents classified in the following areas of the IPC⁰⁷

The following online and other databases have been used in the preparation of this search report
EPODOC, WPI, JAPIO

Electronic Patent Application Fee Transmittal				
Application Number:		10896287		
Filing Date:		21-Jul-2004		
Title of Invention:		Programmable ticketing system		
First Named Inventor/Applicant Name:		Tyler Brooks		
Filer:		Thomas Joseph McGinnis		
Attorney Docket Number:		S2013-700019		
Filed as Large Entity				
Utility Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	1251	1	120	120

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				300

Electronic Acknowledgement Receipt

EFS ID:	2933035
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	37462
Filer:	Thomas Joseph McGinnis
Filer Authorized By:	
Attorney Docket Number:	S2013-700019
Receipt Date:	29-FEB-2008
Filing Date:	21-JUL-2004
Time Stamp:	15:25:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$300
RAM confirmation Number	792
Deposit Account	502762
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		S2013-700019_Response.pdf	49854 386a4e3f3942010659e16f3a34a4374507d3fa46	yes	10

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment - After Non-Final Rejection		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	10	

Warnings:

Information:

2	Extension of Time	S2013-700019_EOT.pdf	24261 4722c0ba65c8e4da2b7ef47ce92c20d1daa298	no	1

Warnings:

Information:

3	Information Disclosure Statement (IDS) Filed	S2013-700019_IDS.pdf	769225 9086f0adba8a34ba2f117530e4fd92ec08c45e41	no	4

Warnings:

Information:

A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.

4	NPL Documents	New_York_Pass.PDF	82310 35f2c018e8c344850035812e41f0e141e53d424e	no	1

Warnings:

Information:

5	NPL Documents	KiwiAble_Leisure_Card.PDF	191390 dad6ac99a3e9c639a21b66f712b1d3412e20fc64	no	2

Warnings:

Information:					
6	NPL Documents	Birmingham_Sport_and_Leisure_Card.PDF	290657 5316117ed0f773e2b03cd36d46bae511ff8fe622	no	3
Warnings:					
Information:					
7	NPL Documents	GB2403839.pdf	682610 d9f6b44ceed3d87e76d50fd5c2790df40d145f86	no	17
Warnings:					
Information:					
8	Fee Worksheet (PTO-06)	fee-info.pdf	8286 84a606528c98786568294800c5bcdf3d05a071a6	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			2098593		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 10/896,287		Filing Date 07/21/2004		☐ To be Mailed	

APPLICATION AS FILED – PART I						OTHER THAN SMALL ENTITY					
(Column 1)		(Column 2)		SMALL ENTITY ☒		OR		SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A						
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A		N/A						
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A						
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	X \$	=					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=	X \$	=					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).					OR					
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			TOTAL		

APPLICATION AS AMENDED – PART II						OTHER THAN SMALL ENTITY					
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	02/29/2008	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
Total (37 CFR 1.16(i))	*	20	Minus	** 20	= 0	X \$25 =	0	OR	X \$	=	
Independent (37 CFR 1.16(h))	*	3	Minus	*** 3	= 0	X \$105 =	0	OR	X \$	=	
☐ Application Size Fee (37 CFR 1.16(s))											
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE		

(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)			
Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=		
Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=		
☐ Application Size Fee (37 CFR 1.16(s))											
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/VENICE M. WILLIAMS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	S2013-700019	7645
37462 7590 07/09/2008 LOWRIE, LANDO & ANASTASI, LLP ONE MAIN STREET, SUITE 1100 CAMBRIDGE, MA 02142			EXAMINER DUNHAM, JASON B	
			ART UNIT 3625	PAPER NUMBER
			NOTIFICATION DATE 07/09/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Office Action Summary	Application No.	Applicant(s)	
	10/896,287	BROOKS ET AL.	
	Examiner	Art Unit	
	JASON B. DUNHAM	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 29 February 2008.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 18-20, 28-31 and 35-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 18-20, 28-31 and 35-47 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/29/08.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant added claims 42-47 in the response filed February 29, 2008. Claims 18-20, 28-31, and 35-47 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20, 28-31, and 35-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Suchocki (US 2002/0151364).

Referring to claim 18. Suchocki discloses a product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:

- A network interface to permit data access to reward terminals located in proximity to the plurality of promotions (abstract and figure 1);
- A database to store at least one product definition (paragraph 33, “types of prizes”); and
- A database to store data corresponding to actual use of the rewards (paragraph 33, “updating information regarding rewards”).

Referring to claim 19. Suchocki further discloses a system wherein the at least one product definition includes a list of the plurality of promotions (paragraph 33).

Referring to claim 20. Suchocki further discloses a system wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals (figure 1).

Referring to claim 28. Suchocki further discloses an access system for use with user codes comprising:

- A controller configured to be coupled to at least one reward terminal and configured to provide information to the reward terminal and receive data from the reward terminal once every predetermined time period (paragraph 31, “game tracking”);
- A database, coupled to the controller, that stores the information to be provided to the reward terminal and the data received from the reward terminal (paragraph 33);
- Wherein the information includes a promotion list of promotions accessible from the reward terminal and a product list of promotions that are accessible with each user code (paragraph 33);
- Wherein the data includes a list of user codes and promotions that have been processed by the reward terminal during the predetermined time period (paragraph 33).

Referring to claim 29. Suchocki further discloses a system wherein the database is configured to communicate with the at least one reward terminal with predetermined

periodicity to provide the information to the reward terminal and to receive the data from the reward terminal (figure 1 and paragraph 31).

Referring to claim 30. Claim 30 is rejected under the same rationale set forth above in the rejection of claim 29, as the periodicity is a matter of design choice.

Referring to claim 31. Suchocki further discloses a system wherein the user codes are encoded on programmable smart cards (paragraph 35).

Referring to claim 35. Suchocki further discloses a system wherein the reward terminals include smart card readers (paragraph 35).

Referring to claims 36-37. Suchocki further discloses a system wherein at least one promotion of the plurality of promotion(s) is constrained in time or frequency of use (paragraphs 30-31).

Referring to claim 38. Suchocki further discloses a system wherein each promotion included in the promotion list is defined by a unique promotion code (paragraph 33, “types of prizes to which the points correspond”).

Referring to claim 39. Suchocki further discloses a system wherein the unique promotion code includes information defining at least one access restriction for the promotion (paragraph 24, access is restricted to a limited number and type of plays).

Referring to claim 40. Suchocki further discloses a system wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code (paragraph 24).

Referring to claim 41. Suchocki further discloses a system wherein the at least one access restriction includes a predetermined time period during which the promotion

is valid (paragraph 24, "tournament involving seven different plays may have a duration of three days").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suchocki in view of The New York Pass.

Referring to claims 42-47. Suchocki discloses all of the above as noted above in the 35 USC 102(b) rejection but does not expressly disclose associating a promotion with a tourist attraction. The New York Pass discloses special discounts and admission to NYC's top attractions by use of The New York Pass card. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to have modified the system of Suchocki to have included associating promotions with tourist attraction, as taught by The New York Pass, in order to encourage users to save time and money.

Response to Arguments

Applicant's arguments filed February 29, 2008 regarding claims 18-20, 28-31, and 35-41 have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 42-47 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Suchocki does not disclose the limitations of claim 1 because Suchocki is directed at an embodiment of rewarding game promoters and lacks detail regarding the acquisition of rewards. The examiner disagrees. Suchocki discloses gaming devices (i.e. plurality of promotions with reward terminals) adapted to receive input (i.e. permit data access) regarding the identity of a promoter and a network interface (see at least the abstract and figure 1). Furthermore, applicant acknowledges that Suchocki discloses the exchange of accumulated points for cash or prizes but argues that Suchocki is silent regarding the means of exchange. The examiner cannot find any recitation of an "exchange means" within applicant's claims or specification. It is noted that the features upon which applicant relies (i.e., exchange means) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, given its broadest reasonable meaning, reward terminals are interpreted to mean a device capable of receiving input regarding the identity of a person eligible for a reward.

Applicant further argues that Suchocki does not disclose a database to store product definitions and use of rewards. The examiner notes that where the printed

matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability [T]he critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate- In re Gulack, 217 USPQ 401 (Fed. Cir. 1983), In re Ngai, 70 USPQ2d (Fed. Cir. 2004), In re Lowry, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.01 II. Claim 18 does not contain any functional relationship between the stored data and the system (i.e. there is not transformation of data), therefore Suchocki discloses all of the limitations of claim 18. Similar independent claim 28 and dependent claims 19-20, 29-31, and 35-41 are rejected under the same rationale.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON B. DUNHAM whose telephone number is (571)272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey A. Smith/
Supervisory Patent Examiner, Art
Unit 3625

JBD
Patent Examiner
6/30/08

Notice of References Cited	Application/Control No. 10/896,287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.	
	Examiner JASON B. DUNHAM	Art Unit 3625	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0151364 A1	10-2002	Suchocki, Edward J.	463/42
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
*	U	The New York Pass - Making the most of your trip to New York, 1 page printed from http://web.archive.org/web/20020720081557/http://www.newyorkpass.com/
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 10896287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.
	Examiner JASON B DUNHAM	Art Unit 3625

SEARCHED			
Class	Subclass	Date	Examiner
705	26,27	2/5/07	JBD

SEARCH NOTES		
Search Notes	Date	Examiner
East Search History	2/5/07	JBD
Updated East Search	10/17/07	JBD
Updated East Search	6/30/08	JBD

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		10896287	
	Filing Date		2004-07-21	
	First Named Inventor	Tyler Brooks		
	Art Unit	3625		
	Examiner Name	Jason B. Dunham		
	Attorney Docket Number	S2013-700019		

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	10896287
Filing Date	2004-07-21
First Named Inventor	Tyler Brooks
Art Unit	3625
Examiner Name	Jason B. Dunham
Attorney Docket Number	S2013-700019

/J.D./	1	The New York Pass - Making the most of your trip to New York, 1 page printed from http://web.archive.org/web/20020720081557/http://www.newyorkpass.com/ , printed on February 29, 2008.	☐
/J.D./	2	KiwiAble Leisure Card, 2 page document printed from http://web.archive.org/web/20010828155758/http://www.ccc.govt.nz/Programmes/KiwiAble/LeisureCard.asp , printed on February 29, 2008.	☐
/J.D./	3	Birmingham Sport and Leisure Lesiure Card, 3 page document printed from http://web.archive.org/web/20030618051258/http://www.leisure.birmingham.gov.uk/_card/_card.htm , printed on February 29, 2008.	☐

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EXAMINER SIGNATURE

Examiner Signature	/Jason Dunham/	Date Considered	06/30/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (09-08)

Approved for use through 10/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)**

Application Number	10896287	Filing Date	2004-07-21	Docket Number (if applicable)	S2013-700019	Art Unit	3625
First Named Inventor	Tyler Brooks			Examiner Name	Jason B. Dunham		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☒ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 502762

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (09-08)

Approved for use through 10/31/2008. OMB 0651-0031

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Signature of Registered U.S. Patent Practitioner			
Signature	/Thomas J. McGinnis/	Date (YYYY-MM-DD)	2008-10-06
Name	Thomas J. McGinnis	Registration Number	58026

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM

Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being electronically filed in accordance with § 1.6(a)(4), on the 6th day of October, 2008.

/Thomas J. McGinnis/
Thomas J. McGinnis, Reg. No. 58,026

Commissioner for Patents

AMENDMENT

Sir:

In response to the Final Office Action mailed July 9, 2008 and in conjunction with a Request for Continued Examination, please amend the above-identified application as follows. Changes to the Claims are shown by ~~strike-through~~ (for deleted matter) and underlining (for added matter).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 – 17. (canceled)

18. (currently amended) A product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:

a network interface configured to permit receive data corresponding to actual use of ~~access to~~ reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions, the data identifying at least one promotion of the plurality of promotions;

a database to store at least one product definition that includes the plurality of promotions; and

a database to store the data corresponding to the actual use of the reward terminals to access the rewards.

19. (original) The product manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of promotions.

20. (original) The product manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.

21 – 27. (canceled)

28. (currently amended) An access system for use with user codes comprising:
a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal and receive data from the at least one reward terminal once every predetermined time period; and
a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal;
wherein the information includes a promotion list of promotions accessible from the at least one reward terminal and a product list of promotions that are accessible with each user code; and
wherein the data includes a list of user codes and promotions, the user codes associated with users who access rewards for the promotions via that have been processed by the reward terminal during the predetermined time period.
29. (currently amended) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data ~~to~~ from the at least one reward terminal.
30. (original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.
31. (original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.
- 32 – 34. (canceled)
35. (previously presented) The product manager system as claimed in claim 18, wherein the reward terminals include smart card readers.

36. (previously presented) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in time.
37. (previously presented) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in frequency of use.
38. (previously presented) The access system as claimed in claim 28, wherein each promotion included in the promotion list and product list is defined by a unique promotion code.
39. (previously presented) The access system as claimed in claim 38, wherein the unique promotion code includes information defining at least one access restriction for the promotion.
40. (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code.
41. (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined time period during which the promotion is valid.
42. (currently amended) A computer-implemented method of managing access to a promotion associated with at least one tourist attraction, the method comprising:
 associating a user code with a product, the product including a plurality of promotions, the plurality of promotions including the promotion associated with the at least one tourist attraction;
 ~~receiving~~ providing a reward terminal configured to receive the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction; and
 recording, by the reward terminal, the use of the user code to access the reward for the promotion associated with the at least one tourist attraction.

43. (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product definition that comprises a list of the plurality of promotions.
44. (previously presented) The method as claimed in claim 42, further comprising periodically exchanging information between the reward terminal and a remote system.
45. (currently amended) The method as claimed in claim 42, wherein receiving the user code at providing the reward terminal includes receiving the user code at providing a reward terminal comprising a smart card reader.
46. (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one promotion that is constrained in time.
47. (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one promotion that is constrained in frequency of use.

REMARKS

Claims 18-20, 28-31 and 35-47 are pending in this application with claims 18, 28 and 42 being independent claims. By this amendment, Applicant is amending claims 18, 28, 29, 42 and 45. No claims have been canceled, and no new claims have been added. No new matter has been added. The application as presented is believed to be in condition for allowance.

Summary of Telephone Conference with Examiner

The Applicant thanks Examiner Dunham for his time and courtesy in conducting a telephone interview on September 9, 2008 with Applicant's representatives Sarah Gates, Matthew Lowrie and Thomas McGinnis. During the interview, the patentability of the claims in light of the cited references was discussed. In particular, with regard to claim 18, Applicant's representatives asserted that U.S. Patent Application No. 2002/0151364 to Suchocki (hereinafter Suchocki) does not disclose a network interface configured to permit data access to reward terminals because Suchocki does not disclose reward terminals, and that Suchocki does not disclose a database to store data corresponding to actual use of rewards because Suchocki does not address where or how exchanges of TIPS points for cash and/or prizes are performed or whether or how such exchanges are stored. The Examiner maintained his rejection of the claims based on his position that, when broadly interpreted, "reward terminals" reads on the gaming terminals of Suchocki. The Examiner acknowledged that Suchocki is a different system than that of the patent generally, and suggested that the claimed interaction between the "reward terminals," the "network interface," and the "database" might be more tightly defined for claim 18 to distinguish over Suchocki. Applicant's representatives then proposed claim amendments, which the Examiner agreed to consider upon this filing. No agreement as to the patentability of the claims was reached.

Rejections Under 35 U.S.C. §102

Claims 18-20, 28-31 and 35-41 stand rejected under 35 U.S.C. §102(e) as being anticipated by Suchocki. Applicant has amended independent claims 18 and 28 to further distinguish over the art of record and respectfully requests reconsideration in light of the following comments.

Claims 18-20 and 35-37

Independent claim 18, as amended, recites a system including “a network interface configured to receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions, the data identifying at least one promotion of the plurality of promotions” and “a database to store the data corresponding to the actual use of the reward terminals to access the rewards.” As is discussed below, these limitations are not disclosed, taught or suggested by Suchocki.

Suchocki is directed toward a “system for providing incentives to promoters for recommending games to players” (abstract). Suchocki discloses “a tournament incentive point system (‘TIPS rewards program’) that rewards employees of an establishment having amusement games for the promotion of those amusement games” (paragraph [0029]). Suchocki continues, “[a]t certain times or on the accumulation of a predetermined number of points, a promoter may exchange that promoter’s accumulation of points for prizes and/or cash” (paragraph [0030]). Suchocki discloses, with reference to FIG. 2, a “tournament update routine 36” that updates “TIPS information including which promoters have endorsed which games,” “TIPS point boards including the number of points per promoter” and “information regarding the value of the TIPS rewards points and the types of prizes to which the points correspond” (paragraph [0033]). Suchocki alternatively discloses that “a separate TIPS update routine, similar to the tournament update routine, ... can be implemented to update information regarding the TIPS rewards program” (paragraph [0033]). Thus, Suchocki discloses a system that rewards gaming promoters with cash or non-monetary gifts or services, but Suchocki lacks detail regarding how, when and where these rewards are acquired.

In particular, Suchocki does not disclose “a network interface configured to receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions, the data identifying at least one promotion of the plurality of promotions,” as recited in independent claim 18, as amended. Suchocki discloses an exchange of accumulated TIPS points for prizes and/or cash but without mentioning how the exchange might be conducted or where the exchange is performed. Suchocki also discloses that eligible promoters register for

TIPS rewards through gaming devices, but Suchocki does not disclose that these gaming devices are used to send data corresponding to the actual use of reward terminals to access rewards for promotions by promoters. Thus, although Suchochi discloses gaming devices, Suchochi does not disclose, or even suggest, that these gaming devices are or could be considered “reward terminals” because Suchocki simply does not address how or where promoters access TIPS rewards. Therefore, Suchocki does not disclose, teach or suggest receiving data corresponding to actual use of rewards from a reward terminal. Furthermore, since Suchocki does not disclose reward terminals at all, Suchocki clearly cannot disclose, teach or suggest that the reward terminal is “located in proximity to the plurality of promotions.”

Suchocki also does not disclose “a database to store the data corresponding to the actual use of the reward terminals to access the rewards.” Instead, as discussed above, Suchocki focuses on the maintenance and display of aggregate TIPS information. While Suchocki does disclose “a separate TIPS update routine, similar to the tournament update routine,” this routine is disclosed as an alternative to “tournament update routine 36” and, consequently, deals with the same data as routine 36, namely, “TIPS information including which promoters have endorsed which games,” “TIPS point boards including the number of points per promoter” and “information regarding the value of the TIPS rewards points and the types of prizes to which the points correspond.” Nowhere does Suchocki disclose how, if at all, this information is stored or affected when a promoter exchanges TIPS points for prizes. Thus, disclosure of “a separate TIPS update routine” does not equate to disclosure of “a database to store data corresponding to actual use of the rewards.”

Suchocki, therefore, fails to anticipate independent claim 18 because Suchocki does not disclose several limitations recited in independent claim 18. Accordingly, withdrawal of the rejection of independent claim 18 is respectfully requested.

Claims 19, 20 and 35-37 depend from independent claim 18 and are, therefore, allowable for at least the same reasons as independent claim 18. Accordingly, withdrawal of the rejection of claims 19, 20 and 35-37 is respectfully requested.

Claims 28-31 and 38-41

Independent claim 28, as amended, recites a system including “a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least

one reward terminal and receive data from the at least one reward terminal once every predetermined time period; and a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal; ... wherein the data includes a list of user codes and promotions, the user codes associated with users who access rewards for the promotions via the reward terminal during the predetermined time period.”

These limitations are not disclosed or suggested by Suchocki. As discussed above, Suchocki does not disclose or suggest a reward terminal. In addition, Suchocki does not disclose, teach or suggest a database that stores the data received from the at least one reward terminal, wherein the data includes a list of user codes and promotions, the user codes associated with users who access rewards for the promotions via the reward terminal because, as discussed above, Suchocki fails to address how, if at all, an exchange of TIPS points for prizes is stored. Suchocki, therefore, does not anticipate independent claim 28 because Suchocki fails to disclose at least several limitations recited in independent claim 28. Accordingly, withdrawal of the rejection of independent claim 28 is respectfully requested.

Claims 29-31 and 38-41 depend from independent claim 28 and are, therefore, allowable for at least the same reasons as independent claim 28. Accordingly, withdrawal of the rejection of claims 29-31 and 38-41 is respectfully requested.

Rejections Under 35 U.S.C. §103

Claims 42-47 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Suchocki in view of The New York Pass webpage (hereinafter NYP). Applicant has amended independent claim 42 to further distinguish over the art of record and requests reconsideration in light of the following comments.

Applicant does not concede that the combination of Suchocki and NYP proposed in the Office Action is proper and reserves the right to traverse the combination in the future. However, even in combination, Suchocki and NYP fail to teach or suggest “receiving the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction; and recording, by the reward terminal, the use of the user code to access the reward for the promotion associated with the at least one tourist attraction,” as recited in independent claim 42. As discussed above, Suchocki does not disclose a reward terminal

because Suchocki is silent regarding how an exchange involving accumulated TIPS points is performed. Furthermore, Suchocki does not disclose a database to store data corresponding to actual use of the rewards because Suchocki does not disclose how an exchange of TIPS points for prizes is stored. Thus, Suchocki fails to teach or suggest several limitations recited in independent claim 42.

NYP fails to cure the deficiencies of Suchocki because NYP, whether considered alone or in combination with Suchocki, also does not disclose or suggest these limitations. While the NYP discloses “special discounts and admission to NYC’s top attractions by use of The New York Pass card,” as noted in the Office Action NYP fails to disclose any details as to how a system for providing these special discounts may function. NYP simply depicts a card including the words “The New York Pass,” but does not disclose anything about how services are administered or delivered to customers. Thus NYP, even in combination with Suchocki, fails to disclose, teach or suggest “receiving the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction; and recording, by the reward terminal, the use of the user code to access the promotion associated with the at least one tourist attraction.” Accordingly, withdrawal of the rejection of independent claim 42 is requested.

Claims 43-47 depend from independent claim 42 and are, therefore, allowable for at least the same reasons as independent claim 42. Accordingly, withdrawal of the rejection of these claims is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an accompanying payment, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,

Tyler Brooks et al., Applicants

By: /Thomas J. McGinnis/
Thomas J. McGinnis, Reg. No. 58,026
Sarah M. Gates, Reg. No. 60,661
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Electronic Patent Application Fee Transmittal				
Application Number:		10896287		
Filing Date:		21-Jul-2004		
Title of Invention:		Programmable ticketing system		
First Named Inventor/Applicant Name:		Tyler Brooks		
Filer:		Thomas Joseph McGinnis/Stephanie Godino		
Attorney Docket Number:		S2013-700019		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	810	810
Total in USD (\$)				810

Electronic Acknowledgement Receipt

EFS ID:	4067750
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	37462
Filer:	Thomas Joseph McGinnis
Filer Authorized By:	
Attorney Docket Number:	S2013-700019
Receipt Date:	06-OCT-2008
Filing Date:	21-JUL-2004
Time Stamp:	20:11:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$810
RAM confirmation Number	4160
Deposit Account	502762
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:
Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)
Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	S2013-700019_RCE.pdf	697176 1cb8f00f7dafa9a1bd6da367ddb88e12a66be8d9	no	3
Warnings:					
Information:					
2		S2013-700019_Amendment.pdf	53530 f0a8e3120fa49b03488ad2e37e4e68f915c8c67f	yes	11
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment After Final		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	11	
Warnings:					
Information:					
3	Fee Worksheet (PTO-06)	fee-info.pdf	30129 b43489b21073323d6cfe21f635fac001081c0a0e	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			780835		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number

101896287

APPLICATION AS FILED - PART I

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
x 25 =	
x 105 =	
185	
TOTAL	

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
x 50 =	
x 210 =	
370	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

10-6-08

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(j))	20	20
	Independent (37 CFR 1.16(h))	3	3
	Application Size Fee (37 CFR 1.16(s))		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
x 25 =	
x 105 =	
185	
TOTAL ADD'L FEE	

RATE (\$)	ADDITIONAL FEE (\$)
x 50 =	
x 210 =	
370	
TOTAL ADD'L FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(j))	20	20
	Independent (37 CFR 1.16(h))	3	3
	Application Size Fee (37 CFR 1.16(s))		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
x 25 =	
x 105 =	
185	
TOTAL ADD'L FEE	

RATE (\$)	ADDITIONAL FEE (\$)
x 50 =	
x 210 =	
370	
TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

(If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.)



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	S2013-700019	7645

37462	7590	01/02/2009
LOWRIE, LANDO & ANASTASI, LLP		
ONE MAIN STREET, SUITE 1100		
CAMBRIDGE, MA 02142		

EXAMINER	
DUNHAM, JASON B	

ART UNIT	PAPER NUMBER
3625	

NOTIFICATION DATE	DELIVERY MODE
01/02/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Office Action Summary	Application No.	Applicant(s)	
	10/896,287	BROOKS ET AL.	
	Examiner	Art Unit	
	JASON B. DUNHAM	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 06 October 2008.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 18-20, 28-31 and 35-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 18-20, 28-31, and 35-47 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 6, 2008 has been entered. Applicant amended claims 18, 28-29, 42, and 45; claims 18-20, 28-31, and 35-47 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20, 28-31, and 35-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Hale (US 2005/0060173).

Referring to claim 18. Hale discloses a product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the plurality of promotions being included in at least one product, the system comprising:
a network interface configured to receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of

promotions, the reward terminals being located in proximity to the plurality of promotions, the data identifying at least one promotion of the plurality of promotions (abstract and paragraphs 114-119 disclosing the use of a smart card and reader at amusement park attractions and paragraphs 248-251 disclosing promotions, i.e. rewards, according to use);

a database to store at least one product definition that includes the plurality of promotions (figures 12 disclosing access to different rides, i.e. promotions); and

a database to store the data corresponding to the actual use of the reward terminals to access the rewards (paragraphs 112-114 disclosing a database recording usage).

Referring to claim 19. Hale further discloses a system wherein the at least one product definition includes a list of the plurality of promotions (figure 12).

Referring to claim 20. Hale further discloses a system wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals (paragraphs 208 - 210 disclosing communication between a central database and park turnstiles and attraction gates).

Referring to claim 35. Hale further discloses a system wherein the reward terminals include smart card readers (paragraph 114).

Referring to claims 36-37. Hale further discloses a system wherein at least one promotion of the plurality of promotions is constrained in time or frequency of use (abstract).

Referring to claim 28. Hale further discloses an access system for use with user codes comprising:

- A controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal and receive data from the at least one reward terminal once every predetermined time period (paragraphs 25 – 29 disclosing the central computer to define time periods during which a patron may enter a specific attraction by using their card);
- A database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal (paragraphs 112-144);
- Wherein the information includes a promotion list of promotions accessible from the at least reward terminal and a product list of promotions that are accessible with each user code (paragraphs 25-29);
- Wherein the data includes a list of user codes and promotions, the user codes associated with users who access rewards for the promotions via the reward terminal during the predetermined time period (paragraphs 112-119).

Referring to claim 29. Hale further discloses a system wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data from the at least one reward terminal (paragraphs 25-29).

Referring to claim 30. Claim 30 is rejected under the same rationale set forth above in the rejection of claim 29, as the periodicity is a matter of design choice. While

features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone -MPEP 2114; In re Swineheart, 169 USPQ 226; In re Schreiber, 44 USPQ2d 1429 (Fed. Cir. 1997)

Referring to claim 31. Hale further discloses a system wherein the user codes are encoded on programmable smart cards (paragraph 114).

Referring to claim 38. Hale further discloses a system wherein each promotion included in the promotion list is defined by a unique promotion code (paragraphs 114-117 disclosing unique codes on smart cards for access to specific attractions).

Referring to claim 39. Hale further discloses a system wherein the unique promotion code includes information defining at least one access restriction for the promotion (abstract and paragraphs 114 -117 disclosing access during certain times).

Referring to claim 40. Hale further discloses a system wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code (abstract disclosing specific times when a user may enter an attraction).

Referring to claim 41. Hale further discloses a system wherein the at least one access restriction includes a predetermined time period during which the promotion is valid (abstract).

Referring to claims 42-47. Method claims 42 – 47 are rejected under the same rationale set forth above in the rejection of system claims 18-20 and 35-37 containing similar limitations. Hale further discloses managing access to a tourist attraction

(abstract and paragraph 3 disclosing limiting access in them parks such as Disney World; Disney is assignee of the application).

Response to Arguments

Applicant's arguments, filed October 6, 2008, with respect to the rejections of amended claims 18-20, 28-31, and 35-47 in view of Suchocki and The New York Pass have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hale as noted above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON B. DUNHAM whose telephone number is (571)272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Dunham/
12/29/08

Notice of References Cited	Application/Control No. 10/896,287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.	
	Examiner JASON B. DUNHAM	Art Unit 3625	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2005/0060173 A1	03-2005	Hale et al.	705/001
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 10896287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.
	Examiner JASON B DUNHAM	Art Unit 3625

SEARCHED			
Class	Subclass	Date	Examiner
705	26,27	2/5/07	JBD

SEARCH NOTES		
Search Notes	Date	Examiner
East Search History	2/5/07	JBD
Updated East Search	10/17/07	JBD
Updated East Search	6/30/08	JBD
Updated East Search	12/23/08	JBD

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	S2013-700019	7645
37462 7590 03/31/2009 LOWRIE, LANDO & ANASTASI, LLP ONE MAIN STREET, SUITE 1100 CAMBRIDGE, MA 02142			EXAMINER DUNHAM, JASON B	
			ART UNIT 3625	PAPER NUMBER
			NOTIFICATION DATE 03/31/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Interview Summary	Application No. 10/896,287	Applicant(s) BROOKS ET AL.	
	Examiner JASON B. DUNHAM	Art Unit 3625	

All participants (applicant, applicant's representative, PTO personnel):

(1) Jason Dunham. (3) ____.

(2) Thomas McGinnis. (4) ____.

Date of Interview: 25 March 2009.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: ____.

Claim(s) discussed: 18.

Identification of prior art discussed: Hale (US 2005/0060173).

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Tom McGinnis, attorney of record, gave a brief overview of the invention and then discussed possible amendments to independent claim 18 to distinguish over the prior art. Examiner Dunham and Mr. McGinnis particularly discussed possible subject matter from paragraphs 37 and 102 of the applicant's specification. Examiner Dunham indicated he would consider the amendments upon formal filing of a response to the office action dated January 2, 2009.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Jason Dunham/ 3/25/09	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 10/896,287		Filing Date 07/21/2004		☐ To be Mailed	

APPLICATION AS FILED – PART I						OTHER THAN SMALL ENTITY			
(Column 1)		(Column 2)		SMALL ENTITY ☒		OR		SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A		N/A		
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A		N/A		N/A		
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A		N/A		
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	X \$	=	X \$	=	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=	X \$	=	X \$	=	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
			TOTAL		TOTAL				

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II						OTHER THAN SMALL ENTITY					
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	DATE	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	04/01/2009										
	Total (37 CFR 1.16(i))	* 21	Minus	** 34	= 0	X \$26 =	0	OR	X \$ =		
	Independent (37 CFR 1.16(h))	* 3	Minus	***9	= 0	X \$110 =	0	OR	X \$ =		
☐ Application Size Fee (37 CFR 1.16(s))								OR			
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								OR			
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE		

(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	DATE	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =		OR	X \$ =		
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =		OR	X \$ =		
☐ Application Size Fee (37 CFR 1.16(s))								OR			
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								OR			
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/ROCHELLE C. GETER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Docket No.: S2013-700019

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Tyler Brooks et al.
Serial No: 10/896,287
Confirmation No: 7645
Filed: July 21, 2004
For: PROGRAMMABLE TICKETING SYSTEM

Examiner: Dunham, Jason B.
Art Unit: 3625

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being electronically filed in accordance with § 1.6(a)(4), on the 2nd day of April, 2009.

/Thomas J. McGinnis/
Thomas J. McGinnis, Reg. No. 58,026

Commissioner for Patents

AMENDMENT

Sir:

In response to the Office Action mailed January 2, 2009, please amend the above-identified application as follows. Changes to the Claims are shown by ~~strike through~~ (for deleted matter) and underlining (for added matter).

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 – 17. (canceled)

18. (currently amended) A product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, ~~the plurality of promotions being included in at least one product~~, the system comprising:

a network interface configured to:

receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions and being configured to access the rewards for the respective promotions using at least one product code, the data identifying at least one promotion of the plurality of promotions; and

provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective promotions, whereby a change in the associations between the at least one product code and the respective promotions changes the rewards accessible via the reward terminals using the at least one product code;

a database to store the at least one product definition ~~that includes the plurality of promotions~~; and

a database to store the data corresponding to the actual use of the reward terminals to access the rewards.

19. (original) The product manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of promotions.

20. (original) The product manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.

21 – 27. (canceled)

28. (currently amended) An access system for use with user codes comprising:
a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal and receive data from the at least one reward terminal once every predetermined time period, the at least one reward terminal being configured to access rewards using at least one user code; and
a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal;
wherein the information includes a promotion list of promotions accessible from the at least one reward terminal and a product list of promotions that are accessible with each user code, whereby a change in the product list of promotions changes the rewards that are accessible with at least one user code; and
wherein the data includes a list of user codes and promotions, the user codes associated with users who access rewards for the promotions via the reward terminal during the predetermined time period.

29. (previously presented) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data from the at least one reward terminal.

30. (original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.

31. (original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.

32 – 34. (canceled)

35. (previously presented) The product manager system as claimed in claim 18, wherein the reward terminals include smart card readers.

36. (previously presented) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in time.

37. (previously presented) The product manager system as claimed in claim 18, wherein at least one promotion of the plurality of promotion is constrained in frequency of use.

38. (previously presented) The access system as claimed in claim 28, wherein each promotion included in the promotion list and product list is defined by a unique promotion code.

39. (previously presented) The access system as claimed in claim 38, wherein the unique promotion code includes information defining at least one access restriction for the promotion.

40. (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code.

41. (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined time period during which the promotion is valid.

42. (currently amended) A computer-implemented method of managing access to a promotion associated with at least one tourist attraction, the method comprising:

associating a user code with a product, the product including a plurality of promotions, the plurality of promotions including the promotion associated with the at least one tourist attraction;

receiving the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction and being configured to access a reward for the promotion associated with the at least one tourist attraction using the user code, whereby a change in the plurality of promotions included in the product changes the rewards accessible via the reward terminal using the at least one user code; and

recording, by the reward terminal, the use of the user code to access the reward for the promotion associated with the at least one tourist attraction.

43. (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product definition that comprises a list of the plurality of promotions.

44. (previously presented) The method as claimed in claim 42, further comprising periodically exchanging information between the reward terminal and a remote system.

45. (previously presented) The method as claimed in claim 42, wherein receiving the user code at the reward terminal includes receiving the user code at a reward terminal comprising a smart card reader.

46. (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one promotion that is constrained in time.

47. (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one promotion that is constrained in frequency of use.

48. (new) The method as claimed in claim 42, further comprising calculating compensation for the at least one tourist attraction based at least in part on the use of the user code to access the reward for the promotion associated with the at least one tourist attraction.

REMARKS

Claims 18-20, 28-31 and 35-47 are pending in this application with claims 18, 28 and 42 being independent claims. By this amendment, Applicant is amending claims 18, 28 and 42. No claims have been canceled. New claim 48 has been added. No new matter has been added. As a result, claims 18-20, 28-31 and 35-48 are presented for examination, with claims 18, 28 and 42 being independent claims. The application as presented is believed to be in condition for allowance.

Summary of Telephone Conference with Examiner

The Applicant thanks Examiner Dunham for his time and courtesy during the telephone interview conducted on March 25, 2009 with the Applicant's representative Thomas McGinnis. Applicant accepts as accurate the summary of the telephone conference provided by the Examiner on March 31, 2009.

Rejections Under 35 U.S.C. §102

Claims 18-20, 28-31 and 35-47 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Publication No. US2005/0060173 to Hale (hereinafter Hale). Applicant has amended claim independent claims 18, 28 and 42 to further distinguish over Hale and respectfully requests reconsideration in light of the following comments.

Independent claim 18, as amended, recites a system comprising a network interface configured to "receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions and being configured to access the rewards for the respective promotions using at least one product code" and "provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective promotions, whereby a change in the associations between the at least one product code and the respective promotions changes the rewards accessible via the reward terminals using the at least one product code." As explained below, these limitations are not disclosed by Hale.

Hale is directed toward a "method and system for loading of patrons at multiple attractions at an entertainment environment" (Abstract). With regard to FIG. 2, Hale discloses "a

first validator 32, a media distributor 38, and a second queue 26 having an associated second validator 34” (Paragraph [0111]). Hale discloses that if “the first validator 32 establishes the right of the customer to an assigned time in the future for accessing the attraction via the second queue 26, then the media distributor 38 distributes a pass to a customer which the customer may utilize to access the attraction via the second queue 26” (Paragraph [0114]). According to Hale, “the ticket which the customer uses to access the theme park may be encoded or printed with access time information for permitting the customer to access one or more attractions at future times, avoiding the need to issue separate passes” (Paragraph [0117]).

Hale further discloses that the “system and method for permitting access to the attraction 22 includes a second validator 34 for establishing the right of a customer to access the attraction via the second queue 26 at [the] assigned time” (Paragraph [0118]). Hale also discloses that “the customer presents the issued pass at second validator 34 and if the pass is valid, i.e., the time or time range is appropriate, the pass is not counterfeit, etc., the customer is admitted to the attraction” (Paragraph [0104]). In one example discussed in Hale, “the second validator 34 comprises a human attendant,” and the “attendant may verify the printed time or time range against the current time, a date of the pass against a current date, and the attraction for which the pass is issued” (Paragraph [0118]). In another example in Hale, “the second validator 34 may comprise a card reader or other device confirming the entitlement of a customer to access the attraction 22” (Paragraph [0119]). Thus, Hale discloses a system that utilizes a pass to manage access to queues associated with one or more attractions but does not disclose the data relationships used in the system to manage access to the queues.

In particular, Hale does not disclose a network interface configured to “receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions and being configured to access the rewards for the respective promotions using at least one product code” and “provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective promotions, whereby a change in the associations between the at least one product code and the respective promotions changes the rewards accessible via the reward terminals using the at least one product code,” as recited in claim 18. Instead, Hale discloses a validator that grants access to queues based on a pass “encoded or printed with access time information for

permitting the customer to access one or more attractions at future times” after validating, in addition to other information, “the attraction for which the pass is issued.” Thus, Hale implements the straight-forward approach of allowing access to queues based on an indicator of the attraction associated with the queue, but does not disclose or suggest providing at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective promotions, whereby a change in the associations between the at least one product code and the respective promotions changes the rewards accessible via the reward terminals using the at least one product code, as recited in Applicant’s claim 18. This distinction is important because it allows the system recited in claim 18 to easily modify the set of attractions represented by the product code and thereby change the attractions available to customers using the product code without encoding the change to particular media or assigning the change to particular customers. In contrast, to change the set of attractions using the indicators disclosed by Hale, a system would need to add additional indicators to the media distributed by the media distributor or to records associated with particular customers, e.g. tickets.

Hale, therefore, fails to anticipate independent claim 18 because Hale does not disclose several limitations recited in independent claim 18. Accordingly, withdrawal of the rejection of independent claim 18 is respectfully requested.

Claims 19, 20 and 35-37 depend from independent claim 18 and are, therefore, allowable for at least the same reasons as independent claim 18, as amended. Accordingly, withdrawal of the rejection of claims 19, 20 and 35-37 is respectfully requested.

Independent claim 28, as amended, recites a system including “a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal and receive data from the at least one reward terminal once every predetermined time period, the reward terminal being configured to access rewards using at least one user code,” and “a product list of promotions that are accessible with each user code, whereby a change in product list of promotions changes the rewards that are accessible with the at least one user code.” These limitations are not disclosed by Hale for similar reasons to those articulated above with regard to claim 18. More particularly, Hale does not disclose a product list of promotions that are accessible with each user code because, as discussed above, Hale discloses accessing attractions using indicators of particular, individual attractions rather than a

database that contains a changeable a product list of promotions that are accessible with each user code, the product list being separate and distinct from the attractions that it represents.

Claims 29-31 and 38-41 depend from independent claim 28 and are, therefore, allowable for at least the same reasons as independent claim 28. Accordingly, withdrawal of the rejection of claims 29-31 and 38-41 is respectfully requested.

Independent claim 42, as amended, recites a computer-implemented method including acts of “associating a user code with a product, the product including a plurality of promotions, the plurality of promotions including the promotion associated with the at least one tourist attraction,” and “receiving the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction and being configured to access a reward for the promotion associated with the at least one tourist attraction using the user code, whereby a change in the plurality of promotions included in the product changes the rewards accessible via the reward terminal using the at least one user code.” These limitations are not disclosed by Hale for similar reasons to those articulated above with regard to claim 18. More particularly, Hale does not disclose a product including a plurality of promotions the rewards for which are accessible with a user code because, as discussed above, Hale discloses accessing attractions using indicators of particular, individual attractions rather than a database containing a changeable a product list of promotions that are accessible with each user code, the product list being separate and distinct from the attractions that it represents.

Claims 43-47 depend from independent claim 42 and are, therefore, allowable for at least the same reasons as independent claim 42. Accordingly, withdrawal of the rejection of these claims is respectfully requested.

Newly Added Claim

Applicant has added new claim 48 to further define aspects of Applicant's contribution to the art. The new dependent claim depends from independent claims 42 and is supported by the specification as originally filed at, for example, paragraph [0037] of the published application. Thus, claim 48 is believed to be in condition for allowance.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an accompanying payment, please charge any deficiency to Deposit Account No. 50/2762, Ref. S2013-700019.

Respectfully submitted,

Tyler Brooks et al., Applicants

By: /Thomas J. McGinnis/
Thomas J. McGinnis, Reg. No. 58,026
Sarah M. Gates, Reg. No. 60,661
LOWRIE, LANDO & ANASTASI, LLP
One Main Street
Cambridge, Massachusetts 02142
United States of America
Telephone: 617-395-7000
Facsimile: 617-395-7070

Electronic Acknowledgement Receipt

EFS ID:	5082125
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	37462
Filer:	Thomas Joseph McGinnis
Filer Authorized By:	
Attorney Docket Number:	S2013-700019
Receipt Date:	02-APR-2009
Filing Date:	21-JUL-2004
Time Stamp:	12:00:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		S2013-700019_Amendment. pdf	52000 0d4046c532c0fecc7859c7c63ed2bc245162d834	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment Copy Claims/Response to Suggested Claims	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	11
Warnings:			
Information:			
Total Files Size (in bytes):		52000	
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	S2013-700019	7645

37462	7590	07/21/2009
LANDO & ANASTASI, LLP ONE MAIN STREET, SUITE 1100 CAMBRIDGE, MA 02142		

EXAMINER	
DUNHAM, JASON B	

ART UNIT	PAPER NUMBER
3625	

NOTIFICATION DATE	DELIVERY MODE
07/21/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Office Action Summary	Application No.	Applicant(s)	
	10/896,287	BROOKS ET AL.	
	Examiner	Art Unit	
	JASON B. DUNHAM	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-20,28-31 and 35-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-20,28-31 and 35-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)	5) ☐ Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant amended claims independent claims 18, 28, and 42 and added new claim 48 in the response filed April 2, 2009 in reply to the office action dated January 2, 2009. Claims 18-20, 28-31, and 35-48 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20, 28-31, and 35-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Hale (US 2005/0060173).

Referring to claim 18. Hale discloses a product manager system to manage a system that permits access to rewards corresponding to a plurality of promotions, the system comprising:

a network interface configured to:

receive data corresponding to actual use of reward terminals to access rewards for respective promotions of the plurality of promotions, the reward terminals being located in proximity to the plurality of promotions and being configured to access the rewards for the respective promotions using at least one product code, the data identifying at least one promotion of the plurality of promotions (abstract and paragraphs

114-119 disclosing the use of a smart card and reader at amusement park attractions and paragraphs 248-251 disclosing promotions, i.e. rewards, according to use); and

provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective promotions, whereby a change in the associations between the at least one product code and the respective promotions changes the rewards accessible via the rewards terminals using the at least one product code (paragraphs 252 -255 and 271 disclosing premium access times to promotions based on segmentation determined by the amount of money a guest is spending).

a database to store the at least one product definition (figures 12 disclosing access to different rides, i.e. promotions); and

a database to store the data corresponding to the actual use of the reward terminals to access the rewards (paragraphs 112-114 disclosing a database recording usage).

Referring to claim 19. Hale further discloses a system wherein the at least one product definition includes a list of the plurality of promotions (figure 12).

Referring to claim 20. Hale further discloses a system wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals (paragraphs 208 - 210 disclosing communication between a central database and park turnstiles and attraction gates).

Referring to claim 35. Hale further discloses a system wherein the reward terminals include smart card readers (paragraph 114).

Referring to claims 36-37. Hale further discloses a system wherein at least one promotion of the plurality of promotions is constrained in time or frequency of use (abstract).

Referring to claim 28. Hale further discloses an access system for use with user codes comprising:

a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal and receive data from the at least one reward terminal once every predetermined time period, the at least one reward terminal being configured to access rewards using at least one user code (paragraphs 25 – 29 and 114 disclosing the central computer to define time periods during which a patron may enter a specific attraction by using their card encoded with user specific access);

a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal (paragraphs 112-144);

wherein the information includes a promotion list of promotions accessible from the at least reward terminal and a product list of promotions that are accessible with each user code, whereby a change in the product list of promotions changes the rewards that are accessible with at least one user code (paragraphs 252 -255 and 271 disclosing premium access times to certain promotions based on segmentation determined by the amount of money a guest is spending) and

wherein the data includes a list of user codes and promotions, the user codes associated with users who access rewards for the promotions via the reward terminal during the predetermined time period (paragraphs 112-119).

Referring to claim 29. Hale further discloses a system wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data from the at least one reward terminal (paragraphs 25-29).

Referring to claim 30. Claim 30 is rejected under the same rationale set forth above in the rejection of claim 29, as the periodicity is a matter of design choice. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone -MPEP 2114; In re Swineheart, 169 USPQ 226; In re Schreiber, 44 USPQ2d 1429 (Fed. Cir. 1997)

Referring to claim 31. Hale further discloses a system wherein the user codes are encoded on programmable smart cards (paragraph 114).

Referring to claim 38. Hale further discloses a system wherein each promotion included in the promotion list is defined by a unique promotion code (paragraphs 114-117 disclosing unique codes on smart cards for access to specific attractions).

Referring to claim 39. Hale further discloses a system wherein the unique promotion code includes information defining at least one access restriction for the promotion (abstract and paragraphs 114 -117 disclosing access during certain times).

Referring to claim 40. Hale further discloses a system wherein the at least one access restriction includes a predetermined number of times that the promotion is valid for each user code (abstract disclosing specific times when a user may enter an attraction).

Referring to claim 41. Hale further discloses a system wherein the at least one access restriction includes a predetermined time period during which the promotion is valid (abstract).

Referring to claims 42-47. Method claims 42 – 47 are rejected under the same rationale set forth above in the rejection of system claims 18-20 and 35-37 containing similar limitations. Hale further discloses managing access to a tourist attraction (abstract and paragraph 3 disclosing limiting access in them parks such as Disney World; Disney is assignee of the application).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hale in view of Smart Cards Take Flight, hereafter known as Smart Cards (see Reference U, PTO-892).

Referring to claim 48. Hale discloses all of the above but does not explicitly disclose calculating compensation for tourist attractions based on the use of a user code to access the attraction. Smart Cards discloses a method comprising calculating compensation for the at least one tourist attraction based at least in part on the use of the user code to access the reward for the promotion associated with the at least one tourist attraction (Smart Cards disclosing monitoring transaction processing of payments to tourist attractions when tourists use the cards). It would be obvious to one of ordinary skill in the art at the time of applicant's invention to have modified the method of Hale to have included calculating compensation for tourist attractions based on the use of a user code to access the attraction, as taught by Smart Cards, in order to allow member tourist attractions to be paid for use of the smart card by tourist (Smart Cards).

Response to Arguments

Applicant's arguments filed April 2, 2009 regarding claim 18 have been fully considered but they are not persuasive. Applicant argues that Hale does not disclose providing product definition to the reward terminals including associations between the product code and the respective promotions, as substantially recited in independent claim 18. Applicant further states that this limitation allows the system of claim 18 to modify the set of attractions available to customers without assigning the change to particular customers. The examiner disagrees as Hale discloses a smart card system wherein special priorities or privileges can be granted based on segmentation determined by an amount of money a guest is spending or for seasonal differences (see at least paragraphs 254-258). Hale discloses a hierarchy of access for guests with the Fastpass based on spending similar to the changeable product list of promotions accessible with each user code.

Independent claims 28 and 42 contain similar limitations and the respective dependent claims of claims 18, 28, and 42 are rejected under the same rationale set forth above.

Applicant's arguments with respect to claim 48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON B. DUNHAM whose telephone number is (571)272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason B Dunham/
Examiner, Art Unit 3625

Notice of References Cited	Application/Control No. 10/896,287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.	
	Examiner JASON B. DUNHAM	Art Unit 3625	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2005/0060173 A1	03-2005	Hale et al.	705/001
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Smart Cards Take Flight, EFT Report, New York, August 11, 1999.
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 10896287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.
	Examiner JASON B DUNHAM	Art Unit 3625

SEARCHED			
Class	Subclass	Date	Examiner
705	26,27	2/5/07	JBD

SEARCH NOTES		
Search Notes	Date	Examiner
East Search History	2/5/07	JBD
Updated East Search	10/17/07	JBD
Updated East Search	6/30/08	JBD
Updated East Search	12/23/08	JBD
Updated East Search	7/15/09	JBD
Proquest Search	7/15/09	JBD

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☒ Practitioners associated with the Customer Number:

48329

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☒ The address associated with Customer Number:

48329

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

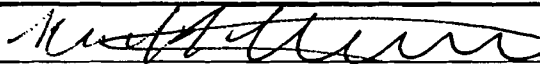
Assignee Name and Address:

SMART DESTINATIONS INC.
85 Merrimac Street, Suite 300
Boston, MA 02114
USA

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	10/20/2009
Name	Rob Cartwright	Telephone	(617) 671-1008
Title	Chief Financial Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	6425693
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	37462
Filer:	Christopher E. Everett/Bill Morris
Filer Authorized By:	Christopher E. Everett
Attorney Docket Number:	S2013-700019
Receipt Date:	11-NOV-2009
Filing Date:	21-JUL-2004
Time Stamp:	18:01:06
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PowerofAttorney0103.pdf	54272 44bfff661d987f13d57c4a1034317adb7cc35a638	yes	2

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Assignee showing of ownership per 37 CFR 3.73(b).	1	1
	Power of Attorney	2	2
Warnings:			
Information:			
Total Files Size (in bytes):			54272
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.			

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Tyler BROOKS et al.
 Application No./Patent No.: 10/896,287 Filed/Issue Date: 7/21/2004
 Attorney Docket Number: 096633-0103
 Entitled: PROGRAMMABLE TICKETING SYSTEM

SMART DESTINATIONS INC.

(Name of Assignee)

CORPORATION

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest;
2. ☐ an assignee of less than the entire right, title, and interest
(The extent (by percentage) of its ownership interest is %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

in the patent application/patent identified above by virtue of either:

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel/Frame _____ or for which a copy thereof is attached.

OR

- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Tyler BROOKS et al. To: SMART DESTINATIONS INC.
The document was recorded in the United States Patent and Trademark Office at Reel 015604, Frame 0048, or for which a copy thereof is attached.
2. From: Tyler BROOKS et al. To: SMART DESTINATIONS INC.
The document was recorded in the United States Patent and Trademark Office at Reel 016328, Frame 0021, which is a Corrective Assignment to correct the Assignee's name previously recorded at Reel 015604, Frame 0048.
3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/s Christopher E. Everett/ #51,659

November 10, 2009

Signature

Date

Matthew B. Lowrie (Reg. No. 38,228)

(617) 342-4006

Printed or Typed Name

Telephone Number

Attorney for Applicant

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/896,287	07/21/2004	Tyler Brooks	096633-0103

48329
FOLEY & LARDNER LLP
111 HUNTINGTON AVENUE
26TH FLOOR
BOSTON, MA 02199-7610

CONFIRMATION NO. 7645
POA ACCEPTANCE LETTER



Date Mailed: 11/20/2009

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/11/2009.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hchristian/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/896,287	07/21/2004	Tyler Brooks	S2013-700019

37462
LANDO & ANASTASI, LLP
ONE MAIN STREET, SUITE 1100
CAMBRIDGE, MA 02142

CONFIRMATION NO. 7645
POWER OF ATTORNEY NOTICE



Date Mailed: 11/20/2009

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/11/2009.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/hchristian/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	096633-0103	7645
48329	7590	11/23/2009		
FOLEY & LARDNER LLP 111 HUNTINGTON AVENUE 26TH FLOOR BOSTON, MA 02199-7610			EXAMINER DUNHAM, JASON B	
			ART UNIT 3625	PAPER NUMBER
			MAIL DATE 11/23/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No. 10/896,287	Applicant(s) BROOKS ET AL.	
	Examiner JASON B. DUNHAM	Art Unit 3625	

All participants (applicant, applicant's representative, PTO personnel):

(1) Jason Dunham. (3) Matthew Lowrie.

(2) Christopher Everett. (4) ____.

Date of Interview: 18 November 2009.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 18, 28, and 42.

Identification of prior art discussed: Hale (US 2005/0060173) and Smart Cards (Ref. U, PTO-892, .

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Chris Everett, attorney of record, gave an overview of the technology involved with applicant's invention. The attorneys and Examiner Dunham then discussed the proposed draft amendments submitted by the applicant to independent claims 18, 28, and 42 in light of the prior art of record. Examiner Dunham indicated amendments to the independent claims reciting "aggregated compensation" would overcome the 35 USC 102(b) rejection to Hale in the July 21, 2009 office action but would require further search and consideration. The Examiner also noted the relevant prior art "The New York Pass".

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Jason B Dunham/ Examiner, Art Unit 3625	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: BROOKS et al.
Title: PROGRAMMABLE TICKETING SYSTEM
Appl. No.: 10/896287
Appl. Filing Date: 7/21/2004
Examiner: Jason B. Dunham
Art Unit: 3625
Confirmation Number: 7645

REQUEST FOR CONTINUED EXAMINATION (RCE)
TRANSMITTAL

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application. This RCE and the enclosed items listed below are being filed prior to the earliest of: (1) payment of the issue fee (unless a petition under 37 C.F.R. § 1.313 is granted); (2) abandonment of the application; or (3) the filing of a notice of appeal to the U.S. Court of Appeals for the Federal Circuit under 35 U.S.C. §141, or the commencement of a civil action under 35 U.S.C. §145 or §146 (unless the appeal or civil action is terminated).

[X] Applicant claims small entity status under 37 CFR 1.27(c)(1).

Submission required under 37 C.F.R. §1.114: (check items that apply)

Enclosed are:

☒ Amendment/Reply.

☒ Information Disclosure Statement.

☒ Form PTO/SB/08 with copies of 7 listed reference(s).

The filing fee is calculated below:

	Claims as Amended	Previously Paid For	Extra Claims Present	Rate	Fee Totals
RCE Fee 1.17(e):				\$810.00	= \$810.00
Total Claims:	24	-	34 = 0	x \$52.00	= \$0.00
Independents	3	-	9 = 0	x \$220.00	= \$0.00
First presentation of any Multiple Dependent Claims:				+ \$390.00	= \$0.00
CLAIMS FEE TOTAL:					= \$810.00

☒ Applicant hereby petitions for an extension of time under 37 C.F.R. §1.136(a) for the total number of months checked below:

☒	Extension for response filed within the first month:	\$130.00	1	\$130.00
☐	Extension for response filed within the second month:	\$490.00		\$0.00
☐	Extension for response filed within the third month:	\$1,110.00		\$0.00
☐	Extension for response filed within the fourth month:	\$1,730.00		\$0.00
☐	Extension for response filed within the fifth month:	\$2,350.00		\$0.00
EXTENSION FEE SUBTOTAL:				\$130.00
EXTENSION FEE ALREADY PAID: -				\$0.00
EXTENSION FEE TOTAL				\$130.00
CLAIMS AND EXTENSION FEE TOTAL:				\$940.00
☒	Small Entity Fees Apply (subtract ½ of above):			\$470.00
☐	Suspension of action requested under 37 C.F.R. § 1.103(c)			\$0.00
TOTAL FEE:				\$470.00

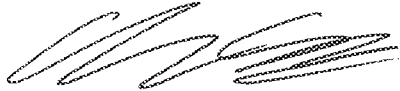
The above-identified fees of \$470.00 are being paid by credit card via EFS-Web.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Please direct all correspondence to the undersigned attorney or agent at the address indicated below.

Respectfully submitted,

Date November 23, 2009

By 

FOLEY & LARDNER LLP
Customer Number: 48329
Telephone: (617) 502-3227
Facsimile: (617) 342-4001

Christopher E. Everett
Attorney for Applicant
Registration No. 51,659

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: BROOKS et al.
Title: PROGRAMMABLE
TICKETING SYSTEM
Appl. No.: 10/896287
Filing Date: 7/21/2004
Examiner: Jason B. Dunham
Art Unit: 3625
Confirmation Number: 7645

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to

antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), Before the mailing of a first Office action after the filing of a Request for Continued Examination under §1.114.

RELEVANCE OF EACH DOCUMENT

All of the documents are in English.

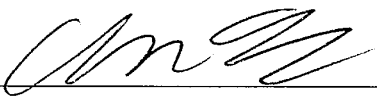
Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Although Applicant believes that no fee is required, the Commissioner is hereby authorized to charge any additional fees which may be due to Deposit Account No. 19-0741.

Respectfully submitted,

Date Nov 23, 2009

FOLEY & LARDNER LLP
Customer Number: 48329
Telephone: (617) 502-3227
Facsimile: (617) 342-4001

By 

Christopher E. Everett
Attorney for Applicant
Registration No. 51,659

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: November 23, 2009 <i>(use as many sheets as necessary)</i>				Application Number	10/896287
				Filing Date	7/21/2004
				First Named Inventor	Tyler Brooks
				Art Unit	3625
				Examiner Name	Jason B. Dunham
Sheet	1	of	1	Attorney Docket Number	096633-0103

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	A1	The New York Pass – Welcome to The New York Pass, 1 page printed from http://web.archive.org/web/20030212222558/www.newyorkpass.com/body/main.asp , printed on November 18, 2009.	
	A2	The New York Pass – Making the most of your trip to New York, 1 page printed from http://web.archive.org/web/20030217210729/http://www.newyorkpass.com/ , printed on November 18, 2009.	
	A3	The New York Pass – Attractions, 1 page printed from http://web.archive.org/web/20021119142524/www.newyorkpass.com/body/attractions.asp , printed on November 18, 2009.	
	A4	The New York Pass – Museums, 1 page printed from http://web.archive.org/web/20021013173733/www.newyorkpass.com/category_museums.asp , printed on November 18, 2009.	
	A5	The New York Pass – Sightseeing Cruises, 1 page printed from http://web.archive.org/web/20021215063437/www.newyorkpass.com/category_sightseeing.asp , printed on November 18, 2009.	
	A6	The New York Pass – Places of Interest, 1 page printed from http://web.archive.org/web/20021215054509/www.newyorkpass.com/category_poi.asp , printed on November 18, 2009.	
	A7	The New York Pass – See the Best of New York for Under \$20 per day, 1 page printed from http://web.archive.org/web/20021103034458/www.newyorkpass.com/index.asp?ref= , printed on November 18, 2009.	

Examiner Signature	Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Electronic Patent Application Fee Transmittal				
Application Number:		10896287		
Filing Date:		21-Jul-2004		
Title of Invention:		Programmable ticketing system		
First Named Inventor/Applicant Name:		Tyler Brooks		
Filer:		Christopher E. Everett		
Attorney Docket Number:		096633-0103		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	2251	1	65	65

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	2801	1	405	405
Total in USD (\$)				470

Electronic Acknowledgement Receipt

EFS ID:	6505070
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	48329
Filer:	Christopher E. Everett/Dawn Dubiel
Filer Authorized By:	Christopher E. Everett
Attorney Docket Number:	096633-0103
Receipt Date:	23-NOV-2009
Filing Date:	21-JUL-2004
Time Stamp:	14:56:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$470
RAM confirmation Number	1364
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Amendment After Final	Amendment.pdf	357989 2d993e48b06e5a6765e5d480656c4fbb64b62bf8	no	12
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	RCE.pdf	80310 826a07b32de882cf6a4496d71f720dada3d7a9e8	no	3
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
3		SIDS.pdf	108187 c568856fd4463abf3405687f6007b07c55450a70	yes	3
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Transmittal Letter		1	2	
	Information Disclosure Statement (IDS) Filed (SB/08)		3	3	
Warnings:					
Information:					
4	NPL Documents	A1.pdf	47565 ad150e13ab11ec5d122a70265bf730781db8a143	no	1
Warnings:					
Information:					
5	NPL Documents	A2.pdf	37110 bfab5e0a7ac53df647c374f921a8be2802662090	no	1
Warnings:					
Information:					
6	NPL Documents	A3.pdf	38360 d2ef294c9addcb70ec87b2ee862cf1eb93df29b5	no	1
Warnings:					
Information:					
7	NPL Documents	A4.pdf	53185 c86ffc47ac0664de0e85431f80a5cdad5401c73f	no	1
Warnings:					
Information:					

8	NPL Documents	A5.pdf	36395	no	1
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Warnings:					
Information:					
9	NPL Documents	A6.pdf	44976	no	1
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Warnings:					
Information:					
10	NPL Documents	A7.pdf	48120	no	1
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Warnings:					
Information:					
11	Fee Worksheet (PTO-875)	fee-info.pdf	31872	no	2
			22d48ecc624075676d49499bf813157f6a8d82d0		
Warnings:					
Information:					
Total Files Size (in bytes):			884069		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: BROOKS et al.
Title: PROGRAMMABLE TICKETING SYSTEM
Appl. No.: 10/896287
Filing Date: 7/21/2004
Examiner: Jason B. Dunham
Art Unit: 3625
Confirmation Number: 7645

AMENDMENT AND REPLY UNDER 37 CFR 1.116

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is responsive to the Final Office Action dated July 21, 2009, concerning the above-referenced patent application.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks/Arguments begin on page 8 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 17. (Cancelled)

18. (Currently Amended) A ~~product~~ manager system ~~to manage a system~~ that permits access ~~to rewards corresponding~~ to a plurality of attractions ~~promotions~~, the system comprising:

a network interface configured to:

receive data corresponding to actual use of reward terminals to access ~~rewards for~~ respective attractions of the plurality of attractions ~~promotions of the plurality of promotions for a time period~~, the reward terminals being located in proximity to the plurality of attractions, ~~promotions~~ and being configured to access ~~the rewards for~~ the respective attractions ~~promotions~~ using at least one product code, the data identifying at least one attraction ~~promotions of the plurality of promotions~~; and

provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective attractions ~~promotions~~, whereby a change in the associations between the at least one product code and the respective attractions ~~promotions~~ changes the access to the respective attractions ~~rewards accessible via~~ the reward terminals using the at least one product code;

a database to store the at least one product definition; [[and]]

a database to store the data corresponding to the actual use of the reward terminals to access the attractions ~~rewards~~[[.]] ; and

a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users.

19. (Currently Amended) The ~~product~~ manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of attractions ~~promotions~~.

20. (Currently Amended) The ~~product~~ manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.

21 – 27. (Cancelled)

28. (Currently Amended) An access system for use with user codes comprising:
a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal, ~~and~~ receive data of actual use to access a plurality of attractions from the at least one reward terminal once every predetermined time period, and calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users, the at least one reward terminal being configured to access rewards using at least one user code; and
a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal;
wherein the information includes ~~an attraction promotion~~ list of attractions ~~promotions~~ accessible from the at least one reward terminal and a product list of attractions ~~promotions~~ that are accessible with each user code, whereby a change in the product list of attractions ~~promotions~~ changes the rewards that are accessible with at least one user code; and
wherein the data includes a list of user codes and attractions ~~promotions~~, the user codes associated with users who access rewards for the attractions ~~promotions~~ via the reward terminal during the predetermined time period.

29. (Previously Presented) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity

to provide the information to the reward terminal and to receive the data from the at least one reward terminal.

30. (Original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.

31. (Original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.

32 - 34. (Cancelled)

35. (Previously Presented) The product manager system as claimed in claim 18, wherein the reward terminals include smart card readers.

36. (Currently Amended) The product manager system as claimed in claim 18, wherein at least one attraction promotion of the plurality of attractions promotion is constrained in time.

37. (Currently Amended) The product manager system as claimed in claim 18, wherein at least one attraction promotion of the plurality of attractions promotion is constrained in frequency of use.

38. (Currently Amended) The access system as claimed in claim 28, wherein each attraction promotion included in the attraction promotion list and product list is defined by a unique attraction promotion code.

39. (Currently Amended) The access system as claimed in claim 38, wherein the unique attraction promotion code includes information defining at least one access restriction for the attraction promotion.

40. (Currently Amended) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined number of times that access to the attraction promotion is valid for each user code.

41. (Currently Amended) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined time period during which access to the attraction promotion is valid.

42. (Currently Amended) A computer-implemented method of managing access to a ~~promotion associated with~~ at least one tourist attraction, the method comprising:

associating a user code with a product, the product ~~including a plurality of promotions,~~
~~the plurality of promotions including the promotion~~ associated with the at least one tourist attraction;

receiving the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction and being configured to access a reward ~~for the promotion~~ associated with the at least one tourist attraction using the user code, whereby a change in ~~the plurality of promotions included in~~ the product changes the rewards accessible via the reward terminal using the at least one user code; [[and]]

recording, by the reward terminal, the use of the user code to access the reward ~~for the promotion~~ associated with the at least one tourist attraction[.]; and

transmitting the use of the user code to a controller for calculation of an aggregated compensation for the at least one tourist attraction based on the use of the reward terminals to access the at least one tourist attraction by a plurality of users.

43. (Currently Amended) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product definition that comprises a list at least one tourist attraction of the plurality of promotions.

44. (Previously Presented) The method as claimed in claim 42, further comprising periodically exchanging information between the reward terminal and a remote system.
45. (Previously Presented) The method as claimed in claim 42, wherein receiving the user code at the reward terminal includes receiving the user code at a reward terminal comprising a smart card reader.
46. (Currently Amended) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one tourist attraction promotion ~~promotion~~ that is constrained in time.
47. (Currently Amended) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one tourist attraction promotion ~~promotion~~ that is constrained in frequency of use.
48. (Cancelled)
49. (New) The manager system as claimed in claim 18, wherein the reward terminals enable each of the respective attractions to individually control access to the attraction.
50. (New) The system as claimed in claim 28, wherein the at least one reward terminal being further configured to enable each of the respective attractions to individually control access to the attraction based on the rewards.
51. (New) The method as claimed in claim 42, wherein the reward terminal being further configured to enable the at least one tourist attraction to individually control access to the respective tourist attraction.

52. (New) The access system as claimed in claim 41, wherein the predetermined time period begins on a first actual use by a user.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claim 48 is requested to be cancelled.

Claims 18-20, 28, 36-43, and 46-47 are currently being amended. Support for the amended claims can be found, at least, in the specification, e.g., page 2, lines 6-14, page 6, lines 16-23, page 7, lines 27-30, page 15, lines 15-26, page 17, lines 19-26, the claims as originally filed, e.g., claims 1-5, and the figures, e.g., figures 2 and 6. No new matter has been added.

Claims 49-52 are being added. Support for the new claims can be found, at least, in the specification, e.g., page 18, lines 22-30, page 23, lines 28-32, page 24, lines 3-8, the claims as originally filed, e.g., claims 1 and 6, and the figures, e.g., figures 2, 6, and 7. No new matter has been added.

This amendment adds, changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 18-20, 28-31, 35-47, and 49-52 are now pending in this application.

Interview Summary

Applicant thanks Examiner Jason B. Dunham for the telephonic examiner interview on November 18, 2009. During the interview, the applicant and the examiner discussed claims 18, 28, and 48 in view of the references cited in the Office Action dated 07/21/2009. In particular, the applicant and the examiner discussed Hale (US 2005/0060173) and Smart Cards Take Flight. During the interview, the applicant and the examiners discussed claim limitations directed towards calculating an aggregated compensation for each attraction. The examiner seemed

receptive of such claim amendments and indicated that such claim limitations should overcome the 102(b) rejection by Hale and the 103(a) rejection by Hale and Smart Cards Take Flight. No agreement was reached.

Claim rejections under 35 U.S.C. 102

The Office Action rejects claims 18-20, 28-31 and 35-47 under 35 U.S.C. 102(b) as being anticipated by Hale (US 2005/0060173). Applicant respectfully disagrees with this rejection.

Independent claim 18, as now amended, is directed to a “manager system that permits access to a plurality of attractions.” The system includes a network interface configured to “receive data corresponding to actual use of reward terminals to access respective attractions of the plurality of attractions for a time period, the reward terminals being located in proximity to the plurality of attractions, being configured to access the respective attractions using at least one product code, the data identifying at least one attraction; and provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective attractions, whereby a change in the associations between the at least one product code and the respective attractions changes the access to the respective attractions via the reward terminals using the at least one product code.” The system includes “a database to store the at least one product definition; a database to store the data corresponding to the actual use of the reward terminals to access the attractions; and a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users.” Independent claims 28 and 42, as now amended, include similar limitations directed to the compensation.

Hale does not describe, at least, “a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users,” as recited in independent claim 18. In contrast, Hale is directed toward a “method and system for loading of patrons at multiple attractions at an entertainment environment” and the “system is particularly applicable for use in an environment where the

number of customers which desire access to an attraction is greater, at one or more times, than the capacity of the attraction.” (Hale: Abstract, paragraph 0097). In other words, Hale is directed towards a method and system for accommodating a condition of insufficient capacity for an attraction and not compensation for each attraction based on the actual use of the reward terminals to access the respective attraction. Further, as recited by the Patent Examiner in the Office Action dated 07/21/2009, Hale “does not explicitly disclose calculating compensation for tourist attractions based on the use of a user code to access the attraction.” (Office Action dated 07/21/2009, page 7). Thus, Hale does not teach, suggest, or describe the claim limitations of independent claims 18, 28, and 42, as now amended, and there is no basis for the 102(b) rejection.

As such, Applicant respectfully requests the withdrawal of the rejection of independent claims 18, 28, and 42. Dependent claims 19-20, 29-31, 35-41, and 43-47 depend from allowable base claims 18, 28, and 42, respectively, and are allowable, at least, for the reasons as described above and/or based on the individual claim elements described therein. As such, Applicant respectfully requests the withdrawal of the rejection of claims 18-20, 28-31 and 35-47, and claims 18-20, 28-31 and 35-47 are now in a condition for allowance.

New Claims 49-52

New claims 49-51 are directed to the reward terminals enabling each of the respective attractions to individually control access to the attraction. New claim 52 is directed to the predetermined time period beginning on a first actual use by a user. Claims 49-52 dependent from independent claim 18, 28, and 42, respectively. Claims 49-52 are in a condition for allowance, at least, for the reasons discussed above with respect to independent claims 18, 28, and 42, and/or based on the individual claim elements described therein.

Claim rejections under 35 U.S.C. 103

The Office Action rejects claim 48 under 35 U.S.C. 103(a) as being unpatentable over Hale in view of Smart Cards Take Flight. Applicant respectfully disagrees with this rejection.

Claim 48 has been cancelled. As such, this rejection should be withdrawn, and the present application is now in condition for allowance.

However, independent claims 18, 28, and 42, as now amended, include claim elements similar to cancelled claim 48. In this regard, Smart Cards Take Flight does not describe, at least, “a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users,” as recited in independent claim 18. Rather, Smart Card Take Flight describes that the “[m]erchants [are] supplied with smart card terminals [to] deduct payments directly from the cards.” No calculation of an aggregated compensation for each attraction would be needed based on the actual use, since the payments are deducted directly from the cards in Smart Card Take Flight

As such, Smart Cards Take Flight does not teach, suggest, or describe the claim elements of independent claims 18, 28, and 42, as now amended. Further, Smart Cards Take Flight does not cure the deficiencies of Hale described above with respect to independent claims 18, 28, and 42, as now amended. Dependent claims 19-20, 29-31, 35-41, 43-47, and 49-51 depend from allowable base claims 18, 28, and 42, respectively, and are allowable, at least, for the reasons as described above and/or based on the individual claim elements described therein.

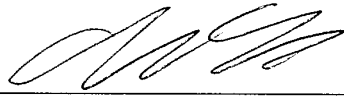
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or

incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date November 23, 2009 By 

FOLEY & LARDNER LLP
Customer Number: 48329
Telephone: (617) 502-3227
Facsimile: (617) 342-4001

Christopher E. Everett
Attorney for Applicant
Registration No. 51,659

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 10/896,287		Filing Date 07/21/2004		☐ To be Mailed	

APPLICATION AS FILED – PART I						OTHER THAN SMALL ENTITY			
(Column 1)		(Column 2)		SMALL ENTITY ☒		OR		SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	RATE (\$)	FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A		N/A		
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A		N/A		N/A		
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A		N/A		
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=	X \$	=	X \$	=	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=	X \$	=	X \$	=	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		TOTAL				

APPLICATION AS AMENDED – PART II						OTHER THAN SMALL ENTITY					
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	11/23/2009	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)		
Total (37 CFR 1.16(i))	*	21	Minus	** 21	= 0	X \$26 =	0	OR	X \$ =		
Independent (37 CFR 1.16(h))	*	3	Minus	*** 3	= 0	X \$110 =	0	OR	X \$ =		
☐ Application Size Fee (37 CFR 1.16(s))								OR			
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								OR			
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE		

(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR		SMALL ENTITY	
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	MINUS	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	RATE (\$)	ADDITIONAL FEE (\$)			
Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$ =			
Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$ =			
☐ Application Size Fee (37 CFR 1.16(s))								OR			
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								OR			
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/GYZELL P. JOHNSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	096633-0103	7645
48329	7590	12/08/2009	EXAMINER	
FOLEY & LARDNER LLP 111 HUNTINGTON AVENUE 26TH FLOOR BOSTON, MA 02199-7610			DUNHAM, JASON B	
			ART UNIT	PAPER NUMBER
			3625	
			MAIL DATE	DELIVERY MODE
			12/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/896,287	Applicant(s) BROOKS ET AL.	
	Examiner JASON B. DUNHAM	Art Unit 3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 23 November 2009.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 18-20,28-31,35-47 and 49-52 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 18-20,28-31,35-47 and 49-52 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892) 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>11/23/09</u> .	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) ☐ Notice of Informal Patent Application 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 23, 2009 has been entered. Applicant canceled claim 48, amended claims 18-20, 28, 36-43, and 46-47, and added new claims 49-52. Claims 18-20, 28-31, 35-47, and 49-52 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 49-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant submitted new claims 49-51 containing limitations reciting attractions individually controlling access and cited supported for these limitations on page 1 of the remarks dated November 23, 2009.

The cited portions of the disclosure provided support for new claim 52 but no written description support has been found by the Examiner for claims 49-51.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-20, 28-31, 35-47, and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hale (US 2005/0060173) in view of Smart Cards (see Reference U, PTO-892 dated 07/21/2009).

Referring to claim 18. Hale discloses a manager system that permits access to a plurality of attractions, the system comprising:

a network interface configured to:

receive data corresponding to actual use of reward terminals to access respective attractions of the plurality of attractions for a time period, the reward terminals being located in proximity to the plurality of attractions, being configured to access the respective attractions using at least one product code, the data identifying at least one attraction (abstract and paragraphs 114-119 disclosing the use of a smart card and reader at amusement park attractions); and

provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the

respective attractions, whereby a change in the associations between the at least one product code and the respective attractions changes the access to the respective attractions via the rewards terminals using the at least one product code (paragraphs 252 -255 and 271 disclosing premium access times to attractions based on segmentation determined by the amount of money a guest is spending).

a database to store the at least one product definition (figures 12 disclosing access to different rides, i.e. promotions);

a database to store the data corresponding to the actual use of the reward terminals to access the attractions (paragraphs 112-114 disclosing a database recording usage).

Hale discloses all of the above but does not expressly disclose calculating compensation for each attraction based on the actual use of the reward terminals by users. Smart Cards discloses a system that permits user access to attractions including a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attractions by a plurality of users (Smart Cards disclosing the smart card terminals with an application to monitor transaction processing, retrieval, and reconciliation for tourist attractions).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to have combined the known system disclosed by Hale with the known system disclosed by Smart Cards of reconciling payment to attractions based on tourist usage because it is merely combining known techniques to yield a predictable result. Such

combination is rendered obvious under KSR. See KSR, 127 S.Ct. at 1741, 82 USPQ2d at 1396.

Referring to claim 19. The combination of Hale and Smart Cards further discloses a system wherein the at least one product definition includes a list of the plurality of attractions (Hale: figure 12).

Referring to claim 20. The combination of Hale and Smart Cards further discloses a system wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals (Hale: paragraphs 208 - 210 disclosing communication between a central database and park turnstiles and attraction gates).

Referring to claim 35. The combination of Hale and Smart Cards further discloses a system wherein the reward terminals include smart card readers (Hale: paragraph 114).

Referring to claims 36-37. The combination of Hale and Smart Cards further discloses a system wherein at least one attraction of the plurality of attractions is constrained in time or frequency of use (Hale: abstract).

Referring to claim 49. The combination of Hale and Smart Cards further discloses a system wherein the reward terminals enable each of the respective attractions to individually control access to the attraction (Hale: paragraph 116 disclosing a validator located adjacent to an attraction to limit customer access).

Referring to claim 28. The combination of Hale and Smart Cards further discloses an access system for use with user codes comprising:

a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal, receive data of actual use to access to a plurality of attractions from the at least one reward terminal once every predetermined time period, and calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users, the at least one reward terminal being configured to access rewards using at least one user code (Hale: paragraphs 25 – 29 and 114 disclosing the central computer to define time periods during which a patron may enter a specific attraction by using their card encoded with user specific access and Smart Cards disclosing the smart card terminals with an application to monitor transaction processing, retrieval, and reconciliation for tourist attractions);

a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal (Hale: paragraphs 112-144);

wherein the information includes an attraction list of attractions accessible from the at least reward terminal and a product list of attractions that are accessible with each user code, whereby a change in the product list of attractions changes the rewards that are accessible with at least one user code (Hale: paragraphs 252 -255 and 271 disclosing premium access times to certain promotions based on segmentation determined by the amount of money a guest is spending) and

wherein the data includes a list of user codes and attractions, the user codes associated with users who access rewards for the attractions via the reward terminal during the predetermined time period (Hale: paragraphs 112-119).

Referring to claim 29. The combination of Hale and Smart Cards further discloses a system wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data from the at least one reward terminal (Hale: paragraphs 25-29).

Referring to claim 30. Claim 30 is rejected under the same rationale set forth above in the rejection of claim 29, as the periodicity is a matter of design choice. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone -MPEP 2114; In re Swineheart, 169 USPQ 226; In re Schreiber, 44 USPQ2d 1429 (Fed. Cir. 1997)

Referring to claim 31. The combination of Hale and Smart Cards further discloses a system wherein the user codes are encoded on programmable smart cards (Hale: paragraph 114).

Referring to claim 38. The combination of Hale and Smart Cards further discloses a system wherein each attraction included in the attraction list is defined by a unique attraction code (Hale: paragraphs 114-117 disclosing unique codes on smart cards for access to specific attractions).

Referring to claim 39. The combination of Hale and Smart Cards further discloses a system wherein the unique attraction code includes information defining at least one access restriction for the attraction (Hale: abstract and paragraphs 114 -117 disclosing access during certain times).

Referring to claim 40. The combination of Hale and Smart Cards further discloses a system wherein the at least one access restriction includes a predetermined number of times that access to the attraction is valid for each user code (Hale: abstract disclosing specific times when a user may enter an attraction).

Referring to claim 41. The combination of Hale and Smart Cards further discloses a system wherein the at least one access restriction includes a predetermined time period during which access to the attraction is valid (Hale: abstract).

Referring to claim 50. The combination of Hale and Smart Cards further discloses a system wherein the at least one reward terminal is configured to enable each of the respective attractions to individually control access to the attractions based on the rewards (Hale: paragraph 116 disclosing a validator located adjacent to an attraction to limit customer access and paragraph 271 disclosing premium access times based on segmentation (e.g. rewards)).

Referring to claim 52. The combination of Hale and Smart Cards further discloses a system wherein the predetermined time period begins on a first actual use by a user (Hale: paragraph 10 disclosing access to an attraction based on a first-in first out basis).

Referring to claims 42-47 and 51. Method claims 42 – 47 and 51 are rejected under the same rationale set forth above in the rejection of system claims 18-20, 35-37, and 49 containing similar limitations. The combination of Hale and Smart Cards further discloses managing access to a tourist attraction (Hale: abstract and paragraph 3 disclosing limiting access in them parks such as Disney World; Disney is assignee of the application).

Response to Arguments

Applicant's arguments, filed November 23, 2009, with respect to the rejection of claims 18-20, 28-31, and 35-47 under 35 USC 102(b) as being anticipated by Hale have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the Smart Cards reference.

Applicant argues the combination of Hale and Smart Cards does not disclose "a controller to calculate an aggregated compensation for each attraction based on the actual use of reward terminals by users" as recited in independent claims 18, 28, and 42 because Smart Cards describes merchants are supplied with smart card terminals to deduct payments directly from the cards. The Examiner disagrees as Smart Cards discloses a system to monitor transaction processing, retrieval, and reconciliation. While payments are deducted directly from the stored value of the cards by the terminal, the merchants are paid by Precis Smart Card Systems after reconciliation (e.g. usage

by customers at an attraction's smart card terminal). The dependent claims of claims 18, 28, and 42 are rejected under the same rationale set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON B. DUNHAM whose telephone number is (571)272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason B Dunham/
Primary Examiner, Art Unit 3625

Search Notes 	Application/Control No. 10896287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.
	Examiner JASON B DUNHAM	Art Unit 3625

SEARCHED			
Class	Subclass	Date	Examiner
705	26,27	2/5/07	JBD

SEARCH NOTES		
Search Notes	Date	Examiner
East Search History	2/5/07	JBD
Updated East Search	10/17/07	JBD
Updated East Search	6/30/08	JBD
Updated East Search	12/23/08	JBD
Updated East Search	7/15/09	JBD
Proquest Search	7/15/09	JBD
Updated East and Proquest Searches	12/2/09	JBD

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: November 23, 2009 <i>(use as many sheets as necessary)</i>		Application Number	10/896287
		Filing Date	7/21/2004
		First Named Inventor	Tyler Brooks
		Art Unit	3625
		Examiner Name	Jason B. Dunham
Sheet	1	of	1
		Attorney Docket Number	096633-0103

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	A1	The New York Pass – Welcome to The New York Pass, 1 page printed from http://web.archive.org/web/20030212222558/www.newyorkpass.com/body/main.asp , printed on November 18, 2009.	
	A2	The New York Pass – Making the most of your trip to New York, 1 page printed from http://web.archive.org/web/20030217210729/http://www.newyorkpass.com/ , printed on November 18, 2009.	
	A3	The New York Pass – Attractions, 1 page printed from http://web.archive.org/web/20021119142524/www.newyorkpass.com/body/attractions.asp , printed on November 18, 2009.	
	A4	The New York Pass – Museums, 1 page printed from http://web.archive.org/web/20021013173733/www.newyorkpass.com/category_museums.asp , printed on November 18, 2009.	
	A5	The New York Pass – Sightseeing Cruises, 1 page printed from http://web.archive.org/web/20021215063437/www.newyorkpass.com/category_sightseeing.asp , printed on November 18, 2009.	
	A6	The New York Pass – Places of Interest, 1 page printed from http://web.archive.org/web/20021215054509/www.newyorkpass.com/category_poi.asp , printed on November 18, 2009.	
	A7	The New York Pass – See the Best of New York for Under \$20 per day, 1 page printed from http://web.archive.org/web/20021103034458/www.newyorkpass.com/index.asp?ref= , printed on November 18, 2009.	

Examiner Signature	/Jason Dunham/	Date Considered	12/02/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.D./

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: BROOKS et al.
Title: PROGRAMMABLE TICKETING SYSTEM
Appl. No.: 10/896287
Filing Date: 7/21/2004
Examiner: Jason B. Dunham
Art Unit: 3625
Confirmation Number: 7645

AMENDMENT AND REPLY

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is responsive to the non-Final Office Action dated December 8, 2009, concerning the above-referenced patent application.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this document.

Remarks/Arguments begin on page 8 of this document.

Please amend the application as follows:

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 17. (Cancelled)

Claim 18 (Currently Amended) A manager system that permits access to a plurality of attractions, the system comprising:

a network interface configured to:

receive data corresponding to actual use of reward terminals to access respective attractions of the plurality of attractions for a time period, the reward terminals being located in proximity to the plurality of attractions, being configured to access the respective attractions using at least one product code, the data identifying at least one attraction; and

provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective attractions, whereby a change in the associations between the at least one product code and the respective attractions changes the access to the respective attractions via the reward terminals using the at least one product code;

a database to store the at least one product definition;

a database to store the data corresponding to the actual use of the reward terminals to access the attractions; and

a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users, wherein the controller does not compensate the attractions based on the actual use of the reward terminals at a time of the actual use of the reward terminals via a card.

Claim 19 (previously presented) The manager system as claimed in claim 18, wherein the at least one product definition includes a list of the plurality of attractions.

Claim 20 (previously presented) The manager system as claimed in claim 18, wherein the network interface is configured to enable periodic data transfer between the database and the reward terminals.

21 – 27. (Cancelled)

Claim 28 (Currently Amended) An access system for use with user codes comprising:

a controller configured to be coupled to at least one reward terminal and configured to provide information to the at least one reward terminal, receive data of actual use to access a plurality of attractions from the at least one reward terminal once every predetermined time period, and calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users, the at least one reward terminal being configured to access rewards using at least one user code, wherein the controller does not compensate the attractions based on the actual use of the reward terminals at a time of the actual use of the reward terminals via a card; and

a database, coupled to the controller, that stores the information to be provided to the at least one reward terminal and the data received from the at least one reward terminal;

wherein the information includes an attraction list of attractions accessible from the at least one reward terminal and a product list of attractions that are accessible with each user code, whereby a change in the product list of attractions changes the rewards that are accessible with the at least one user code; and

wherein the data includes a list of user codes and attractions, the user codes associated with users who access rewards for the attractions via the reward terminal during the predetermined time period.

Claim 29 (Previously Presented) The system as claimed in claim 28, wherein the database is configured to communicate with the at least one reward terminal with predetermined periodicity to provide the information to the reward terminal and to receive the data from the at least one reward terminal.

Claim 30 (Original) The system as claimed in claim 29, wherein the predetermined periodicity is once a day.

Claim 31 (Original) The access system as claimed in claim 28, wherein the user codes are encoded on programmable smart cards.

32 - 34. (Cancelled)

Claim 35 (Previously Presented) The product manager system as claimed in claim 18, wherein the reward terminals include smart card readers.

Claim 36 (previously presented) The product manager system as claimed in claim 18, wherein at least one attraction of the plurality of attractions is constrained in time.

Claim 37 (previously presented) The product manager system as claimed in claim 18, wherein at least one attraction of the plurality of attractions is constrained in frequency of use.

Claim 38 (previously presented) The access system as claimed in claim 28, wherein each attraction included in the attraction list and product list is defined by a unique attraction code.

Claim 39 (previously presented) The access system as claimed in claim 38, wherein the unique attraction code includes information defining at least one access restriction for the attraction.

Claim 40 (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined number of times that access to the attraction is valid for each user code.

Claim 41 (previously presented) The access system as claimed in claim 39, wherein the at least one access restriction includes a predetermined time period during which access to the attraction is valid.

Claim 42 (Currently Amended) A computer-implemented method of managing access to at least one tourist attraction, the method comprising:

associating a user code with a product, the product associated with the at least one tourist attraction;

receiving the user code at a reward terminal, the reward terminal being located in proximity to the at least one tourist attraction and being configured to access a reward associated with the at least one tourist attraction using the user code, whereby a change in the product changes the rewards accessible via the reward terminal using the at least one user code;

recording, by the reward terminal, the use of the user code to access the reward associated with the at least one tourist attraction; and

transmitting the use of the user code to a controller for calculation of an aggregated compensation for the at least one tourist attraction based on the use of the reward terminals to access the at least one tourist attraction by a plurality of users, wherein the controller does not compensate the attractions based on the actual use of the reward terminals at a time of the actual use of the reward terminals via a card.

Claim 43 (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product definition that comprises a list at least one tourist attraction.

Claim 44 (Previously Presented) The method as claimed in claim 42, further comprising periodically exchanging information between the reward terminal and a remote system.

Claim 45 (Previously Presented) The method as claimed in claim 42, wherein receiving the user code at the reward terminal includes receiving the user code at a reward terminal comprising a smart card reader.

Claim 46 (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one tourist attraction that is constrained in time.

Claim 47 (previously presented) The method as claimed in claim 42, wherein associating the user code with the product includes associating a user code with a product that comprises at least one tourist attraction that is constrained in frequency of use.

Claim 48 (Cancelled)

Claim 49 (previously presented) The manager system as claimed in claim 18, wherein the reward terminals enable each of the respective attractions to individually control access to the attraction.

Claim 50 (previously presented) The system as claimed in claim 28, wherein the at least one reward terminal being further configured to enable each of the respective attractions to individually control access to the attraction based on the rewards.

Claim 51 (previously presented) The method as claimed in claim 42, wherein the reward terminal being further configured to enable the at least one tourist attraction to individually control access to the respective tourist attraction.

Claim 52 (previously presented) The access system as claimed in claim 41, wherein the predetermined time period begins on a first actual use by a user.

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 18, 28, and 42 are currently being amended. Support for the amended claims can be found, at least, in the specification, e.g., page 15, lines 15-26, page 16, lines 1-2, page 22, lines 3-6, page 22, lines 16-22, page 26, lines 9-14, page 35, lines 16-30, the claims as originally filed, e.g., claim 28, and the figures, e.g., figures 2 and 6. No new matter has been added.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 18-20, 28-31, 35-47, and 49-52 are now pending in this application.

Interview Summary

Applicant thanks Examiner Jason B. Dunham for the telephonic examiner interview on December 30, 2009. During the interview, the applicant and the examiner discussed claims 18, 28, and 42 in view of the references cited in the Office Action dated 12/08/2009. In particular, the applicant and the examiner discussed Hale (US 2005/0060173) and Smart Cards Take Flight. During the interview, the applicant and the examiners discussed claim limitations directed towards the actual use of the reward not modifying the product. The examiner seemed receptive of such claim amendments and indicated that such claim limitations should overcome the 103 rejection by Hale and Smart Cards Take Flight. No agreement was reached.

Claim rejections under 35 U.S.C. 112

The Office Action rejected claims 49-51 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully disagrees with this rejection.

Claims 49-51 are described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Support for these claims can be found, at least, in the specification, e.g., page 18, lines 22-30, page 22, line 23 through page 23, line 19, page 23, lines 28-32, page 24, lines 3-8, the claims as originally filed, e.g., claims 1 and 6, and the figures, e.g., figures 2, 6, and 7. In particular, support for these claims can be found, at least, in the specification as follows:

According to one embodiment, the system manager may install one or more **reward terminals 120** at each partner attraction. The reward terminal 120 may be a smart card enabled point of sale terminal **adapted to read cards 124 presented to it and indicate whether or not a card-visitor 122 has access to the attraction**. More specifically, the reward terminal 120 may include a storage element, such as a computer-readable memory device, that may contain a list of promotions that may be valid at that reward terminal. For example, a reward terminal located at a museum that is a partner attraction may store several promotions (e.g., access to the museum, access to special exhibits, access to an Imax theatre, and discounts at the museum restaurant) that may be offered by the museum to card-visitors. When the card 124 is "swiped" or "dunked" at the reward terminal 120, the reward terminal 120 checks to see if the card 124 is still valid (e.g., has not expired), whether the card is supported at the terminal and whether the promotions in the terminal are available to the card-visitor. If a promotion is valid, then it may be offered and a reward may be displayed. If more than one promotion is valid, then an attendant may make a choice and the appropriate reward may be given.

The term "reward" as used herein refers to a signal or indication that a card-visitor has chosen to access an offered promotion. In other words, a card-visitor receives a "reward" when the card-visitor uses the card to access a promotion. A promotion, as stored in the system, may have a title and a reward. The title may be used to identify the promotion. For example, a card-visitor who

swipes his/her card at a reward terminal may be offered a promotion having a title "admission to museum." **The reward is used to reward the card-visitor, namely to indicate to attendants at the partner attraction that the card-visitor is entitled to the selected promotion.** During normal operation of the system, an attendant, or the card-visitor, may select a promotion by its title and may be told the reward by the promotion reward. A card may have a certain number of rewards based on the product associated with that card. In other words, a product comprises a list of promotions and each promotion may correspond to one or more rewards. For example, as discussed above, promotions may be frequency or quantity limited which may determine how many rewards that promotion may give to any card.

(emphasis added) (Present Application: page 22, line 23 through page 23, line 19).

Based at least on the reasons described above, the rejection of claims 49-51 should be withdrawn, and the claims 49-51 are now in a condition for allowance.

Claim rejections under 35 U.S.C. 103

The Office Action rejected claims 18-20, 28-31, 35-47, and 49-52 under 35 U.S.C. 103(a) as being unpatentable over Hale (US 2005/0060173) in view of Smart Cards. Applicant respectfully disagrees with this rejection.

Independent claim 18, as now amended, is directed to a "manager system that permits access to a plurality of attractions." The system includes a network interface configured to "receive data corresponding to actual use of reward terminals to access respective attractions of the plurality of attractions for a time period, the reward terminals being located in proximity to the plurality of attractions, being configured to access the respective attractions using at least one product code, the data identifying at least one attraction; and provide at least one product definition to the reward terminals, the at least one product definition including associations between the at least one product code and the respective attractions, whereby a change in the associations between the at least one product code and the respective attractions changes the access to the respective attractions via the reward terminals using the at least one product code."

The system includes “a database to store the at least one product definition; a database to store the data corresponding to the actual use of the reward terminals to access the attractions; and a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users, wherein the controller does not compensate the attractions based on the actual use of the reward terminals at a time of the actual use of the reward terminals via a card.” Independent claims 28 and 42, as now amended, include similar limitations directed to the compensation and actual use of the reward terminals.

In the present application, the actual use of the reward terminals, e.g., access of the attraction by the user, does not compensate the attractions at the time of the use via a card. In contrast, the reward terminal can “be configured to read cards 124 presented to it and to indicate whether or not a card-visitor 122 has access to the attraction.” (Present Application: page 16, line 29 through page 17, line 2). The reward terminals “upload to the database [the] actual use data” and the controller pays each attraction for all the card uses at that attraction. In other words, the attraction of the present application is compensated via the aggregated compensation calculated by the controller based on the actual use of the attraction and not a compensation deduction from the card based on the actual use. In other words, the attractions of the present application are not compensated via a smart card-based payment system with smart card terminals that “deduct payments directly from the cards, which store either \$100 or \$250 of value,” as described in the Smart Cards Take Flight reference.

As previously discussed, Hale does not describe, at least, “a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users,” as recited in independent claim 18. In contrast, Hale is directed toward a “method and system for loading of patrons at multiple attractions at an entertainment environment” and the “system is particularly applicable for use in an environment where the number of customers which desire access to an attraction is greater, at one or more times, than the capacity of the attraction.” (Hale: Abstract, paragraph 0097). In

other words, Hale is directed towards a method and system for accommodating a condition of insufficient capacity for an attraction and not compensation for each attraction based on the actual use of the reward terminals to access the respective attraction. Further, as recited by the Patent Examiner in the Office Actions dated 07/21/2009 and 12/08/2009, Hale “does not explicitly disclose calculating compensation for tourist attractions based on the use of a user code to access the attraction.” (Office Action dated 07/21/2009, page 7; Office Action dated 12/08/2009, page 4). Thus, Hale does not teach, suggest, or describe the claim limitations of independent claims 18, 28, and 42, as now amended.

Further, Smart Cards Take Flight does not describe, at least, “a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users” and “wherein the controller does not compensate the attractions based on the actual use of the reward terminals at a time of the actual use of the reward terminals via a card,” as recited in independent claim 18. Rather, Smart Card Take Flight describes that the “[m]erchants [are] supplied with smart card terminals [to] deduct payments directly from the cards.” No calculation of an aggregated compensation for each attraction would be needed based on the actual use, since the payments are deducted directly from the cards in Smart Cards Take Flight. Further, the actual use of the smart cards in Smart Cards Take Flight would change the ability of the user to purchase additional activities, since the payments are deducted directly from the cards. Accordingly, Smart Cards Take Flight does not cure the deficiencies of Hale with respect to the claim limitations of independent claims 18, 28, and 42, as now amended.

As such, Hale and Smart Cards Take Flight, separately or combined, do not teach, suggest, or describe the claim elements of independent claims 18, 28, and 42, as now amended. The rejection of independent claims 18, 28, and 42 should be withdrawn, and the claims are now in a condition for allowance. Further, dependent claims 19-20, 29-31, 35-41, 43-47, and 49-51 depend from allowable base claims 18, 28, and 42, respectively, and are allowable, at least, for the reasons as described above and/or based on the individual claim elements described therein.

As such, Applicant respectfully requests the withdrawal of the rejection of claims 18-20, 28-31, 35-47, and 49-52, and claims 18-20, 28-31, 35-47, and 49-52 are now in a condition for allowance.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date Jan 26, 2010

By 

FOLEY & LARDNER LLP
Customer Number: 48329
Telephone: (617) 502-3227
Facsimile: (617) 342-4001

Christopher E. Everett
Attorney for Applicant
Registration No. 51,659

Electronic Acknowledgement Receipt

EFS ID:	6881629
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	Programmable ticketing system
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	48329
Filer:	Christopher E. Everett/Dawn Dubiel
Filer Authorized By:	Christopher E. Everett
Attorney Docket Number:	096633-0103
Receipt Date:	26-JAN-2010
Filing Date:	21-JUL-2004
Time Stamp:	15:03:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	Reply.pdf	443196 3df795ddacbb539fe7f6adebc1b71e31dbb cc8a7	no	13

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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PATENT APPLICATION FEE DETERMINATION RECAP
 Subtitle for Form PTO-975

APPLICATION AS FILED - PART I

FOR	NUMBER FILED (Column 1)	NUMBER EXTRA (Column 2)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(d))	minus 20 =	
INDEPENDENT CLAIMS (37 CFR 1.16(d))	minus 3 =	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(f))		

SMALL ENTITY

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
x 25 =	
x 105 =	
185	
TOTAL	

OTHER THAN SMALL ENTITY

RATE (\$)	FEE (\$)
N/A	
N/A	
N/A	
x 50 =	
x 210 =	
370	
TOTAL	

APPLICATION AS AMENDED - PART II

1-26-10

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT (Column 1)	HIGHEST NUMBER PREVIOUSLY PAID FOR (Column 2)	PRESENT EXTRA (Column 3)
Total (37 CFR 1.16(d))	24	Minus 34	= 1
Independent (37 CFR 1.16(d))	3	Minus 9	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(f))			

SMALL ENTITY

RATE (\$)	ADDITIONAL FEE (\$)
x 25 =	
x 105 =	
185	
TOTAL ADD'L FEE	

OTHER THAN SMALL ENTITY

RATE (\$)	ADDITIONAL FEE (\$)
x 50 =	
x 210 =	
370	
TOTAL ADD'L FEE	

AMENDMENT B

CLAIMS REMAINING AFTER AMENDMENT (Column 1)	HIGHEST NUMBER PREVIOUSLY PAID FOR (Column 2)	PRESENT EXTRA (Column 3)
Total (37 CFR 1.16(d))	Minus	=
Independent (37 CFR 1.16(d))	Minus	=
Application Size Fee (37 CFR 1.16(s))		
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(f))		

SMALL ENTITY

RATE (\$)	ADDITIONAL FEE (\$)
x 25 =	
x 105 =	
185	
TOTAL ADD'L FEE	

OTHER THAN SMALL ENTITY

RATE (\$)	ADDITIONAL FEE (\$)
x 50 =	
x 210 =	
370	
TOTAL ADD'L FEE	

If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 If the "Highest Number Previously Paid For" in THIS SPACE is less than 20, enter "20".
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EXAMINER

DUNHAM, JASON B

ART UNIT

PAPER NUMBER

3625

DATE MAILED: 03/22/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.

10/896,287

07/21/2004

Tyler Brooks

096633-0103

7645

TITLE OF INVENTION: PROGRAMMABLE TICKETING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	06/22/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

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III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

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PART B - FEE(S) TRANSMITTAL

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Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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48329 7590 03/22/2010

FOLEY & LARDNER LLP
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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.

10/896,287 07/21/2004 Tyler Brooks 096633-0103 7645

TITLE OF INVENTION: PROGRAMMABLE TICKETING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	06/22/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
DUNHAM, JASON B	3625	705-026000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	096633-0103	7645
48329	7590	03/22/2010	EXAMINER	
FOLEY & LARDNER LLP 111 HUNTINGTON AVENUE 26TH FLOOR BOSTON, MA 02199-7610			DUNHAM, JASON B	
			ART UNIT	PAPER NUMBER
			3625	
DATE MAILED: 03/22/2010				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 272 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 272 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/896,287	BROOKS ET AL.	
	Examiner	Art Unit	
	JASON B. DUNHAM	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Claims filed 1/26/10.

2. ☒ The allowed claim(s) is/are 18-20, 28-31, 35-47, and 49-52.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. ☐ Notice of Informal Patent Application 6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ 7. ☐ Examiner's Amendment/Comment 8. ☒ Examiner's Statement of Reasons for Allowance 9. ☐ Other _____.

/Jason B Dunham/ Primary Examiner, Art Unit 3625	

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Upon review of the evidence at hand, it is hereby concluded that the evidence obtained and made of record, alone or in combination, neither anticipates, reasonably teaches, nor renders obvious the below noted features of applicant's invention as the noted features amount to more than a predictable use of elements in the prior art. The allowable features include "a controller to calculate an aggregated compensation for each attraction based on the actual use of the reward terminals to access the respective attraction by a plurality of users, wherein the controller does not compensate the attractions based on the actual use of the reward terminals at a time of the actual use of the reward terminals via a card."

In addition to the above, the Examiner emphasizes the interrelation of the above distinguishing elements with the remainder of each respective claim element, and further notes that it is the interrelation that truly distinguishes Applicant's invention from the evidence at hand. Moreover, none of the evidence at hand teaches or suggests the combination of features claimed, nor does there exist an appropriate rationale for further modification of the evidence at hand.

It is hereby asserted by the Examiner that, in light of the above and in further deliberation over all of the evidence at hand, that the claims are allowable as the evidence at hand does not anticipate the claims and does not render obvious any further modification of the references to a person of ordinary skill in the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON B. DUNHAM whose telephone number is (571)272-8109. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Smith can be reached on 571-272-6763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason B Dunham/
Primary Examiner, Art Unit 3625

Notice of References Cited	Application/Control No. 10/896,287		Applicant(s)/Patent Under Reexamination BROOKS ET AL.	
	Examiner JASON B. DUNHAM		Art Unit 3625	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,948,040 A	09-1999	DeLorme et al.	705/5
*	B	US-6,173,209 B1	01-2001	Laval et al.	700/91
*	C	US-2002/0151364 A1	10-2002	Suchocki, Edward J.	463/42
*	D	US-2003/0105641 A1	06-2003	Lewis, Woodson C.	705/1
*	E	US-6,609,655 B1	08-2003	Harrell, Martha F.	705/13
*	F	US-6,813,608 B1	11-2004	Baranowski, Robert	705/6
*	G	US-2004/0267619 A1	12-2004	Watts, Gary Michael	705/016
*	H	US-2005/0060173 A1	03-2005	Hale et al.	705/001
*	I	US-6,889,098 B1	05-2005	Laval et al.	700/19
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
*	U	Smart Cards Take Flight, EFT Report, New York, August 11, 1999.
*	V	The New York Pass- Making the most of your trip to New York, accessed via the Internet Archive http://web.archive.org/web/20020720081557/http://www.newyorkpass.com/
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 10896287	Applicant(s)/Patent Under Reexamination BROOKS ET AL.
	Examiner JASON B DUNHAM	Art Unit 3625

SEARCHED			
Class	Subclass	Date	Examiner
705	26,27	2/5/07	JBD

SEARCH NOTES		
Search Notes	Date	Examiner
East Search History	2/5/07	JBD
Updated East Search	10/17/07	JBD
Updated East Search	6/30/08	JBD
Updated East Search	12/23/08	JBD
Updated East Search	7/15/09	JBD
Proquest Search	7/15/09	JBD
Updated East and Proquest Searches	12/2/09	JBD
Updated East and Proquest Searches	3/12/10	JBD

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
705	26,27	3/12/10	JBD



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BIB DATA SHEET

CONFIRMATION NO. 7645

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
10/896,287	07/21/2004	705	3625	096633-0103		
APPLICANTS Tyler Brooks, Seattle, WA; Kevin McLaughlin, Charlestown, MA; Helga Cecilia Dahl, Boston, MA; Edward Kim, Seattle, WA; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** * SMALL ENTITY ** 09/24/2004						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JASON B DUNHAM/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY WA	SHEETS DRAWINGS 9	TOTAL CLAIMS 34	INDEPENDENT CLAIMS 9
ADDRESS FOLEY & LARDNER LLP 111 HUNTINGTON AVENUE 26TH FLOOR BOSTON, MA 02199-7610 UNITED STATES						
TITLE Programmable ticketing system						
FILING FEE RECEIVED 769	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

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Database Name	Database Number
ABI/INFORM	15
PROMT (90- PRESENT)	16
PROMT (1972-1989)	160
COMPUTER DATABASE	275
TRADE&INDUSTRY	148

Set	Description
S1	((attraction)(s)(smart(n2)card))
S2	PY=((1970:2004))
S3	S1 and S2
S4	S3 and ((electronic or cyber or online or on(w)line or internet or virtual or web)(n2)(shop? Or retail? Or mall? ? Or catalog?) or e(w)(shop or tail) or teleshop? Or videotext?(n2)shop? Or PC=7372640)
S5	SORT /ALL/pd,a

- ☐ 1 InteliData Introduces Revolutionary 'MoneyClip' - April 8 - 1997 - Word Count: 1478 - Gale Group
PROMT®
- ☐ 2 Fortress smart card. (Special Supplement: Smart Cards).(Industry Overview) - Nov - 2002 - Gale Group
Trade and Industry Database™
- ☐ 3 Supplement: EMV Migration - From Magnetic Stripe To Microchip - Fraud Control Is Just One Benefit
Of Smart Card Technology. Bill Dunn Describes Some Of The Initiatives Being Taken Globally. - May 1 -
2003 - Gale Group Trade and Industry Database™



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BUSINESS WIRE	610
BUSINESS WIRE	810
MCGRAW-HILL PUBS	624
NEW PRODUCT ANNMNT	621
NEWSLETTER DB	636
PR NEWSWIRE	613
PR NEWSWIRE	813
SAN JOSE MERCURY	634
GLOBAL REPORTER	20
MAGAZINE DBASE	47
BUSINESS DATELINE	635
MKT&ADV REF SERV	570

Set	Description
S1	((attraction)(s)(smart(n2)card))
S2	PY=((1970:2004))
S3	S1 and S2
S4	S3 and ((electronic or cyber or online or on(w)line or internet or virtual or web)(n2)(shop? Or retail? Or mall? ? Or catalog?) or e(w)(shop or tail) or teleshop? Or videotext?(n2)shop? Or PC=7372640)
S5	SORT /ALL/pd,a

☐ **1** InteliData Introduces Revolutionary 'MoneyClip' - April 8 - 1997 - Gale Group New Product Announcements/Plus®

☐ **2** InteliData Introduces Revolutionary 'MoneyClip' - April 8, 1997 - PR Newswire

3 Bankard Set To Intro Virtual Shopping In Philippines - April 16, 1997 - Business & Industry®



☐ **4 Acer Debuts Internet TV In Singapore** - October 22, 1997 - Business & Industry®

☐ **5 All-in-One Smart Cards Arrive with Microchip** - July 01, 2001 - Business & Industry®

☐ **6 All-in-One Smart Cards Arrive with Microchip** - July 01, 2001 - World Reporter

☐ **7 SUPPLEMENT: SMART CARDS - Fortress Smart Card - Banks Across The World Are Finding That The Benefits Of Smart Cards Outweigh The Cost Of The Changeover From Magnetic Stripe Cards. Fighting Fraud Though Is Not The Only Service That Smart Chips Can Provide.** - November 01, 2002 - World Reporter

☐ **8 Supplement: EMV Migration - From Magnetic Stripe To Microchip - Fraud Control Is Just One Benefit Of Smart Card Technology. Bill Dunn Describes Some Of The Initiatives Being Taken Globally** - May 01, 2003 - World Reporter



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Issue Classification

ISSUE CLASSIFICATION

☐ Claims renumbered in the same order as presented by applicant	☐ CPA	☐ T.D.	☐ R.1.47

PART B - FEE(S) TRANSMITTAL

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48329 7590 03/22/2010

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/21/2004	Tyler Brooks	096633-0103	7645

TITLE OF INVENTION: PROGRAMMABLE TICKETING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	06/22/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
DUNHAM, JASON B	3625	705-026000

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☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1. Foley & Lardner LLP
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2. _____
 3. _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)
Smart Destinations Inc. Boston, Massachusetts

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.
☒ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 19-0741 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature Matthew B. Lowrie
 Typed or printed name Matthew B. Lowrie

Date 6/18/10
 Registration No. 38,228

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Electronic Patent Application Fee Transmittal				
Application Number:		10896287		
Filing Date:		21-Jul-2004		
Title of Invention:		PROGRAMMABLE TICKETING SYSTEM		
First Named Inventor/Applicant Name:		Tyler Brooks		
Filer:		Matthew B. Lowrie/Alexandra Cinamon		
Attorney Docket Number:		096633-0103		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	755	755
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Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1055

Electronic Acknowledgement Receipt

EFS ID:	7844600
Application Number:	10896287
International Application Number:	
Confirmation Number:	7645
Title of Invention:	PROGRAMMABLE TICKETING SYSTEM
First Named Inventor/Applicant Name:	Tyler Brooks
Customer Number:	48329
Filer:	Matthew B. Lowrie/Alexandra Cinamon
Filer Authorized By:	Matthew B. Lowrie
Attorney Docket Number:	096633-0103
Receipt Date:	18-JUN-2010
Filing Date:	21-JUL-2004
Time Stamp:	13:43:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1055
RAM confirmation Number	13
Deposit Account	
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1	Issue Fee Payment (PTO-85B)	issuefee.pdf	85555 4a868a5b1e813df4df67f3fea74d416ae1051017	no	1
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	31949 07db803ddc5b0a0338ceea967c04e707fcbde009	no	2
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Total Files Size (in bytes):			117504		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/896,287	07/27/2010	7765128	096633-0103	7645

48329 7590 07/07/2010
FOLEY & LARDNER LLP
111 HUNTINGTON AVENUE
26TH FLOOR
BOSTON, MA 02199-7610

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 704 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Tyler Brooks, Seattle, WA;
Kevin McLaughlin, Charlestown, MA;
Helga Cecilia Dahl, Boston, MA;
Edward Kim, Seattle, WA;

AO 120 (Rev. 3/04)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court District of Massachusetts on the following ☒ Patents or ☐ Trademarks:

DOCKET NO.	DATE FILED 7/28/2011	U.S. DISTRICT COURT District of Massachusetts
PLAINTIFF Smart Destinations, Inc.		DEFENDANT Leisure Pass North America LLC, et al.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 7,765,128	7/27/2010	Smart Destinations, Inc.
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy