

**UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE UNITED STATES PATENT TRIAL AND APPEAL BOARD**

In re U.S. Patent No. 6,193,520

Issued: February 27, 2001

Filed: July 2, 1998

Applicant: Takeya Okamoto

Title: Interactive Communication System for
Communicating Video Game and Karaoke Software

Mail Stop *Patent Board*

Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

I, Garry E. Kitchen, hereby declare the following:

BACKGROUND AND EDUCATION

1. I have been retained to analyze, and to provide a declaration regarding, the technology of U.S. Patent No. 6,193,520 (“the ’520 patent”) and the technological relationship between the ’520 patent and various prior art patents and printed publications, as well as to provide information regarding the state of the art at the time that the ’520 patent application was filed.

Education

2. I am an engineer, video game designer, entrepreneur and consultant. I received a Bachelor of Science in Electrical Engineering in 1980 from Fairleigh Dickinson University, where I was awarded membership in the Eta Kappa Nu Honor Society, the Electrical Engineering and Computer Engineering Honor Society of the Institute of Electrical and Electronic Engineers (IEEE). As an Electrical Engineering student, I was twice chosen to receive the Engineering Merit Scholarship from Panasonic / Matsushita Corporation of Japan, one of the largest consumer electronics companies in the world.

Professional Experience

3. My career in the electronic entertainment/video game industry includes over 30 years of experience running game development companies, with significant hands-on technical and creative

experience in all game genres, including console, PC retail and download, online, mobile, and dedicated electronic. I have been directly involved in the design of hundreds of commercially-released video game products, across a breadth of hardware platforms, from the earliest Atari machine through the present day Apple iPhone. I have personally developed video game software products that have generated career sales in excess of \$350 million.

4. In 1979, while still in engineering school, I invented and developed the handheld electronic game *Bank Shot* for Parker Brothers, named one of the “10 Best Games of 1980” by OMNI Magazine, and also recognized as one of the year’s top games by Games Magazine. Bank Shot utilized a customized version of the American Microsystems (AMI) S-2000 4-bit microprocessor, a state-of-the-art (at the time) single chip microcomputer. I was awarded U.S. patent #4,346,892 (“Electronic Pool Game”) for the invention of Bank Shot.

5. In 1980, I reverse engineered the hardware and software of the Atari 2600 game platform, developing one of the first third-party compatible games for the system (*Space Jockey*).

6. In 1982, I designed and programmed the Atari 2600 adaptation of the hit arcade game *Donkey Kong*, which achieved revenues in excess of \$100 million on 4 million units sold, making it one of the top selling video games of 1982.

7. From June 1982 to March 1986, I was a Senior Designer for Activision, Inc., during which time I designed and developed numerous games, including the hit title *Keystone Kapers*, which earned a Video Game of the Year – Certificate of Merit from Electronic Games Magazine in 1983.

8. From 1984–1985, I developed *Garry Kitchen’s GameMaker*, a suite of 5 professional quality design tools connected to an easy-to-use programming language that allowed novice game developers to create commercial quality video games. Computer Entertainer Magazine named me Video Game Designer of the Year in 1985 for my work on *Garry Kitchen’s GameMaker*.

9. In 1986, I co-founded Absolute Entertainment, Inc. and served as Chairman, President & CEO until November 1995. Absolute Entertainment, Inc. was a console game publisher licensed by Nintendo, Sega, Sony, 3DO and Atari and was a video game developer of over one hundred marketed titles from 1986 to 1995. Absolute Entertainment was the first North American-based development studio for Nintendo-compatible games.

10. From 1986-1987, I served as a consultant for RCA David Sarnoff Research Center in Princeton, New Jersey, on the potential entertainment applications of Digital Video Interactive (DVI), one of the first technologies to store full-motion video on a CDROM. DVI was introduced to great acclaim at the second annual Microsoft CD-ROM Conference in 1987. DVI technology was subsequently acquired and commercialized by Intel Corporation.

11. In 1995, I co-founded Skyworks Technologies, Inc., an early, pioneering online game

company. At Skyworks, as President & CEO, I led the creation of one of the first large scale online gaming websites, Candystand.com, for LifeSavers Candy Company, then a division of Nabisco Inc. The Candystand, launched in 1997, is recognized as one of the first and most successful examples of *advergaming*, the integration of gaming and advertising. Candystand's innovative approach to online marketing was later the subject of a Harvard Business School case study.

12. Under my leadership, Skyworks became the preeminent supplier of promotional games (advergames) to the world's largest brands, including Kraft Foods, Nabisco, Post Cereal, Pepsi, Coke, BMW, Toyota, Ford Lincoln Mercury, General Motors, Campbell's, Fox Sports, CBS, Mattel, ESPN, Microsoft Network, Showtime, Yahoo, MTV, the Weather Channel, Comedy Central, Cartoon Network, Sony Pictures, Discovery Channel, Unilever, P&G and many others.

13. In addition to our pioneering work in online games, Skyworks performed technical consulting for and provided content to the Sega Channel, one of the first downloadable game content delivery systems deployed in the United States¹. From 1993-1998, Sega Channel delivered Sega Genesis-compatible games for rental over coaxial cable. Sega Channel offered "sneak peeks" of titles, sometimes before they hit stores, including game downloads "limited to a certain number of levels or a certain amount of time."² Sega Channel was named one of 1994's most innovative products by *Popular Science Magazine*. At its peak, Sega Channel was available in over 20 million homes through 21 cable suppliers³.

14. Skyworks was also an early developer and publisher of downloadable PC games, utilizing DRM (Digital Rights Management) technology similar in scope to the technology of the patents in question. Skyworks supplied DRM-enabled games to major distribution channels such as Yahoo, CBS Sportsline, RealNetworks, GameHouse, ESPN Arcade, Big Fish Games, CNET (download.com), and others.

15. In 2008, Skyworks entered the smartphone app marketplace with the introduction of Arcade Hoops Basketball, an iPhone app that I personally developed. Arcade Hoops Basketball has been downloaded more than 10,000,000 times on the Apple App store. Skyworks became a leading publisher of games on the Apple iPhone platform with over 50 million total downloads to date.

16. I was recently awarded a patent in the field of online games and interactive advertising, U.S. Patent No. 8,407,090, "Dynamic reassignment of advertisement placements to maximize impression count". The invention relates to a method for dynamically managing in-game advertisements in a manner that maximizes the number of impression counts for individual

¹ <http://www.sega-16.com/2004/12/sega-channel-the-first-real-dowloadable-content/>

² <http://www.sega-16.com/2004/12/sega-channel-the-first-real-dowloadable-content/>

³ <http://www.nytimes.com/1994/07/12/business/sega-channel-is-expanding.html>

advertisements that are placed throughout the video game.

17. Most recently I served as the Vice President of Game Publishing for Viacom Media Networks, a division of Viacom Inc., a \$15 billion media conglomerate whose holdings include BET Networks, MTV, VH1, CMT, Nickelodeon, Spike TV, Comedy Central and Paramount Pictures. While at Viacom, I led development of the Addicting Games mobile app for the Apple iPhone, the first Viacom-published app to reach #1 in the Apple App store. The Addicting Games mobile app was honored with a 2012 Webby Award in the category of Games (Handheld Devices). The Addicting Games mobile app was the sixth iPhone-compatible game developed under my direct supervision that has risen to #1 in the Apple App store, a marketplace with over 900,000 individual titles.

18. I have been recognized numerous times for my contributions to video games. For example, in 1992 I received a Lifetime Achievement Award in Video Games from The Doctor Fad Show, a syndicated educational television program. In 2003, I was honored with the Lifetime Achievement Award in Video Games from Classic Gaming Expo. Other awards I have received include New Jersey Entrepreneur of the Year Finalist (Inc. Magazine, Merrill Lynch and Ernst & Young), Bosslevel – The World's Top 100 Game Developers, Nintendo President's Award, Software Publishers Association (SPA) Excellence in Software, and Video Game of the Year. In addition, I serve on the Advisory Board of the Video Game History Museum.

19. I am recognized as an industry expert in the areas of video games, online gaming and interactive advertising and have spoken and/or appeared at many industry events. For example, I was recently the keynote speaker at Qualcomm's QTech Forum 2012. Other speaking engagements have included the Consumer Electronics Show, National Cable Show, Game Developers Conference (GDC), Digital Hollywood, iMedia Breakthrough Summit, Gamer Technology Conference, Classic Gaming Expo, Casual Connect, Advertising in Gaming Conference, DMExpo, and the VNU Digital Marketing Conference. In addition, I have been interviewed in a number of print and broadcast mediums, including CNBC, ABC Eyewitness News, CNN, Good Morning Atlanta, and The Today Show.

20. My education, professional experience and case history as an expert witness are described in my Curriculum Vitae, attached as Exhibit 1 to this declaration.

Publications

21. I have performed in a business and technical management role in the publication of hundreds of commercial software products. In addition, I have had direct involvement in the development of over 80 commercial software products, either as designer, co-designer, software author or co-author. A list of these titles is included in my Curriculum Vitae.

Compensation

22. I have been asked to provide my independent expert opinion on the state of the art in the timeframe in which the '520 patent application was filed and concerning certain issues raised in the accompanying "PETITION FOR POST GRANT REVIEW OF A COVERED BUSINESS METHOD" (the "Petition"). I will be compensated for my time, at my normal consulting rate of \$500/hour, but my compensation is not conditioned on my rendering of any particular opinion.

STANDARDS

Materials Considered

23. As part of my work in connection with this matter, I have studied the '520 patent, including the written description, figures, and claims, as well as Control No. 90/010666 *ex parte* reexamination history of the '520 patent. I have also reviewed other patents issued to the same named inventor as the '520 patent, including U.S. Patent Nos. 6,488,508 ("the '508 patent"), 6,875,021 ("the '021 patent"), 5,489,103 ("the '103 patent"), 5,735,744, ("the '744 patent"), and 5,775,995 ("the '995 patent"), as well as portions of the *inter partes* reexamination history of the '508 patent (RX Control No. 95/001,234), including the Action Closing Prosecution, Patent Owner's subsequent Response and Amendments, Requesters Written Comments After Action Closing Prosecution, and Patent Owner's and Requester's Appeal Briefs therein. I have also reviewed the following prior art references that I understand are cited in the Petition, including:

- U.S. Patent No. 4,999,806 to Chernow, et al. ("Chernow");
- U.S. Patent No. 5,547,202 to Tsumura ("Tsumura");
- A certified English-language translation of German Patent DE 19528017 to Nishio, et al. ("Nishio");
- A certified English-language translation of Japanese Published Unexamined Application H6-334780 to Okamoto, which is the Japanese Parent of the '520 patent ("Okamoto Japanese Parent"); and
- A certified English-language translation of Japanese Patent Laid-Open No. Hei 4-10191 to Kato ("Kato").

Invalidity and Level of Ordinary Skill in the Art

24. I understand that there are two ways in which a prior art patent or printed publication can be used to invalidate a patent. First, the prior art can be shown to "anticipate" the claim. Second, the prior art can be shown to "render obvious" the claim. My understanding of the two legal standards is set forth below.

25. I understand that, in general, for a patent claim to be invalid as “anticipated” by the prior art, each and every feature of the claim must be found, expressly or inherently, in a single prior art reference or product arranged as in the claim. Claim limitations that are not expressly found in a prior art reference are inherent if the prior art necessarily functions in accordance with, or includes, the claim limitations.

26. In general, the standard for anticipation is the mirror image of the standard for infringement. Both require a comparison of the limitations of the claim to the elements of a prior art reference (for anticipation) or an accused device (for infringement). Each and every limitation of the claim must be found in the prior art reference to anticipate the claim. Similarly, if each and every limitation of the claim can be found in the accused device, the claim is infringed (regardless of whether the accused device includes additional features).

27. I understand that there are a number of ways that anticipation may occur, including if the claimed invention was “described in a printed publication” anywhere in the world more than one year prior to the date of the application for the challenged patent in the United States (in this case, before July 2, 1998, hereinafter the “Filing Date”), or if the invention was described in certain published patent applications before the invention by the applicant for patent or a patent granted on an application for the challenged patent by another filed in the United States before the invention by the applicant for the challenged patent. I understand that to anticipate, however, a non-patent printed publication must also enable one skilled in the art to make and use the claimed invention.

28. I further understand that an inventor is not entitled to a patent if his or her invention would have been obvious to a person of ordinary skill in the field of the invention at the time the invention was made. I understand that 35 U.S.C. § 103(a) stated as follows as of the Filing Date:

A patent may not be obtained through 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.

29. The following standards govern the determination of whether a claim in a patent is obvious. I have applied these standards in my evaluation of whether the claims in this reexamination are obvious.

30. A claim in a patent is obvious when 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 the subject matter pertains.

31. I understand that obviousness may be shown by considering more than one item of prior art. I also understand that the relevant inquiry into obviousness requires consideration of four factors (although not necessarily in the following order):

- The scope and content of the prior art;
- The differences between the prior art and the claims at issue;
- The level of ordinary skill in the pertinent art; and
- Whatever objective factors indicating obviousness or non-obviousness may be present in any particular case.

32. In addition, I understand that the obviousness inquiry should not be done in hindsight, but should be done through the eyes of a person of ordinary skill in the relevant art at the time of the Filing Date.

33. Consistent with the background and standards set forth above, it is my opinion that a person of ordinary skill in the field as of the Filing Date would have a Bachelor of Science Degree in Electrical Engineering, Computer Engineering, Computer Science or a related engineering discipline or equivalent experience or education.

34. As demonstrated by my experience above, I more than meet the definition of one of ordinary skill in the art. In addition, throughout the 1990s and 2000s, I worked with numerous people of ordinary skill in the field in question.

STATE OF THE ART AT THE TIME OF THE FILING OF THE '520 PATENT

35. The concept of software rental was well known in the art and an obvious progression from previous forms of software distribution as of the Filing Date.

36. Alternative models of software distribution date back to the early 1980's with the advent of Freeware and Shareware. Freeware, as the name implies, was the free distribution of a software program by its author, allowing unlimited use of the program without payment. Shareware was a variation on freeware in which the author recommended a voluntary monetary contribution from the end user, in the event that the software program proved to be of value.

37. Two of the earliest examples of shareware were Easy File (a database program), written by Jim Knopf, and PC-Talk (a communications program), written by Andrew Fluegelman. In the 1982 timeframe, the two authors independently came up with the concept of requesting a voluntary payment from users of their programs. Shortly thereafter, Knopf changed the name of his program to PC-File, and the two authors worked together to cross promote each other's programs. Surprisingly, thousands

of users voluntarily paid for usage of the programs, making both Knopf and Fluegelman early software millionaires⁴.

38. In the same timeframe as the early success of Knopf and Fluegelman, in 1983, Japanese engineer Ryoichi Mori invented the concept of software “superdistribution”⁵, which defined a cryptographic wrapper for digital products, including a digital rights management system (“DRM”) for tracking and controlling usage of the software based on the terms outlined by the author. Mori filed for a patent of his software distribution system in 1990, and was awarded U.S. Patent No. 5,103,392, with a publication date of April 7, 1992.⁶

39. Based on the early success of Knopf and Fluegelman, shareware took off as a new type of software distribution, popularizing the concept of try-before-you-buy software marketing. The Association of Software Professionals (ASP) was formed in April of 1987⁷ to “strengthen the future of try-before-you-buy software as an alternative to traditional retail software.”

40. Also in 1987, Apogee Software created an enhanced shareware model for game distribution in which a portion of a game was free-to-play, with additional levels of the game available through payment to the game publisher.⁸ Apogee had great success with early shareware titles, including Commander Keen™ (1990), Duke Nukem™ (1991), Wolfenstein 3-D™ (1992), Raptor™ (1993), and Rise of the Triad™ (1994).

41. In addition to the evolution of shareware, the networked delivery of rented video games was introduced in 1993 with the LodgeNet system for hotels, which delivered Super Nintendo video games to individual hotel rooms. The LodgeNet system allowed hotel guests to purchase minutes of play from a catalog of on-demand, digitally delivered video games.⁹

42. With the emergence of the World Wide Web in the mid 1990’s, the predominant distribution platform for shareware shifted from floppy disks to digital download. The control of software usage also evolved around more sophisticated technologies. For example, in January of 1998, Silicon Realms developed the Armadillo Software Protection System, an early digital rights management platform for software. Armadillo monitored and controlled the usage of published software, disabling continued usage based on parameters established by the software publisher, including number of trials. While at Skyworks Technologies, Inc., I had firsthand experience in using Armadillo in the distribution of Internet-delivered game software.

⁴ <http://www.asp-software.org/users/history-of-shareware.asp>

⁵ <http://www.virtualschool.edu/mon/ElectronicProperty/MoriSuperdist.html>

⁶ <https://www.google.com/patents/US5103392>

⁷ <http://www.asp-software.org/users/about-shareware.asp>

⁸ <http://www.apogeesoftware.com/company-info/company-history>

⁹ <http://www.nintendoworldreport.com/news/8763/play-gamecube-games-in-your-hotel-room>

43. Given the progression of the industry from freeware, to try-before-you-buy software, to video game rentals in hotel rooms, it would have been obvious to one skilled in the art as of the Filing Date to evolve the measurement and control of software usage to include the ability to disable functionality of the software based upon the time elapsed after transmission.

ANALYSIS

SECTION I – CLAIMS 8-14 ARE NOT SUPPORTED BY THE APPLICATIONS TO WHICH THE '520 PATENT CLAIMS PRIORITY

44. The Petition challenges claims 8-14 of the '520 patent. Claim 8 is an independent claim and claims 9-14 are dependent from claim 8. I was asked to consider whether claims 8-14 of the '520 patent are supported by the patent applications to which it claims priority; namely, the Okamoto Japanese Parent, filed May 10, 1993; U.S. Patent No. 5,489,103, filed April 25, 1994 ("the '103 patent"); U.S. Patent No. 5,735,744, filed November 9, 1995 ("the '744 patent"); and U.S. Patent No. 5,775,995, filed May 3, 1996 ("the '995 patent"), collectively the "Earlier Okamoto Applications."

45. It is my understanding that in order for a patent to claim priority to a prior application, the specification of the earlier-filed application must provide an adequate written description of the invention claimed in the later-filed application and provide an enabling disclosure of that claimed invention.

46. In my opinion, claims 8-14 of the '520 patent are not supported by any of the Okamoto Japanese Parent, the '103 patent, the '744 patent, or the '995 patent, each of which identified the same inventor, Takeya Okamoto. Specifically, I have reviewed each of the '103, '744, and '995 patents and the Okamoto Japanese Parent, and do not see any description in these applications of a "clock means" for "keeping a predetermined time period after said executing means starts execution of the program or data processing," as required by independent claim 8. Rather, the clock means in each of the earlier applications to which the '520 patent claims priority measured a time from receipt of the transmitted program and/or data. *Okamoto Japanese Parent* at [0033]-[0034], [0040], Fig. 7; '*103 patent* at 6:47-54, 2:60-62, 7:54-56, 2:38-41, Fig. 7; '*995 patent* at 6:58-65, 11:13-15, 11:59-62, Figs. 7, 9; '*744 patent* at 6:61-7:1, 11:16-18, 11:60-63, Figs. 7, 9.

47. In my opinion, there was no disclosure in any of the Earlier Okamoto Applications of a clock means for measuring time starting from the time of program execution prior to applicant's summary discussion of this concept in the application that became the '520 patent. '*520 patent* at 11:36-41, Fig. 12.

**SECTION II –
THE TECHNOLOGICAL FEATURES OF CLAIM 8 WERE WELL KNOWN
AT THE TIME OF THE FILING DATE**

48. Claim 8 of the '520 patent includes the following features: an “input device,” a “receiving means,” two “storage means,” an “executing means” and a “sending out means.” The '520 patent describes these features as being nothing more than generic hardware devices. For example, the '520 patent describes the “personal communicator” or “communication terminal device” as a general-purpose computer including a modem, timer, CPU, keyboard or mouse, and memory. *'520 patent* at 4:49-67, Fig. 1. The '520 patent also describes a “host facility” that includes a number of databases, transmitters, and a headend. *'520 patent* at 4:31-38, Fig. 2. In my opinion, these technological features are nothing more than conventional computer equipment, tools, and processing capabilities used in their customary manner. These technological features were well known at the time of the Filing Date.

49. Claim 8 also includes the following features: a “clock means” and an “interference means.” The '520 patent describes these features as being implemented in software and executed by a general-purpose computer. *'520 patent* at 11:36-64, Fig. 12. With respect to the “clock means,” the software keeps a predetermined time period after execution of a program. *'520 patent* at 11:36-64, 15:32-34, Fig. 12. With respect to the “interference means,” the software interferes with execution of the program when the predetermined time period has expired. *'520 patent* at 11:36-64, 15:35-37, Fig. 12.

50. The programming of a general purpose computer to keep a predetermined time period after execution of a program and to interfere with the execution of the program when the predetermined time period is counted are both well-known concepts in the field, and were readily known and would not have been novel as of the Filing Date of the '520 patent in 1998. For example, U.S. Patent No. 5,547,202, titled “COMPUTER GAME DEVICE” (“Tsumura”), which issued in 1996, discloses a game distribution system consisting of a transmission device incorporating a database holding game data and a receiving device on which computer games can be played. An object of the Tsumura invention is to provide a device that will enable users to be charged precisely in accordance with the number of individual data units used or the amount of time played. Tsumura, 3:21-25. Tsumura teaches the concept of a “usage” clock which starts at execution of the program and after a predetermined time period has elapsed, the game is discontinued. Tsumura, 9:56-65.

51. As another example, German Patent DE 19528017, titled “DEVICE FOR MANAGING SOFTWARE AMOUNTS” (“Nishio”), published in 1996, discloses a software usage management apparatus enabling the limited use of a software product, such as a computer program or digitized video, by hindering the use of the software when the usage has reached a predetermined value. Nishio at pp. 2(¶¶ 1, 7), 3(¶¶ 2-3), 9(¶¶ 1, 8-10), 10(¶ 9), 12(¶5), 14(¶ 7), 15(¶¶ 13-14), Figs. 7, 13.

52. Accordingly, it is my opinion that claim 8 of the '520 patent does not require any unconventional tools, software or hardware not readily known in the art. Claim 8 reflects an application of well-known technologies (i.e., computers and related hardware and software, databases, and communication hardware) to a specific functional application.

53. In my opinion, one of skill in the art, considering claim 8 as a whole in the context of the '520 patent, would not recognize any technological innovation in the '520 patent, such as a faster computer, more efficient communication hardware or protocols, or novel software.

**SECTION III –
PATENT OWNER'S CONSTRUCTION OF "AT LEAST ONE OF
THE PROGRAM, THE DATA, AND A COMBINATION OF THE PROGRAM AND DATA"**

54. The preamble of independent claim 8 of the '520 patent contains the following claim language: "at least one of the program, the data, and a combination of the program and data" This same language also appears in certain claims of U.S. Patent No. 6,488,508, which claims priority to the '520 patent and was subject to *inter partes* reexamination ("the '508 Reexam"). The Patent Owner's interpretation of this claim language in the '508 Reexam (*see, e.g.*, Reexam Control No. 95/001,234 at pages 5-12 of Patent Owner's Appeal Br. dated November 25, 2013) attempts to draw a clear distinction between the three elements in question (the program, the data, and the combination of the two), interpreting the claim language to require transmission of all three elements. However, to one skilled in the art, there is overlap between the three terms with no clear distinction between the "program" and "the combination of the program and the data."

55. I understand that Patent Owner contends that video games are "group[ed] into the 'program.'" I have reviewed the '520 patent, and note that the '520 patent refers to video games exclusively and uniformly as "data." As I will explain below, video games, by their very nature, are a combination of program and data. One skilled in the art at the time of the Filing Date would have understood that all game programs are a combination of instructions and data. A skilled artisan would not understand the distinction in the claim language between transmission of "the program" (which, by necessity, must contain data), and "a combination of the program and data", which has no clear meaning in the art. If the Patent Owner's interpretation of the above claim language were adopted, it would be unclear to one skilled in the art as of the Filing Date whether the limitation is or is not met and thus it would be unclear whether an element is or is not within the scope of the claim.

Background

56. The vast majority of computers as we know them today (and as known as of the Filing Date), including personal computers and video game systems, are based on the Von Neumann

Architecture¹⁰ (also known as the “stored program architecture”), developed in the 1940’s by the American scientist John Von Neumann, in collaboration with other computer scientists and mathematicians, including Alan Turing, J. Presper Eckert and John Mauchly. Prior to Von Neumann’s *First Draft of a Report on the EDVAC*¹¹ (1945), computers were generally designed to be proficient at one task, e.g., breaking a cypher code or calculating the trajectory of an artillery shell. Von Neumann’s paper addresses the importance of creating a more flexible computer, one which could be re-programmed for any number of tasks. The breakthrough idea was to treat the instructions (i.e., the code) and the data (i.e., the numbers used and processed by the code) in the same manner (i.e., stored in writable memory and changeable). Von Neumann proposed that the instructions, or code, was nothing more than data which described a list of operations to be executed by the computer. This structure allowed the program to be updated based on the task at hand, rather than the “hard coded” or “hard wired” programs of the past. A guiding principal of the Von Neumann architecture of computers is that the instructions and the data are stored in the same memory, with the code being as changeable as the data on which it operates.

57. The Von Neumann architecture allows software programmers to freely mix code and data in the same memory. In fact, programmers frequently mix program code and data in the course of writing code because it is generally inconsequential to them¹² exactly where in the memory the information is ultimately stored. Therefore, video game programs, running on the stored program architecture universally used by game consoles, are by their very nature a combination of code and data.

Examples

58. I have authored or co-authored over 80 commercially-released video game products programmed in a variety of computer languages, including both assembly language and higher level languages such as Objective C. All of the games consisted of (at least) code instructions and miscellaneous data tables, including graphic and sound data, collectively referred to as the “source” or “source files.” The source files are the blueprint from which the game program is created. The source files (code + data) are run through a tool (i.e., an assembler or compiler), which creates a single block of data, referred to as the “binary”, or executable, file. If the source files are lost, the binary cannot be easily maintained or modified. This binary file, consisting of both code and data, is delivered to the consumer, either in a ROM cartridge or some other non-volatile computer memory (CD, DVD, etc.), for use in the computer or game console. When you purchase a commercial video game product, you

¹⁰ <http://www.c-jump.com/CIS77/CPU/VonNeumann/lecture.html>

¹¹ <http://www.di.ens.fr/~pouzet/cours/systeme/bib/edvac.pdf>

¹² As there is always an exception to the rule, there are times when it is important for the programmer to know where data (or code) is stored in memory, but these cases are the exception rather than the norm.

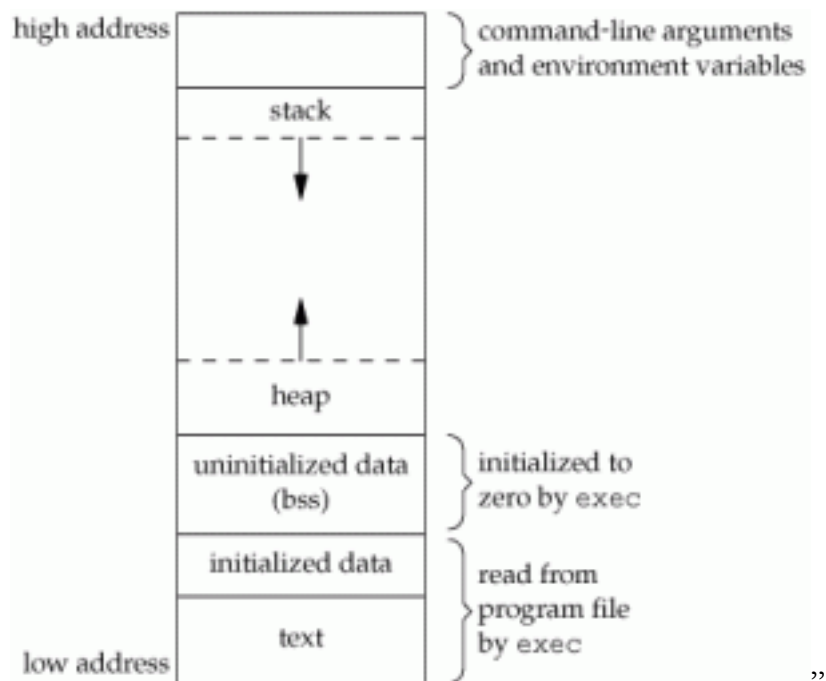
receive a copy of the program as one or more binary files; you do not receive the source files. The binary file(s) by definition contain both code and data.

59. In higher level languages such as C, the term “program” refers (and referred as of the Filing Date) to both the code instructions and the associated data. For example, a discussion of the memory layout of C programs on the website www.geeksforgeeks.com (“a computer science portal for geeks”) describes the memory usage of a C program¹³ as follows:

“MEMORY LAYOUT OF C PROGRAMS

A typical memory representation of a C program consists of the following sections:

1. Text segment
2. Initialized data segment
3. Uninitialized data segment
4. Stack
5. Heap



60. The text segment in the above diagram is described as follows:

“A text segment, also known as a code segment or simply as text, is one of the sections of a program in an object file or in memory, which contains executable instructions.” [Emphasis added.]

¹³ <http://www.geeksforgeeks.org/memory-layout-of-c-program/>

61. As shown above, the code (executable instructions) and data occupy the same memory and are delivered together as the program. The code and data are both considered “sections of the program”.

62. As another example, consider an excerpt of assembly language code from a hypothetical 6502-based video game program:

```
199                ORG            $8000
200    //
201    //    LOAD GRAPHICS INTO SPRITE REGISTER
202    //
203    LOADOAM
204                LDX            #0
205    LOADTBL        LDA            (GRAPHICPOINTER),Y
206                STA            SPRITEDATA,X
207                INY
208                INX
209                CPX            #SPRITELENGTH
210                BNE            LOADTBL
211                RTS
212    //
213    //    GRAPHIC DATA OF SPRITE CHARACTERS
214    //
215    GRAPHICTABLE
216                DB            $01,$05,$0A,$4C,$22,$AB,$11,$24
217                DB            $05,$0A,$4C,$22,$AB,$11,$24,$01
218                DB            $4C,$22,$01,$05,$0A,$4C,$22,$AB
219                DB            $01,$05,$0A,$4C,$22,$AB,$11,$24
220                DB            $4C,$22,$01,$05,$0A,$4C,$22,$AB
221    //
222    //    ROUTINE CLEARS THE ZERO PAGE
223    //
224    CLEARZERO      LDX            #0
225                LDA            #0
226    CLEAR1          STA            ZEROP,X
227                INX
228                BNE            CLEAR1
229                RTS
230    //
```

63. Referring to the code above:

- a. Line 199 tells the assembler to start at memory location \$8000.
- b. Any line beginning with a ‘/’ is a comment inserted by the programmer to document the code. It is ignored by the assembler.
- c. Lines 203-211 are a code routine (i.e., part of the program).

- d. Lines 216-220 are an insertion within the source of a block of data, representing graphical information of a sprite character. As this is data, I have highlighted it in grey.
- e. Lines 224-230 are a code routine (i.e., part of the program).

64. The source code above would be run through an assembler, which would translate the written instructions into a block of binary data as shown below. This data would be stored into the computer memory of the game console in order to execute the program.

```
$8000: $A2,$00,$B1,$80,$9D,$00,$20,$C8
$8008: $E8,$E0,$28,$D0,$F5,$60,$01,$05
$8010: $0A,$4C,$22,$AB,$11,$24,$05,$0A
$8018: $4C,$22,$AB,$11,$24,$01,$4C,$22
$8020: $01,$05,$0A,$4C,$22,$AB,$01,$05
$8028: $0A,$4C,$22,$AB,$11,$24,$4C,$22
$8030: $01,$05,$0A,$4C,$22,$AB,$A2,$00
$8038: $A9,$00,$95,$00,$E8,$D0,$FB,$60
```

65. Note that the portion of the above block of binary data that represents the embedded graphic data is highlighted in grey. The numbers not highlighted represent the code instructions. Without this annotation, it would be very difficult to discern the instructions from the data. Regardless of the computer language, video games are delivered as a binary executable, which contains both code and data, and were similarly delivered as of the Filing Date.

66. The issue of embedded data and code within a binary file is commonplace and well known in the art, as it was as of the Filing Date¹⁴. For example, decompiling is the process of “reverse compiling” the code, starting only with a binary file and algorithmically extracting the instructions and the data in an attempt to rebuild the source files. The thesis “Reverse Compilation Techniques,” by Cristina Cifuentes¹⁵, discusses the difficulties that arise in decompilation due to the hybrid structure of binary files, mixing both code and data (as shown in the example above):

“The halting problem for a Turing machine... is recursively unsolvable and partially computable... **Given a binary program, the separation of data from code**, even in programs that do not allow such practices as self-modifying code, is equivalent to the halt problem, since it is unknown in

¹⁴ See DASMx - A microprocessor opcode disassembler (July 1997), “Use of code threading, together with the two pass operation and symbol table management permits readable assembly code output from source images that contain large amounts of data (which tend to confuse most disassemblers)”, <http://hoa2.05133.com/software/prog/dasmx.html>; See also Interactive Disassembler Pro v3.7 (October 1997), “Furthermore, you have complete decision over what it marks as code and what it marks as data. This allows it to disassemble code “hidden” or located in the data section, which happens more often than you might think...”, <http://www.woodmann.com/crackz/Tutorials/Quine1.htm>.

¹⁵ http://zyloid.com/recomposer/files/decompilation_thesis.pdf

general whether a particular instruction will be executed or not... This implies that the problem is partially computable, and therefore **an algorithm can be written to separate data from code in some cases, but not all.** [Cifuentes, “Reverse Compilation Techniques”, Section 1.2.1]

67. A game program, as the term is interpreted by the Patent Owner in the ‘508 Reexam to mean something different from “a combination of the program and data” (i.e., the instruction code only), delivered without the supporting data, would not and could not run. As pointed out by the Examiner in the ‘508 Reexam, “a game program without game data, of some sort, is useless to a consumer.” Reexam Control No. 95/001,234 Action Closing Prosecution dated April 19, 2013 at 53. I agree with the Examiner.

68. When sending a combination of program and data, it is absolutely impossible to determine, applying the claim language as Patent Owner proposes in the ‘508 Reexam, whether the system is also sending, by the same transmission, both a program and data.

69. One of skill in the art cannot apply the claim language, as interpreted by Patent Owner in the ‘508 Reexam, with any reasonable clarity as to the scope of what does or does not satisfy this limitation.

70. By way of additional example, Patent Owner’s Reexamination Construction of the claim language at issue here for claim 8 of the ‘520 patent would not permit a determination, with reasonable certainty, of whether a video game is a “program,” “data,” or “a combination of program and data.” But, as stated above, video games comprise both program (code) and game data.

71. Therefore, it is my opinion that if the Patent Owner’s interpretation from the ‘508 Reexam of the claim language “at least one of the program, the data, and a combination of the program and data” was adopted, it would be unclear to one skilled in the art as of the Filing Date whether the limitation in this claim language is or is not met and thus it would be unclear whether an element is or is not within the scope of the claim.

SECTION IV – CLAIMS 8, 11, 13 AND 14 WOULD HAVE BEEN OBVIOUS IN LIGHT OF CHERNOW IN COMBINATION WITH TSUMURA

72. U.S. Patent No. 4,999,806, titled “SOFTWARE DISTRIBUTION SYSTEM” (“Chernow”), which was issued in 1991, discloses a method of software distribution to provide the means for selling and distributing protected software using standard telephone lines. An object of the Chernow invention is to permit the purchaser to rent the protected software for a specific number of runs or for a particular period of time. Chernow, 2:3-9.

73. U.S. Patent No. 5,547,202, titled “COMPUTER GAME DEVICE” (“Tsumura”), issued in 1996, discloses a game distribution system consisting of a transmission device incorporating a

database holding game data and a receiving device on which computer games can be played. An object of the Tsumura invention is to provide a device that will enable users to be charged precisely in accordance with the number of individual data units used or the amount of time played. Tsumura, 3:21-25.

74. In my opinion, the “clock means” limitation of claim 8 of the ‘520 patent is taught by Tsumura and it would have been obvious to one of skill in the art as of the Filing Date to combine Chernow and Tsumura.

75. For example, Chernow discloses downloading and leasing a software program for a “prescribed term of use”:

“With this system, it becomes possible to lease software for a prescribed term of use.... The term of use for the leased software can either be a period of time or a number of runs.... At the conclusion of the term of use, the software renders itself unusable or erases itself from the user’s disk.”
[Chernow, 4:68-5:18]

76. Tsumura also teaches “tracking” and disabling after a certain period of usage, but adds the concept of a “usage” clock, which starts at execution of the program:

“The CPU's 71 internal clock, for example, could be used to **calculate the unit time** and to call for the insertion of an additional fee **before a predetermined length of time has elapsed**, and to cause the game to be discontinued as soon as that **length of time has elapsed** if the required additional fee has not been paid.”
[Tsumura, 9:60-65] (emphasis added)

77. Upon reading the disclosure of Tsumura, a skilled artisan as of the Filing Date would have recognized that modifying Chernow to measure the lease period (i.e., the predetermined time period) from the start of execution of the software could be desirable. For example, Tsumura specifically discloses that “[i]n the case of games like role playing games that can take a long time to play, [...] it would be desirable to incorporate an additional charge facility that would function automatically at fixed intervals during the course of a game.” [See Tsumura, 9:56-60].

78. A skilled artisan as of the Filing Date would have also appreciated that this improvement to Chernow would yield a system that would make it “possible for the player to be allocated an amount of playing time corresponding to the amount of money inserted and for the remaining value to be counted down as the player proceeding with the game.” [Tsumura, 9:36-39].

79. Such a modification could be achieved simply by modifying the measurement of the lease period in Chernow with the measurement of the “term of use” from Tsumura. The start time for the measurement of the “term of use” is a minor modification that would involve minor software adjustments and the results would be certain. Thus, it would have been natural and an application of

nothing more than ordinary skill and common sense for a skilled artisan as of the Filing Date to combine the system of Chernow with use of a lease period that starts upon execution of software as disclosed in Tsumura, and such a system would be expected to work well for its intended purpose.

80. I have also reviewed Chernow's disclosure of a modem with respect to the "sending out means" limitation of claim 8. I understand that the '520 patent describes a head end or antenna as performing the function of sending out programs and/or data and duration data to communication terminal devices. '520 patent at Fig. 2 (item 130), Fig. 10 (item 150), 4:32-45, 6:15-22, 8:56-60, 11:10-17.

81. Chernow discloses a seller's computer or "central computer" with a modem attached to telephone lines and that the central computer transfers a desired or "Target" Program along with lease information to the user's computer:

"The invention includes both hardware and software located on the premises of the seller. **The hardware in its simplest form comprises a computer with a modem attached to an ordinary telephone line.** In a large installation, the seller's computer might be a main frame with many telephone lines and modems. **Whatever the size of the installation, the computer and modems are preferably able to support both incoming and outgoing phone calls as well as a variety of baud rates.**"

[Chernow, 2:22-30] (emphasis added)

"**The central computer is contacted** to determine if the Target Program is to be leased or purchased. An alternative to this contact could be accomplished by preprogramming the Storing Program with this information prior to transferring it to the customer's computer. **If leased, the details of the lease arranged are passed onto the Storing Program so that they may be incorporated into the Target Program.** This information is encrypted by the Storage Program and placed in the Target Program."

[Chernow, 10:3-12] (emphasis added)

82. In my opinion, the central computer modem of Chernow performs the function of transmitting requested software and lease information to user devices. In my opinion, Chernow's structure (i.e., modem) for performing this function is equivalent to the structure disclosed in the '520 patent because it performs the same function in substantially the same way and with substantially the same result as the corresponding structure in the '520 patent.

SECTION V –

CLAIMS 8-11, AND 13-14 WOULD HAVE BEEN OBVIOUS IN LIGHT OF OKAMOTO JAPANESE PARENT IN COMBINATION WITH TSUMURA

83. Japanese Published Unexamined Application H6-334780, titled "COMMUNICATOR AND SOFTWARE DISTRIBUTION SYSTEM USING SAID COMMUNICATOR" ("Okamoto Japanese Parent"), which was published in 1994, discloses a device which is a combination of a game machine and a communicator, which has the ability to play games and/or perform karaoke, without the

use of game cassettes or video disks, by receiving game or karaoke information transmitted over communication lines. The system further discloses a control means to erase the data after a specified period of time after the transmission of the data. Okamoto Japanese Parent at, e.g., p. 669, ¶ 10.

84. As previously described above, U.S. Patent No. 5,547,202, titled “COMPUTER GAME DEVICE” (“Tsumura”), issued in 1996, discloses a game distribution system consisting of a transmission device incorporating a database holding game data and a receiving device on which computer games can be played. An object of the Tsumura invention is to provide a device that will enable users to be charged precisely in accordance with the number of individual data units used or the amount of time played. Tsumura, 3:21-25.

85. In my opinion, the “clock means” limitation of claim 8 and the limitations of claim 10 of the ‘520 patent are taught by Tsumura and it would have been obvious to one of skill in the art as of the Filing Date to combine Okamoto Japanese Parent and Tsumura.

86. For example, Okamoto Japanese Parent discloses downloading and leasing a software program for a “prescribed term of use”:

“... the game information that was transmitted and is temporarily stored in the above described input data temporary memory means is erased after a specified time after the transmission.” [Okamoto Japanese Parent, Claim 3]

87. Tsumura also teaches “tracking” and disabling after a certain period of usage, but adds the concept of a “usage” clock which starts at execution of the program, i.e., measuring fixed times from the time usage of the game begins:

“In the case of games like role playing games that can take a long time to play, on the other hand, it would be desirable to incorporate an additional charge facility that would function automatically **at fixed intervals during the course of a game**. The CPU's 71 internal clock, for example, could be used to **calculate the unit time** and to call for the insertion of an additional fee **before a predetermined length of time has elapsed**, and to cause the game to be discontinued as soon as that **length of time has elapsed** if the required additional fee has not been paid.”
[Tsumura, 9:56-65] (emphasis added)

88. Upon reading the disclosure of Tsumura, a skilled artisan as of the Filing Date would have recognized that modifying Okamoto Japanese Parent to measure the lease period (i.e., the specified time after the transmission) from the start of execution of the software could be desirable. For example, Tsumura specifically discloses that “[i]n the case of games like role playing games that can take a long time to play, [...] it would be desirable to incorporate an additional charge facility that would function automatically at fixed intervals during the course of a game.” [See Tsumura, 9:56-60; generally, see *id.* at 9:14-10:4; Fig. 7 (item 76)].

89. A skilled artisan as of the Filing Date would have also appreciated the additional charge facility of Tsumura would improve Okamoto Japanese Parent to allow for interfering with execution of software for a period of time and then allow the resumption of the software execution after payment of an additional fee.

90. A skilled artisan as of the Filing Date would have also appreciated that this improvement to Okamoto Japanese Parent would yield a system that would make it “possible for the player to be allocated an amount of playing time corresponding to the amount of money inserted and for the remaining value to be counted down as the player proceeding with the game.” [Tsumura, 9:36-39].

91. Such a modification could be achieved simply by modifying the measurement of the lease period in Okamoto Japanese Parent with the measurement of the “term of use” from Tsumura. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan as of the Filing Date to combine the system of Okamoto Japanese Parent with use of a lease period that starts upon execution of software as disclosed in Tsumura, and such a system would be expected to work well for its intended purpose, yielding predictable results without undue experimentation.

92. Additionally, setting different start and end times for a “usage period” would have been nothing more than a routine modification to a skilled artisan as of the Filing Date.

**SECTION VI –
CLAIMS 8-9, 11-12, AND 14 WOULD HAVE BEEN OBVIOUS
IN LIGHT OF OKAMOTO JAPANESE PARENT IN COMBINATION WITH NISHIO**

93. Japanese Published Unexamined Application H6-334780, titled “COMMUNICATOR AND SOFTWARE DISTRIBUTION SYSTEM USING SAID COMMUNICATOR” (“Okamoto Japanese Parent”), which published in 1994, discloses a device which is a combination of a game machine and a communicator, which has the ability to play games and/or perform karaoke, without the use of game cassettes or video disks, by receiving game or karaoke information transmitted over communication lines. The Okamoto Japanese Parent system further discloses a control means to erase the data after a specified period of time after the transmission of the data. Okamoto Japanese Parent at, e.g., p. 669, ¶ 10.

94. As previously described above, German Patent DE 19528017, titled “DEVICE FOR MANAGING SOFTWARE AMOUNTS” (“Nishio”), which published in 1996, discloses a software usage management apparatus enabling the limited use of a software product, such as a computer program or digitized video, by hindering the use of the software when the usage has reached a predetermined value. Nishio at pp. 2(¶¶ 1, 7), 3(¶¶ 2-3), 9(¶¶ 1, 8-10), 10(¶ 9), 12(¶5), 14(¶ 7), 15(¶¶ 13-

14), Figs. 7, 13.

95. In my opinion, the “clock means” limitation of claim 8 and the limitations of claims 12 and 14 of the ‘520 patent are taught by Nishio and it would have been obvious to one of skill in the art as of the Filing Date to combine Okamoto Japanese Parent and Nishio.

96. For example, Okamoto Japanese Parent discloses downloading and leasing a software program for a “prescribed term of use”:

“... the game information that was transmitted and is temporarily stored in the above described input data temporary memory means is erased after a specified time after the transmission.” [Okamoto Japanese Parent, Claim 3]

97. Nishio also teaches “tracking” and disabling after a certain period of usage, but adds the concept of measuring “usage time” which starts at execution of the program, i.e., measuring fixed times from the time usage of the game begins:

“A method, according to which the software usage amount detecting unit acquires the software usage amount under whatever conditions, may be any method. Further, a format for recording the determined usage amount may also be any desired format and an arrangement may be used for the subtraction of a count value in accordance with the software usage amount. For example, an arrangement for counting the number of operations or the stretching operations of an image data frame that is compressed based on MPEG standards, may be provided, and can output a count value in accordance with the number of operation can be subtracted. Also, a means for counting the number of operations of the decoding of encrypted data and for subtracting a count value in accordance with a number of operation and operation capacity can be provided. An arrangement for measuring a software usage time and subtracting a count in accordance with this time by reference to the time can also be assumed.” [Nishio at p. 3(¶2)] (emphasis added)

98. Upon reading the disclosure of Nishio, a skilled artisan as of the Filing Date would have recognized that modifying Okamoto Japanese Parent to measure the lease period from the start of execution of the software, rather than from the completed transmission of the data, could be desirable.

99. A skilled artisan as of the Filing Date would have also appreciated that the additional charge facility of Nishio would improve Okamoto Japanese Parent to allow for interfering with execution of software for a period of time and then allow the resumption of the software execution after payment of an additional fee.

100. A skilled artisan as of the Filing Date would have also appreciated that this improvement to Okamoto Japanese Parent would yield a system that would make it possible to charge based on actual use of the software, as described by Nishio at p. 3(¶¶2-3).

101. According to Nishio, there are many methods for measuring the actual software usage

time, including counting the number of frames that have been expanded and viewed or using a counter to measure the elapsed software usage time. *See* Nishio at p. 3(¶¶2-3), p. 9(¶¶8-10), p. 12(¶5). Modifying the Okamoto Japanese Parent personal communicator in this manner could be achieved simply by modifying the start time for measuring the “specified time” prior to interruption, where, instead of retrieving the “reception completion time” in order to calculate the elapsed time, as taught by the Okamoto Japanese Parent (see Okamoto Japanese Parent at Fig. 7), the elapsed time is measured from the start of execution, such as by incorporating a software usage amount detecting unit, as disclosed by Nishio.

102. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan as of the Filing Date to combine the system of Okamoto Japanese Parent with use of a lease period that starts upon the execution of software as disclosed in Nishio, and such a system would be expected to work well for its intended purpose.

103. Additionally, setting different start and end times for a period of “usage time” would have been nothing more than a routine modification to a skilled artisan as of the Filing Date.

104. Furthermore, a skilled artisan would have recognized that modifying the Okamoto Japanese Parent to interfere with execution of the program, without terminating execution entirely, could be desirable. For example, Nishio specifically discloses that the advantage of interfering with execution without terminating the program is that software users can recognize that the interruption is caused by expiration of the amount of usage time purchased, but is not caused due to a failure in the user’s device. *See* Nishio at p. 2(¶¶6-7), p. 10(¶9), p. 11(¶15), p. 15 (¶13). A skilled artisan would have appreciated that this improvement to the Okamoto Japanese Parent would yield a system that would increase the desire for continued use by the user of the software. *Id.* at p. 10(¶9), p. 11(¶16), p. 15 (¶14).

105. Additionally, Nishio specifically discloses a CPU programmed to hinder the outputted audio when a user exceeds a quantity of purchased usage time (i.e., an “accounting count value”). Namely, Nishio discloses turning “off” the audio signal, while allowing the image signal to continue normally when the accounting count value is “0.” Nishio at p. 14(¶7); *see also id.* at p. 15(¶¶5-14), Fig. 13; *see generally id.* at p. 14(¶6) to p. 15(¶14), Fig. 12.

106. Nishio also discloses that the interfering aspects are designed to prompt the software user to pay the charge for additional use. *See* Nishio at p. 10(¶9), p. 11(¶16), p. 15 (¶14).

107. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan to combine the system of the Okamoto Japanese Parent with the interference aspects of Nishio and where the time period prior to interference is based on actual software usage as taught by Nishio. Even further, such modifications would have yielded predictable results without undue experimentation.

**SECTION VII –
CLAIMS 9 AND 10 WOULD HAVE BEEN OBVIOUS
IN LIGHT OF CHERNOW IN COMBINATION WITH TSUMURA AND KATO**

108. As discussed above, U.S. Patent No. 4,999,806, titled “SOFTWARE DISTRIBUTION SYSTEM” (“Chernow”), issued in 1991, discloses a method of software distribution to provide the means for selling and distributing protected software using standard telephone lines. An object of the Chernow invention is to permit the purchaser to rent the protected software for a specific number of runs or for a particular period of time. Chernow, 2:3-9.

109. As discussed above, U.S. Patent No. 5,547,202, titled “COMPUTER GAME DEVICE” (“Tsumura”), issued in 1996, discloses a game distribution system consisting of a transmission device incorporating a database holding game data and a receiving device on which computer games can be played. An object of the Tsumura invention is to provide a device that will enable users to be charged precisely in accordance with the number of individual data units used or the amount of time played. Tsumura, 3:21-25.

110. Japanese Laid Open Application Hei 4-10191, titled “ONLINE SOFTWARE AUTOMATIC VENDING MACHINE” (“Kato”), published in 1992, discloses a software distribution system consisting of a host station for distributing software via telephone lines. An object of the Kato invention is to provide various kinds of software on a pay-by-the-hour rental basis. Kato, 5.

111. In my opinion, it would have been obvious to one of skill in the art as of the Filing Date to combine Chernow, Tsumura, and Kato.

112. For example, Chernow discloses downloading and leasing a software program for a “prescribed term of use”:

“With this system, it becomes possible to lease software for a prescribed term of use.... The term of use for the leased software can either be a period of time or a number of runs.... At the conclusion of the term of use, the software renders itself unusable or erases itself from the user’s disk.”
[Chernow, 4:68-5:18]

113. As discussed above, Tsumura also teaches “tracking” and disabling software after a certain period of usage, but adds the concept of a “usage” clock which starts at execution of the program. [Tsumura, 9:60-65] Tsumura also teaches that after the usage period has expired, the software is paused for a period of time in order to allow the player to pay an additional charge to continue using the software:

“In the case of games like role playing games that can take a long time to play, on the other hand, it would be desirable to incorporate an additional charge facility that would function automatically at fixed intervals during the course of a game. The CPU's 71 internal clock, for example, could be used to

calculate the unit time and to call for the insertion of an additional fee before a predetermined length of time has elapsed, and to cause the game to be discontinued as soon as that length of time has elapsed if the required additional fee has not been paid. An alternative arrangement would be to **cause the game program to pause for a predetermined length of time after the game has been discontinued in order to allow time for the player to put more money in the machine. The pause could be released and the game continued if the requisite additional charge is paid within the time allowed.**”

[Tsumura, 9:56-10:4] (emphasis added)

114. Kato teaches “tracking” and disabling software after a certain period of usage, but adds the concept of notifying the user that the contract term is about to expire, for example, five minutes prior to expiration:

“[I]f it is determined that the contract time has been reached during the above-mentioned monitoring of the contract time (step S132 shown in Figure 3(b)), this contract timer will also be stopped temporarily (step S137 shown in Figure 3(b)). It should be further understood that, as to the monitoring of the contract time, **the processing may be configured into an aspect whereby the user is notified of the expiration before a certain period of time (e.g., five minutes).**”

[Kato, 29] (emphasis added)

115. Upon reading the disclosure of Tsumura, a skilled artisan as of the Filing Date would have recognized that modifying Chernow to interfere with execution of software for a specified period of time and then allow the resumption of the software execution after payment of an additional fee could be desirable. For example, Tsumura specifically discloses that “[i]n the case of games like role playing games that can take a long time to play, [...] it would be desirable to incorporate an additional charge facility that would function automatically at fixed intervals during the course of a game.” [See Tsumura, 9:56-60].

116. A skilled artisan as of the Filing Date would have also appreciated that this improvement to Chernow would yield a system that would make it “possible for the player to be allocated an amount of playing time corresponding to the amount of money inserted and for the remaining value to be counted down as the player proceeding with the game.” [Tsumura, 9:36-39].

117. Such a modification could be achieved simply by modifying the measurement of the lease period in Chernow with the measurement of the “term of use” from Tsumura. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan as of the Filing Date to combine the system of Chernow with use of an additional charge facility as disclosed in Tsumura, and such a system would be expected to work well for its intended purpose.

118. Also, upon reading the disclosure of Kato, a skilled artisan as of the Filing Date would have recognized that modifying Chernow to monitor the term of use and issue a notification prior to expiration of the term could be desirable. For example, Kato discloses the importance of updating and displaying a “Remaining Time” box for informing the user of how much time remains in their rental period. [Kato at 27]. Kato also recognized that it would be useful to notify the user of expiration of the rental period 5 minutes before expiration occurs. [Kato at 28-29].

119. A skilled artisan as of the Filing Date would have appreciated that this improvement to Chernow would yield a system that would notify the user prior to expiration of the term of use. Such a modification could be achieved simply by monitoring the “term of use” and issuing a notification on the display, for example, 5 minutes prior to expiration of the term of use time period. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan as of the Filing Date to combine the systems of Chernow and Tsumura to provide advanced notification of the expiration of the “term of use” period as disclosed in Kato, and such a system would be expected to work well for its intended purpose.

**SECTION VIII –
CLAIMS 12 AND 14 WOULD HAVE BEEN OBVIOUS
IN LIGHT OF CHERNOW IN COMBINATION WITH TSUMURA AND NISHIO**

120. As described above, U.S Patent No. 4,999,806, titled "SOFTWARE DISTRIBUTION SYSTEM" ("Chernow"), issued in 1991, discloses a method of software distribution to provide the means for selling and distributing protected software using standard telephone lines. An object of the Chernow invention is to permit the purchaser to rent the protected software for a specific number of runs or for a particular period of time. Chernow, 2:3-9.

121. As described above, U.S. Patent No. 5,547,202, titled "COMPUTER GAME DEVICE" ("Tsumura"), issued in 1996, discloses a game distribution system consisting of a transmission device incorporating a database holding game data and a receiving device on which computer games can be played. An object of the Tsumura invention is to provide a device that will enable users to be charged precisely in accordance with the number of individual data units used or the amount of time played. Tsumura, 3:21-25.

122. For the reasons set forth above in Section IV starting at ¶72, claim 8 of the ‘520 patent, from which claims 12 and 14 depend, is obvious over Chernow in view of Tsumura.

123. As also previously discussed, German Patent DE 19528017, titled “DEVICE FOR MANAGING SOFTWARE AMOUNTS” (“Nishio”) published in 1996, discloses a software usage management apparatus enabling the limited use of a software product, such as a computer program or digitized video, by hindering the use of the software when the usage has reached a predetermined value.

Nishio at pp. 2(¶¶ 1, 7), 3(¶¶ 2-3), 9(¶¶ 1, 8-10), 10(¶¶ 9), 12(¶¶ 5), 14(¶¶ 7), 15(¶¶ 13-14), Figs. 7, 13.

124. In my opinion, the limitations of claims 12 and 14 of the '520 patent are taught by Nishio and it would have been obvious to one of skill in the art as of the Filing Date to combine Chernow and Tsumura with Nishio, as discussed in more detail below.

125. Claims 12 and 14 of the '520 patent, which depend from Claim 8, read as follows:

12. The communication system according to claim 8, wherein said communication terminal device comprises display means having a screen on which the progress of execution of program or data processing is displayed,

said interference means comprises means for blocking the view of what is displayed on said screen.

14. The communication system according to claim 8, further comprising sound generating means for generating a predetermined sound in accordance with the progress of execution of the program or data processing,

wherein said interference means comprises means for preventing said sound generating means from generating the sound.

126. For example, while Chernow teaches the termination of the use of the software program after the elapse of the licensed time or number of uses, Nishio teaches non-destructive interference of the software execution, explicitly disclosing "interference means compris(ing) means for blocking the view of what is displayed on said screen" ['520 patent, Claim 12]:

"Returning to Fig. 2, there is explained a configuration of the display prevention device for carrying out an uncompleted display or output by overlaying image patterns over the video signal that is displayed on the television monitor, in accordance with the display prevention signal that is output from the host control CPU 14. [...]"

In the case that it receives the display prevention signal, the pattern generator 16 generates picture patterns for displaying the character data in order to attract attention of the software user to point out, for example, that the "accounting count = 0". The pattern generator 16 outputs the pattern image data generated only when the output signal of the sequence control device 15 is switched on. The picture patterns generated by this pattern generator 16 are fed to the input side of the adding circuit 19.

The adding circuit 19 superimposes the picture pattern received from the pattern generator 16 on to an analog video signal output by the digital/analog converter 13 for the video signal and outputs the superimposed signals to the TV monitor unit. When the picture pattern signal, transferred or displayed by the pattern generator 16 is switched off, then the output of the digital/analog converter 13a is delivered as it is. In contrast, when the image signal pattern is switched on, then a corresponding video signal is displayed in which the image pattern is superimposed on the analog video signal which is output from the digital/analog converter 13a. It should be noted that this adding circuit 19 is provided only on the output side of the video-oriented

digital/analog converter **13**. Accordingly, even in the case that the host control CPU **14** outputs the display prevention signal, the analog audio signal, the computer program and the data for the program (hereinafter referred to as "PC-signal") are displayed normally as previously." [*Nishio* at p. 9(¶¶1-4) (emphasis added); *see also id.* at p. 10(¶¶ 2-9, 12), Fig. 7; p. 17(¶2) to p. 19(¶2), Figs. 16-19.]

127. Regarding Claim 14 of the '520 patent, Nishio explicitly teaches "interference means compris(ing) means for preventing said sound generating means from generating the sound" ['520 patent, Claim 14].

128. Nishio specifically discloses a CPU programmed to hinder the outputted audio when a user exceeds a quantity of purchased usage time (i.e., an "accounting count value"). Namely, Nishio discloses turning "off" the audio signal, while allowing the image signal to continue normally when the accounting count value is "0." Nishio at p. 14(¶7); *see also id.* at p. 15(¶¶5-14), Fig. 13; *see generally id.* at p. 14(¶6) to p. 15(¶14), Fig. 12.

129. Thus, upon reading the disclosure of Nishio, which teaches non-destructive interference (either through obscured or altered picture or muted sound, as cited above), a skilled artisan as of the Filing Date would have recognized that modifying Chernow's disclosed interference with the use of the software program without terminating execution entirely could be desirable.

130. For example, the Nishio reference specifically discloses that the advantage of interfering with execution without terminating the program is that software users can recognize that the interruption is caused by expiration of the purchased amount of usage time, rather than a failure of the user's device. See *Nishio* at p. 2(¶¶ 6-7), p. 10(¶9), p. 11(¶15), p. 15 (¶13).

131. A skilled artisan would have appreciated that this improvement to Chernow would yield a system that would increase the desire for continued use by the user of the software. Nishio at p. 10(¶9), p. 11(¶16), p. 15 (¶14). Nishio also discloses that the interfering aspects are designed to prompt the software user to pay the charge for additional use. See Nishio at p. 10(¶9), p. 11(¶16), p. 15 (¶14). Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan at the time the '520 application was filed to combine the system of Chernow with the interference aspects of Nishio.

132. Thus, it would have been natural and an application of nothing more than ordinary skill and common sense for a skilled artisan as of the Filing Date to combine the system of Chernow and Tsumura with the interference aspects of Nishio, and such a system would be expected to work well for its intended purpose, yielding predictable results without undue experimentation.

CONCLUSION

133. I declare that all statements made herein on my own knowledge are true to the best of my knowledge and recollection, 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 section 1001 of Title 18 of the United States Code.

Date: 12/3/2014

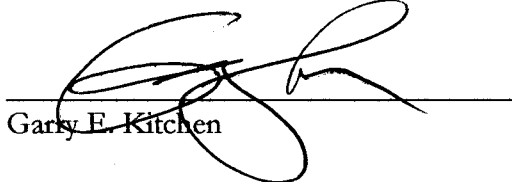
By: 
Garry E. Kitchen

Exhibit 1

Garry E. Kitchen
SGK Service Inc.
3494 Camino Tassajara #403
Danville, CA 94506
925-553-7909
<http://www.garrykitchen.com>
gk@garrykitchen.com

EDUCATION

Bachelor of Science, Electrical Engineering, 1980
Fairleigh Dickinson University, Teaneck, New Jersey
Eta Kappa Nu Honor Society, 1977-1980
Engineering Merit Scholarship - Matsushita Corp, 1978-1979

AFFILIATIONS

International Game Developers Association (IGDA)
Academy of Interactive Arts and Sciences
IEEE - Institute of Electrical & Electronics Engineers
BOSSLEVEL - The World's Top 100 Game Developers (invitation only)
Elite Expert for IMS Expert Services, Pensacola, Florida
Guidepoint Global (FNA Vista Research - Society of Industrial Leaders)
Coleman Research Group
Eta Kappa Nu Honor Society
Board of Advisors – Video Game History Museum (vgmuseum.org)

EXPERIENCE

- Conceived and led development of Nickelodeon's AddictingGames mobile app for iOS, which rose to #1 in the Apple app store within 72 hours of launch, becoming the most downloaded app in Viacom's history.
- 30+ years of technical management experience running game development companies, with an unmatched 17 years of management experience in Internet gaming.
- Hands-on technical and creative experience in all genres of game development, including console, PC retail and download, online, mobile and dedicated electronic.
- Leading Expert Witness for the video game industry, with over 30 years of experience in technical consulting on patent infringement, copyright, software development, and business issues for clients such as Nintendo, Sony Computer Entertainment, Zynga, Activision, Taito, and Hasbro (see **Expert Consulting Experience** section below).

EXPERIENCE

(cont'd)

- Strategic business planning - a history of anticipating and influencing industry trends with pioneering initiatives:
 - 1980** Reverse engineered the Atari 2600 in anticipation of the video game revolution
 - 1986** Established the 1st North American-based Nintendo development studio
 - 1996** Pioneered *Advergaming* with the launch of LifeSavers' Candystand.com
 - 2005** Applied dynamic in-game advertising technology to casual games
 - 2008** Repositioned Skyworks as leading iPhone publisher with over 25M downloads
- Expertise in developing comprehensive business plans, with application toward raising investment capital, either through IPO or private equity investment.
- Recognized as an industry expert in video gaming by numerous trade conferences, including Digital Hollywood, iMedia Breakthrough, GDC, CES, Gamer Technology Conference, Casual Game Conference, Advertising in Games conference, DMEXPO, VNU Digital Marketing conference, National Cable Show and the QualComm QTech conference.
- Experience in dealing with broadcast and print media, including CNBC, ABC Eyewitness News, CNN, Good Morning Atlanta, The Today Show, Business Week and various consumer and trade publications.
- Personally developed video game software products generating career retail sales in excess of \$350 million.
- Co-founded Skyworks Technologies, Inc., an industry pioneer in *Advergaming* - sponsorship-supported video games used as advertising vehicles. Skyworks was named a Top 50 Interactive Agency by Advertising Age for the years 2003 and 2004. Skyworks' client list included Nabisco/Kraft Foods, BMW, Toyota, Ford, PepsiCo, Campbell's, Fox Sports, CBS, Mattel, Weather Channel, Microsoft Network, Yahoo!, Miller Brewing Company, GlaxoSmithKline and MTV.
- Developed strategy and business plan for the Casual Games Network (CGN), Skyworks' initiative applying dynamic in-game advertising to online casual games, partnering with Massive Incorporated.

EXPERIENCE

(cont'd)

- Co-founded Absolute Entertainment, Inc., console game publisher licensed by Nintendo, Sega, Sony, 3DO and Atari and video game developer of over 100 marketed titles from 1986 to 1995, generating product retail sales of over \$300 million. Successfully lead Absolute through oversold IPO, raising \$12 million.
- Consulted for RCA David Sarnoff Research Labs (1986-1987) on entertainment applications of Digital Video Interactive (DVI), the first technology to store digital full-motion video on a CDROM.
- Designed & programmed Atari 2600 adaptation of hit arcade game Donkey Kong, 1982 wholesale revenues in excess of \$100 million on four million units sold.
- Conceived, designed and developed Bank Shot, an innovative electronic pool game marketed by Parker Brothers, named "10 Best Games of 1980", *Omni Magazine*.
- Reverse-engineered Atari 2600 game system in 1980, creating one of the first third party 2600-compatible game cartridges - Space Jockey.

EMPLOYMENT HISTORY

President/CEO

SGK Service Inc., Danville, California

March 2007 - Present

Vice President Game Publishing

Viacom Media Networks, San Francisco, California

December 2010 - May 2012

Chief Operating Officer

Skyworks Interactive, Inc., Hackensack, New Jersey

December 2007 - September 2009

Chairman, President & CEO

Skyworks Technologies, Inc., Hackensack, New Jersey

November 1995 - December 2007

EMPLOYMENT HISTORY

(cont'd)

Chairman, President & CEO

Absolute Entertainment, Inc., Upper Saddle River, New Jersey
March 1986 - November 1995

Senior Designer

Activision, Inc., Mountain View, California
June 1982 - March 1986

President

Imaginative Systems Software, New Milford, New Jersey
November 1981 - May 1982

Engineer/Designer

James Wickstead Design Associates, Cedar Knolls, New Jersey
April 1976 - October 1981

HONORS AND AWARDS

- U.S. Patent #8,407,090
Dynamic reassignment of advertisement placements to maximize impression count
Publication date – March 26, 2013
- 2012 Official *WEBBY AWARD* Honoree - Games (Handheld Devices)
AddictingGames Mobile for iOS platform
International Academy - Digital Arts & Sciences WEBBY AWARDS - 2012
- Nomination to *Board of Advisors*
Video Game History Museum (www.vghmuseum.org) - 2010
- Nomination as an *Elite Expert* by IMS Expert Services
IMS Expert Services (www.ims-expertservices.com) - 2009
- Nomination to the Advisory Committee: "Reinventing Advertising: VOD, PVR, Broadband, Games, PODs & Mobile Consortium"
Digital Hollywood - 2005, 2006

HONORS AND AWARDS

(cont'd)

- 2004 Nominee – *Advergame of the Year*
The BMI X3 Adventure
Billboard Digital Entertainment Awards (DECA)
- Lifetime Achievement Award in Video Games
Classic Gaming Expo – 2003
- New Jersey Entrepreneur of the Year - Finalist
Inc. Magazine, Merrill Lynch and Ernst & Young - 1993
- Best Simulation Game
Super Battletank
Game Informer Magazine - 1992
- Sega Seal of Quality Award Nominee - Best Flying/Driving Genesis
Super Battletank
Sega of America - 1992
- Lifetime Achievement Award in Video Games
The Doctor Fad Show
Syndicated educational television program - 1990
- Video Game Designer of the Year
Computer Entertainer Magazine - 1985
- Best Creativity Product - Nominee
Garry Kitchen's GameMaker
SPA Excellence in Software - 1985
- Video Game of the Year - Certificate of Merit
Keystone Kapers
Electronic Games Magazine - 1983
- U.S. Patent #4,346,892
Electronic Pool Game
Bank Shot – handheld game marketed by Parker Brothers - 1981
- Ten Best Games of 1980
Bank Shot
OMNI Magazine - 1980

Garry E. Kitchen

Page 6

HONORS AND AWARDS

(cont'd)

- The Games 100 - The Top 100 Games of 1980

Bank Shot

Games Magazine – 1980

- Engineering Merit Scholarship

Panasonic / Matsushita Corporation of Japan

Fairleigh Dickinson University - 1978, 1979

PUBLICATIONS/SOFTWAREOLOGY

<u>TITLE</u>	<u>PLATFORM</u>	<u>YEAR</u>	<u>PUBLISHER/ LICENSEE</u>	<u>ROLE</u>
Wildfire	Electronic Toy	1979	Parker Brothers	Software
Bank Shot	Electronic Toy	1980	Parker Brothers	Design/Software
Space Jockey	Atari 2600	1980	U.S. Games	Design/Software
Donkey Kong	Atari 2600	1982	Coleco	Software
Keystone Kapers	Atari 2600	1983	Activision	Design/Software
Pressure Cooker	Atari 2600	1983	Activision	Design/Software
Ghostbusters	Atari 2600	1985	Activision	Software
The Designer's Pencil	C64	1984	Activision	Design/Software
Garry Kitchen's GameMaker	C64	1985	Activision	Design/Software
Crossbow	C64	1986	Absolute	Co-design/Software
Stealth ATF	NES	1989	Activision	Co-design/Software
A Boy and His Blob	NES	1990	Absolute	Co-design/Software
Battletank	NES	1990	Absolute	Design/Software
Destination Earthstar	NES	1990	Acclaim	Co-design/Software
The Simpsons: Bart vs the Space Mutants	NES	1991	Acclaim	Co-design/Software
Home Alone	SNES	1992	THQ	Co-design/Software
Super Battletank: War in the Gulf	SNES	1992	Absolute	Design/Software
The Simpsons: Bart vs the World	NES	1992	Acclaim	Co-design/Software
Super Battletank 2	SNES	1993	Absolute	Co-design/Software
LifeSavers Chomp	CDROM	1996	LifeSavers	Co-design/Software
Candystand Yipes Hang Gliding	Web/online	1997	LifeSavers	Design/Software
Candystand Yipes Skate Race	Web/online	1997	LifeSavers	Design/Software
Candystand Video Poker	Web/online	1997	LifeSavers	Design/Software
Candystand Yipes Coloring Book	Web/online	1997	LifeSavers	Design/Software
Candystand Grafitti Contest	Web/online	1997	LifeSavers	Design/Software
Candystand Where in the world...	Web/online	1997	LifeSavers	Design/Software
Bet Your Lifesavers TV Trivia	Web/online	1997	LifeSavers	Design/Software
Candystand Snowboarding	Web/online	1997	LifeSavers	Design/Software
Nabisco Chipulator	Web/online	1997	Nabisco	Design/Software
Bubble Yum Screensaver	Web/online	1998	LifeSavers	Design/Software
Candystand Gummiworks Construction Kit	Web/online	1998	LifeSavers	Design/Software
Ford Basketball Shootout	Web/online	1998	Ford	Design/Software
H.O.R.S.E. Basketball Shootout	Web/online	1998	Sportcut	Design/Software

Bet Your Lifesavers '80s TV Trivia	Web/online	1998	LifeSavers	Design/Software
Fruit Stripe Puzzle game	Web/online	1999	LifeSavers	Design/Software
Ford Fallout	Web/online	1999	Ford	Design/Software
Premium Jigsaw Puzzle Palace	Web/online	1999	Nabisco	Design/Software
Nabiscoworld Ball Toss	Web/online	1999	Nabisco	Design/Software
Nabiscoworld Holiday House	Web/online	1999	Nabisco	Design/Software
Nabiscoworld Greeting Cards	Web/online	1999	Nabisco	Design/Software
S.I. H.O.R.S.E. Basketball Shootout	Web/online	1998	CNN/SI	Design/Software
Candystand Flavor Factory	Web/online	2000	LifeSavers	Design/Software
Candystand 2 Minute Drill	Web/online	2000	LifeSavers	Design/Software
Cornnuts Nuttin' But Net	Web/online	2000	Nabisco	Design/Software
Bell Atlantic Nothing But Net	Web/online	2000	Bell Atlantic	Design/Software
Home Run Derby	Web/online	2001	Century 21	Design/Software
Big League Bash	Web/online	2001	Fox Sports	Design/Software
Kraft Puzzle Maker	Web/online	2001	Kraft	Design/Software
GSK Trivia	CDROM	2001	GSK	Design/Software
Stars Academy Mess of Mass	Web/online	2001	Stars Academy	Design/Software
Stars Academy Space Trivia	Web/online	2001	Stars Academy	Design/Software
GSK Coloring Book	Web/online	2001	GSK	Design/Software
Big Barney Chase board game	Web/online	2001	Kraft/Post	Design/Software
Mission Code Red	Web/online	2001	Pepsi	Design/Software
Trolli Kaboom	Web/online	2002	LifeSavers	Design/Software
Candy Drops	Web/online	2002	LifeSavers	Design/Software
Smack Dab in the Middle	Web/online	2002	Nabisco	Design/Software
Intelsat Satellite game	CDROM	2002	Intelsat	Design/Software
Red & Ned racing	Web/online	2002	Kraft	Design/Software
Tombstone Racer	Web/online	2003	Tombstone Pizza	Design/Software
Barney Spy Caper	Web/online	2005	Kraft/Post	Software
Dandy Drops	Web download	2004	Skyworks	Design/Software
VU Role Playing Game	Web/online	2004	LifeSavers	Design/Software
Acrobats	Web/online	2004	Nabisco	Design/Software
Air Hockey	Web/online	2004	LifeSavers	Design/Software
Poker Puzzle	Web/online	2004	Nabisco	Design/Software
Board Game of Life	Web/online	2004	Fidelity	Design/Software
Swap and Drop	Web/online	2004	Weightwatchers	Design/Software
Craver Catch	Web/online	2005	Kraft/Post	Design/Software
Acrobats Deluxe	Web download	2005	Skyworks	Design/Software
March of the Penguins	DS	2006	DSI	Design
Grind and Grab	Web/online	2006	LifeSavers	Design/Software

Spiderman City game	Web/online	2007	Kraft/Nabisco	Design/Software
Arcade Hoops	iOS	2008	Skyworks	Co-design/Software
Arcade Bowl	iOS	2008	Skyworks	Software
Air Hockey	iOS	2009	Skyworks	Design
World Cup Table Tennis	iOS	2009	Skyworks	Exec Producer/Design
Match 3 Poker	iOS	2009	Skyworks	Design/Software
Skyscrapers	iOS	2009	Skyworks	Design/Software
Iron Horse	iOS	2010	AppStar Games	Co-design
Fling Pong	iOS	2010	AppStar Games	Design/Software
Leslie West String Benda'	iOS	2010	AppStar Games	Co-design
Jelly Cannon	iOS	2012	Nickelodeon	Executive Producer
Addicting Games	iOS	2012	Nickelodeon	Exec Producer/Design
Scribble Hero	iOS	2012	Nickelodeon	Executive Producer

EXPERT CONSULTING EXPERIENCE

Year	Law Firm	Client	Case	Description	Report/ Declaration	Deposition	Court Testimony
2014-	Standley Law Group LLP	Bob's Space Racers, Inc.	Marvin W. Wimberly Jr. v. Bob's Space Racers, Inc. 7 th Judicial Circuit in and for Volusia County Florida	Contractual dispute regarding software development for Redemption Arcade video games.			
2014-	Law Offices of Gerald Fox, Inc.	Suhail Calis, Tocali, Inc., ASCII Media, Inc.	Samir Abu-Lughod v. Suhail Calis, et al	Video game-related contractual dispute	√	√	
2014-	Erise IP	Ubisoft, Inc.	Guitar Apprentice, Inc. vs. Ubisoft, Inc.	Patent infringement case involving a media system and method for guitar instruction	√		√
2014-	Klarquist Sparkman, LLP, Erise IP	Microsoft Corporation, Sony Computer Entertainment of America, Inc.	ADC Technology, Inc. v. Microsoft Corporation et al.	Patent infringement case involving an interactive communication system for the rental of digital media	√		
2014-	Susman Godfrey/ Heim, Payne & Chorush, LLP	Micrografx LLC	Micrografx LLC v. Samsung Telecommunication America LLC; et al	Patent infringement case involving online graphics technology	√		
2013-2014	Quinn Emanuel	Zynga Inc.	Agincourt Gaming LLC v. Zynga Inc.	Patent infringement case involving online games			
2013-	Duane Morris	Sony Computer Entertainment of America LLC	Babbage Holdings, LLC v. SCEA et al	Video game related patent infringement case			
2013	Holland & Knight	Hasbro, Inc.	MiTile, Ltd. v. Hasbro, Inc.	Patent infringement case involving electronic toy	√		
2013-2014	Perkins Coie LLP	Nintendo of America Inc.	ThinkOptics, Inc. v. Nintendo of America Inc., et al	Video game related patent infringement case	√	√	
2013-	Feder Kaszovitz LLP	Jakks Pacific	Shelly Conty & Cindy Reichman v. Jakks Pacific, Inc.	Patent infringement case involving electronic toy	√		
2013	Jaburg & Wilk	Christopher Escobedo	Escobedo v. THQ	Tattoo artist sued video game company over unauthorized use of a copyrighted tattoo in a UFC fighting game	√		

2013	Christie, Parker & Hale	Nyko Technologies	Nyko Technologies, Inc. v. Energizer Holdings, Inc., Eveready Battery Co., Inc. and Performance Designed Products LLC	Patent infringement case involving video game controller charging station	√	√	
2013	Kirkland & Ellis LLP	Zynga Inc.	Promotional Technologies LLC v. Zynga Inc.	Video game related patent infringement case			
2013	Paul Hastings LLP	Zynga Inc.	Zynga Inc. v. Alan Patmore, Kixeye Inc. et al	Video game related trade secret dispute	√		
2013	Kaplan Breyer Schwarz & Ottesen LLP	Princeton Digital	n/a	Pre-litigation patent analysis involving audio signal patent.			
2012	Mishcon de Reya LLP	Confidential	n/a	Analysis of video game related patent			
2012-2013	Paynter Law Firm, PLLC	Robin Antonick	Robin Antonick v. Electronic Arts Inc.	Video game related contractual dispute	√	√	√
2012	Perkins Coie LLP	Nintendo of America Inc.	Impulse Technology Ltd. v. Nintendo of America Inc., et al	Video game related patent infringement case	√	√	
2012-	Cooley LLP	Nintendo of America Inc.	SSD v. Nintendo of America Inc.	Video game related patent infringement case	√	√	
2012-	Duane Morris	Sony Computer Entertainment of America Inc	Walker Digital, LLC v. Sony Computer Entertainment Inc. et al	Video game related patent infringement case ('828 patent) involving online game tournaments			
2012-	Duane Morris	Sony Computer Entertainment of America Inc	Walker Digital, LLC v. Sony Computer Entertainment Inc. et al	Video game related patent infringement case ('866 patent) involving adaptation of game devices to playing preferences			
2012	Duane Morris	Sony Computer Entertainment of America Inc	Walker Digital, LLC v. Sony Computer Entertainment Inc. et al	Video game related patent infringement case ('143, '382 patents) involving remote authentication of computer outcomes	√		
2010-2012	Morgan, Lewis & Bokius LLP	Sony Computer Entertainment of America Inc.	Craig Thorner and Virtual Reality Feedback Corp v. Sony Computer Entertainment America Inc. et al	Video game related patent infringement case involving video game controller technologies.	√		

2010	Mudd Law Offices LLP	Jeremy Wise and Wise Buy Now LLC	David Allison dba Cheat Code Central vs. Jeremy Wise and Wise Buy Now LLC	Retained as a consultant/expert witness in the area of copyright infringement related to a game information website.	√		
2009-2010	Paul, Hastings, Janofsky & Walker LLP	Zynga Game Network Inc.	Zynga Game Network Inc. v Playdom Inc. et al. Superior Court of the State of California, County of Santa Clara	Retained as a consultant/expert witness in the areas of game design, copyright infringement and related business issues.	√		
2009	Skadden Arps	Jakks Pacific, Inc.	Jakks Pacific, Inc. v THQ Inc. (arbitration)	Case involved contractual issues in a video game licensing/distribution agreement. Retained as a consultant/expert witness in the areas of game design and related video game business/contract issues.			
2008-2010	Paul, Hastings, Janofsky & Walker LLP	Konami Digital Entertainment Co, LTD. and Konami Digital Entertainment, Inc.	Konami Digital Entertainment Co., LTD and Konami Digital Entertainment, Inc. v. Harmonix Music Systems, Inc., MTV Networks, Co, and Viacom, Inc. United States District Court, Eastern District of Texas, Tyler Division, Case No. 6:08-CV-286	Patent infringement case against Rock Band & Rock Band 2 involving three key patents in the area of rhythm-action video games utilizing custom game controllers. Retained by the patent holder (Konami) as a consultant/expert witness in the areas of video game software development, patent infringement and validity. Tasks included analysis of prior art, opinions on claim construction, analysis of software code regarding infringement.	√	√	
2008-2010	Pillsbury, Winthrop, Shaw, Pitman LLP	Activision Publishing Inc.	n/a	Retained as a consultant regarding a number of patent reexaminations by the USPTO.	√		

2008-2009	Kirkland & Ellis	Activision Publishing Inc.	Activision Publishing v. CONFIDENTIAL	Confidential arbitration case involving patent infringement and invalidity, copyright infringement and related video game industry business issues in the field of rhythm-action video games utilizing custom game controllers. Tasks included prior art research and analysis, numerous reports including Patent Invalidity and Copyright Infringement. Deposed numerous times and testified in front of the Arbitration Panel.	√	√	√
2008	Allan Law Group, PC	CONFIDENTIAL	n/a	Retained to undertake pre-litigation search and analysis of potential prior art regarding a virtual world patent. Uncovered critical prior art, which lead to a significant modification in the client's litigation strategy.	√		
2007-	McDonnell Boehnen Hulbert & Berghoff LLP	NetJumper Software, LLC	NetJumper Software, LLC vs Google Inc. United States District Court, Eastern District of Michigan, Southern Division, Case No. 04-70366-CV	Patent infringement cast involving search technology. Wrote infringement report including demonstrative video presentation.	√		
2005-2009	Valauskas & Pine LLC	Neomedia Technologies	Scanbuy Inc. vs. Neomedia Technologies, Inc. United States District Court, Southern District of New York, Civil Action No. 04 CV 02443 (JES)	Copyright and patent infringement case involving UPC barcode recognition software on mobile devices. Tasks included comparing source codes for Copyright Infringement and opining on Patent Infringement/Validity.	√	√	

2005	Laura Ringelheim, Esq.	Hopeton Overton Browne	Hopeton Overton Browne, p/k/a Scientist vs. Greensleeves Records, LTD, Take Two Interactive Software, Inc. and Rockstar Games, Inc. United States District Court, Southern District of New York, Civil Action No. 03 CV 7696 (MGC)	Case involved copyright infringement for unauthorized inclusion of the client's music in the video game Grand Theft Auto 3. Wrote report opining on licensing costs and potential damages for usage of music in video games.	√	√	
2003	Rich Barbuto, Esq.	Tritech	Tritech v. Ectaco, United States District Court, Southern District of New York, Civil Action.	Retained as a consultant/expert witness in a case involving defective language translator units purchased by the client from an overseas manufacturer. My tasks included an engineering analysis to determine the cause for the malfunction (software), writing a report and testifying at trial.	√		√
2002	Jenkins & Gilchrist	NCR	NCR Corporation v. Palm, Inc. and Handspring, Inc. United States District Court, Delaware, Civil Action No. 01-169-RRM	Client (NCR) sued Palm & Handspring for patent infringement regarding a handheld, tethered computing device. Tasks included code analysis to opine on patent infringement, associated report and deposition testimony.	√	√	
2000	Jacob Weingarten	Sylvan Gonska	Gonska v. Gonska	Web development	√		
2000	Wilson, Sonsini, Goodrich & Rosati	Engineering Animation Inc.	Engineering Animation Inc. v. THQ	Video game development	√	√	
1998	Drinker, Biddle & Reath	QQP/Bruce Williams	QQP v. Impact	Video game contractual and business issues	√	√	
1995-1997	Brinks, Hofer, Gilson & Leone	Taito of America	Magnavox v. Taito of America	Patent infringement	√	√	
1995	Brinks, Hofer, Gilson & Leone	Taito of America	Atari v. Taito of America	Copyright infringement	√	√	

1991	Latham & Watkins LLP	Nintendo of America	Atari v. Nintendo	Video game contractual issues	√	√	√
1990	-	Nintendo of Japan	Nintendo v. Codemasters	Copyright infringement	√	√	
1985	Howard Rice	Activision Inc.	Magnavox v. Activision	Patent infringement / Damages phase	√		√