

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Microsoft Corporation
Petitioner,

v.

Surfcast, Inc.
Patent Owner

Patent No. 6,724,403

Issued: April 20, 2004

Filed: October 30, 2000

Inventors: Ovid Santoro and Klaus Lagermann

Title: SYSTEM AND METHOD FOR SIMULTANEOUS DISPLAY
OF MULTIPLE INFORMATION SOURCES

Inter Partes Review No. _____

Declaration of David R. Karger Regarding U.S. Patent No. 6,724,403

I, David R. Karger, do hereby declare and state, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: May 22, 2013

A handwritten signature in cursive script, appearing to read "David Karger", written in black ink.

David R. Karger

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Appendix A:

List of Materials Considered

I. INTRODUCTION

A. Engagement

1. I have been retained by counsel for Microsoft Corporation as an expert witness in the above-captioned proceeding. I have been asked to render an opinion regarding the validity of claims 1-52 of U.S. Patent No. 6,724,403 (“the ’403 patent”), which is submitted herewith as Exhibit 1001. The following is my written report on that topic.

B. Background And Qualifications

2. I have been working in the field of user interface and information management since 1991. I earned a Bachelors Degree in Computer Science and Physics from Harvard University in 1989 and a Ph.D. Degree in Computer Science from Stanford University in 1994.

3. My Curriculum Vitae, including my publications and patents, is submitted herewith as Exhibit 1004.

C. Compensation And Prior Testimony

4. I am being compensated at a rate of \$700 per hour for my study and testimony in this matter. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony.

5. I have never been deposed nor testified in Federal District Court.

D. Information Considered

6. My opinions are based on my years of education, research and experience, as well as my investigation and study of relevant materials. In forming my opinions, I have considered the materials referred to herein or listed in Appendix A.

7. I may rely upon these materials and/or additional materials to rebut arguments raised by the patentee. Further, I may also consider additional documents and information in forming any necessary opinions — including documents that may not yet have been provided to me.

8. My analysis of the materials produced in this investigation is ongoing and I will continue to review any new material as it is provided. This report represents only those opinions I have formed to date. I reserve the right to revise, supplement, and/or amend my opinions stated herein based on new information and on my continuing analysis of the materials already provided.

II. LEGAL STANDARDS FOR PATENTABILITY

9. In expressing my opinions and considering the subject matter of the claims of the '403 patent, I am relying upon certain basic legal principles that counsel has explained to me.

10. First, I understand that for an invention claimed in a patent to be found patentable, it must be, among other things, new and not obvious in light of what came before it. That which came before is generally referred to as “prior art.”

11. I understand that in this context the burden is on the party asserting unpatentability to prove it by a preponderance of the evidence. I understand that “a preponderance of the evidence” is evidence sufficient to show that a fact is more likely than not.

12. I understand that in this proceeding, the claims must be given their broadest reasonable interpretation consistent with the specification. The claims after being construed in this manner are then to be compared to the information in the prior art.

13. I understand that in this proceeding, the information that may be evaluated is limited to patents and printed publications. My analysis below compares the claims to patents and printed publications that are prior art to the claims. I understand that there are two ways in which prior art may render a patent claim unpatentable. 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.

A. Anticipation

14. I understand that the following standards govern the determination of whether a patent claim is “anticipated” by the prior art. I have applied these standards in my evaluation of whether the claims asserted in this investigation are anticipated.

15. I understand that, for a patent claim to be “anticipated” by the prior art, each and every requirement of the claim must be found, expressly or inherently, in a single prior art reference as recited in the claim. I understand that 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.

16. I understand that it is acceptable to examine evidence outside the prior art reference (extrinsic evidence) in determining whether a feature, while not expressly discussed in the reference, is necessarily present within that reference.

B. Obviousness

17. I understand that a claimed invention is not patentable if it would have been obvious to a person of ordinary skill in the field of the invention at the time the invention was made.

18. I understand that the '403 patent was granted from an application (09/702,325) that was filed on October 30, 2000. Ex. 1002. I understand that the

'403 patent claims priority to a provisional application (60/162,522) that was filed on October 29, 1999. Ex. 1005. I have used October 29, 1999 as the “date the invention was made” in my analyses.

19. I understand that the obviousness standard is defined in the patent statute (35 U.S.C. § 103(a)) as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. I understand that 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 claims 1-52 of the '403 patent would have been considered obvious at the time of the invention.

21. 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 knowledge of a person of ordinary skill in the pertinent art; and

- Whatever objective factors indicating obviousness or non-obviousness may be present in any particular case.

22. 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 the subject patent was filed (*i.e.*, October 29, 1999).

23. I understand the objective factors indicating obviousness or non-obviousness may include: commercial success of products covered by the patent claims; a long-felt need for the invention; failed attempts by others to make the invention; copying of the invention by others in the field; unexpected results achieved by the invention; praise of the invention by the infringer or others in the field; the taking of licenses under the patent by others; expressions of surprise by experts and those skilled in the art at the making of the invention; and the patentee's approach being contrary to the accepted wisdom of the prior art.

24. I understand that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. I understand that when a work is available in one field of endeavor, design incentives and other market forces can prompt variations of that work, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, that variation would have been considered obvious. I understand that for similar reasons, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would

improve similar devices in the same way, using that technique to improve the other device would have been obvious unless its actual application yields unexpected results or challenges in implementation.

25. I understand that the obviousness analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, but instead can take account of the “ordinary innovation” that does no more than yield predictable results, which are inferences and creative steps that a person of ordinary skill in the art would employ.

26. I understand that sometimes it will be necessary to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art. I understand that all these issues may be considered to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

27. I understand that the obviousness analysis cannot be confined by a formalistic conception of the words “teaching, suggestion, and motivation.” I understand that in 2007, the Supreme Court issued its decision in *KSR Int’l Co. v. Teleflex, Inc.* where the Court rejected the previous requirement of a “teaching, suggestion, or motivation to combine” known elements of prior art for purposes of an obviousness analysis as a precondition for finding obviousness. It is my

understanding that *KSR* confirms that any motivation that would have been known to a person of skill in the art, including common sense, or derived from the nature of the problem to be solved, is sufficient to explain why references would have been combined.

28. A person of ordinary skill attempting to solve a problem will not be led only to those elements of prior art designed to solve the same problem. I understand that under the *KSR* standard, common sense is important and should be considered. Common sense teaches that familiar items may have obvious uses beyond the particular application being described in a reference, that if something can be done once it is obvious to do it multiple times, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. As such, the prior art considered can be directed to any need or problem known in the field of endeavor at the time of the invention and can provide a reason for combining the elements of the prior art in the manner claimed. In other words, the prior art does not need to be directed towards solving the same problem that is addressed in the patent. Further, the individual prior art references themselves need not all be directed towards solving the same problem.

29. I understand that an invention that might be considered an obvious variation on, or modification of, the prior art may nonetheless be considered non-obvious if one or more prior art references discourage or lead away from the line of

inquiry disclosed in the reference(s). A reference does not “teach away” from an invention simply because the reference suggests that another embodiment of the invention is optimal or preferred. My understanding of the doctrine of teaching away requires some clear discouragement of that combination in the prior art — such as expressly stated reasons why one should not make the claimed combination or invention.

30. I understand that a person of ordinary skill is also a person of ordinary creativity.

31. I further understand that in many fields, it may be that there is little discussion of obvious techniques or combination, and it often may be the case that market demand, rather than scientific literature or knowledge, will drive design trends. When there is such a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within their technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious. The fact that a particular combination of prior art elements was “obvious to try” may indicate that the combination was obvious even if no one attempted the combination. If the combination was obvious to try (regardless of whether it was actually tried) or

leads to anticipated success, then it is likely the result of ordinary skill and common sense rather than innovation.

III. THE '403 PATENT

A. Technical Overview Of The '403 Patent

32. The '403 patent is directed to a “system and method for simultaneous display of multiple information sources.” Ex. 1001, '403 patent at 1:1-3.

33. The '403 patent introduces its technical field as follows:

The variety and complexity of communication devices proliferates and the number of users escalates. As a result, users are faced with increasingly complex systems and interfaces with which to manage multiple sources of information. At the same time, society has increased its demands on time and productivity so that users no longer have the luxury of focusing their attention on a single source of information or means of communication. Instead, the norm today is for people to carry out many tasks simultaneously. Ex. 1001, '403 patent at 1:21-30.

34. The '403 patent provides examples of this challenge in managing multiple sources of information. One is delivery of video information – as it states, “it is usually the case that a user lacks the bandwidth resources to receive multiple video signals simultaneously.” Ex. 1001, '403 patent at 1:44-46; 1:23-30; 1:55-60 (“For example, if a user wants to monitor sources of news information on the Internet using current browser technology, the user must continuously and manually request the news data from its source to determine whether the data has been updated.”)

35. All of these examples, of course, involve managing information that exists in digital form. The main challenges of managing information are not related to what the information represents (e.g., a video datastream, a website, an image), but concern the volume of data being managed, where the data is located, how it can be retrieved, and how it should be presented to the user.

36. The '403 patent recognizes that before October 1999 it was known that one way to address bandwidth resource limitations was to “only access[] information when the user requests it” and that this is undesirable because “there is an inevitable delay between the user's request for information and the communications device's presentation of it.” See Ex. 1001, '403 patent at 1:52-56.

37. The '403 patent says this is undesirable for a number of reasons. For example, it says that:

If a user wants to monitor sources of news information on the Internet using current browser technology, the user must continuously and manually request the news data from its source to determine whether the data has been updated. Prior to requesting and subsequently receiving the data, the user has no way of knowing whether the data has been updated. In any case, the user is unlikely to want to refresh the status of each application by manual intervention himself at the frequency necessary to ensure that the information is up to date. Additionally, if a user wishes to view two or more webpages simultaneously, he must run two or more copies of the web-browser program. The act of manually refreshing the content of alternate programs in order to ascertain which have any new material to offer is fundamentally inefficient. Ex. 1001, '403 patent at 1:56-2:3.

38. Solutions to these types of problems were known well before October of 1999. For example, as the '403 patent recognizes, there were a number of products that were in use that used “push” rather than “pull” techniques for retrieving information. In fact, “push technology” had been used extensively before October of 1999 to provide real-time information to the user from a number of information sources without using excessive bandwidth resources. Ex. 1001, '403 patent at 2:25-27. See, e.g., Ex. 1065 [E. Cerami, Delivering Push (1998)].

39. The '403 patent suggests that by October of 1999, “push” models for retrieving information had problems. For example, it says:

So-called “push technologies” attempt to address this problem by organizing information from a number of related sources and sending it periodically to a user. While this arrangement frees a user from actively participating in the download, the price is that the user has little control over the organization of the information and can only practically handle a small number of such transmissions at any one time. Each transmission is subject to the bandwidth available. Ex. 1001, '403 patent at 2:25-33.

40. For reasons I will explain in more detail below, this does not accurately describe the capabilities or functionality of “push” technologies that existed before October 1999.

41. The '403 patent recognizes that managing constrained information resources was nothing new in October of 1998. Similarly, the '403 patent recognizes that not all tasks require the same allocation of resources and,

correspondingly, not all tasks have equal priorities for a given user. See Ex. 1001, '403 patent at 2:34-63.

42. In fact, managing constrained resources – whether due to network bandwidth constraints, processor capabilities, or even a user's capacity to process and evaluate multiple types or sources of information – has been an integral consideration in developing computer-based solutions since the first computers were developed. It is not surprising that, as the '403 patent recognizes, the need to manage constrained information resources was one of the factors that influence the design of computer systems, and in particular, user interfaces for computer systems.

43. The '403 patent provides a description of the systems and techniques that were developed to respond to these challenges.

44. For example, the '403 patent explains that a graphical user interface is used that enables the user to “assign” refresh rates at which information is “retrieved” from each information source. Ex. 1001, '403 patent at 2:33-35; 4:55-5:13.

45. The '403 patent also states that “tiles” are used to display information from multiple sources. See Ex. 1001, '403 patent at 3:33-34.

46. According to the '403 patent, a tile is different from an icon because it provides a real-time or near-real time view of the underlying information in that it contains continually refreshed content. Ex. 1001, '403 patent at 8:36-38.

47. The '403 patent also states that a tile is different from a window because a tile will typically be smaller in size, allowing the user to view multiple tiles simultaneously if desired. Ex. 1001, '403 patent at 8:38-41.

48. The '403 patent states that a tile may, but does not necessarily have to contain a large number of active areas, such as title bar, menu bar and scroll bars. Ex. 1001, '403 patent at 8:42-49 ("A tile provides an at-a-glance view of the current status of the program or file associated with it but does not necessarily have the large number of active areas associated with windows such as title bar, menu bar and scroll bars. Therefore tiles lead to a reduction in clutter on the display screen because many tiles may be displayed simultaneously without overlapping with one another in the way that windows must necessarily do.") (emphasis added)

49. As I discuss in more detail below, I note that the distinction the '403 patent tries to make between "tiles" and "windows" is not accurate. For example, it was well known before October of 1999 that windows could be displayed in a non-overlapping manner on a display, and in fact, tiling of those windows was a common and integral technique of window-based graphical user interfaces. *See, e.g.,* Ex. 1037, US Patent Number 5,371,847; Ex. 1067 at 71-73 (Myers, A

Taxonomy of Window manager User Interfaces, 1988); Ex. 1071, Bly et al., A comparison of Tiled and Overlapping Windows, 1986). It was also known that windows could be displayed in a number of widely used operating systems without active areas such as a title bar, a menu bar or scroll bars.

50. Other than these distinctions, *i.e.*, that a tile has a “smaller size” and may omit certain types of active areas, the ’403 patent does not explain how a “tile” is different from a “window.”

51. The ’403 patent says that information from multiple sources can be displayed at the same time by presenting multiple tiles on a screen, where each tile is associated with a source of information. Ex. 1001, ’403 patent at 11:1-3 (“Each tile is separately associated with a source of information, for example, an application program, datastream or file, any one of which may be another grid object.”); *Id.* at 8:31-35 (“Tiles permit “dynamic bookmarking” of information in that each tile is a viewer of a single information source—including streaming data sources—and can be customized with the user's choice of content.”)

52. The ’403 patent also says that the way a tile displays content may be independently configured for each tile. See, e.g., Ex. 1001, ’403 patent at 8:66-67. For example, for locally stored word processing or spread sheet files, the user might configure the tiles to refresh only when the underlying data is written to the local hard drive. Ex. 1001 at 12:53-56. At the other extreme, a user might

configure a tile to display a television channel at a refresh rate of 29 frames per second, while at the same time configuring other tiles to display different channels at a refresh rate of once every five seconds. Ex. 1001 at 12:58-62.

B. The Person Of Ordinary Skill In The Art

53. Based on my examination of the '403 patent and the literature in 1999, I believe that the technical field of the '403 patent is computer science and software engineering.

54. A person of ordinary skill in the subject matter of the '403 patent would have had at least a Masters degree in software engineering or computer science (or equivalent experience working in industry) and several years of experience designing, writing or implementing software products, either at the application or operating system level.

55. In October of 1999, human-computer interaction would have been an important aspect of software engineering. *See, e.g.*, Ex. 1063, Readings in Human-Computer Interaction at xi (“The human-computer interface, also called the user interface, is often the single most important factor in the success or failure of an interactive system or application.”).

56. Based on my experiences, a person of ordinary skill in the art would have been familiar with a variety of user-interface concepts and how to implement these concepts within user interfaces. The person would be familiar with interfaces

that are implemented in operating systems and within different applications, as well as a need to provide consistent interfaces across different applications and devices. *See, e.g.*, Ex. 1063 at xi, Readings in Human-Computer Interaction; Ex. 1064, at 13, Ben Schneiderman, *Designing the User Interface* (3rd ed. 1998).

57. By October of 1999, a person of ordinary skill also would have been very familiar with well-established user interface concepts such as windowing, use of tiled versus overlapping windows, use of different or changing icons dependent on user selection or state issues. That person also would have been familiar with user interfaces found in existing operating systems and software applications, and with the iterative process of designing and testing features to develop user interfaces. *See generally* Ex. 1064, Ben Shneiderman, *Designing the User Interface* (3rd ed. 1998) (e.g., vii-xiv, table of contents).

58. A person of ordinary skill in the art also would have understood that interface development is a multidisciplinary process. *See, e.g.*, Ex. 1063 at xi Readings in Human-Computer Interaction (“Effective interface development is thus a multidisciplinary process.”). This means the person would have consulted guidance in a variety of different disciplines, including not only those that influence human-computer interactions, but how computers function, networking principles, data processing and the like. This is consistent with the “Background of the Invention” section of the ’403 patent, which discusses issues of digital

communication, the Internet, secured access, distributed systems, caching, priority arbitration, user interfaces, and cross-platform applications. See Ex. 1001 at 1:10 – 4:31.

C. Description Background Technology Relevant to the '403 Patent

59. The '403 patent relates to two technological areas of software development: (1) techniques for retrieving information, and (2) a user interfaces to communicate retrieved information. Both fields were very well established before October of 1999.

1. Retrieval of Information

60. The independent claims of the '403 patent involve automatically retrieving information from multiple sources.

61. For example, claim 1 of the '403 patent reads:

1. A method executed by a device under the control of a program, said device including a memory for storing said program, said method comprising:

- selecting a plurality of information sources;
- partitioning a visual display of the device into an array of tiles, wherein each tile in said array of tiles is associated with an information source in said plurality of information sources;
- assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles;
- updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate; and

- simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.

62. As I discuss below, there were a wide variety of techniques and systems known by October of 1999 for automatically retrieving information from multiple sources, whether those sources were local or were accessible from locations over public or private networks.

a. Push Technology

63. Before October 1999, there were many examples of “push technology” solutions. Examples of these applications include Microsoft’s Internet Explorer 4.0’s Active Desktop, Netscape’s Netcaster, The PointCast Network and Marimba’s Castanet. *See generally* Ex. 1065, Cerami, Delivering Push, 1998.

64. Each of these push solutions was designed to retrieve information from a wide variety of information sources, including Internet-based sources. *See, e.g.,* Ex. 1065, Cerami, Delivering Push, 1998, at 3-4 (“Broadcast and traditional print media companies, including CNN, ESPN, Time Warner, ABC, and the *New York Times* are rushing to create new push media content.... At its heart, push technology (or Webcasting, as it is frequently called) represents a new model for the delivery of information across the Internet and intranets. The current model of Internet delivery consists of users pointing and clicking on Web pages. Users ‘pull’ information from remote computers to their desktops. With push, users

simply subscribe to ‘channels,’ and information is ‘pushed’ automatically to their desktops. The information is constantly updated and tailored to meet the user’s individual interests and preferences.”).

65. The push technology solutions existing before October 1999 all had the ability to regulate the rate at which the client application would retrieve updated information. The rate at which information from each information source would be periodically retrieved could be automatically set or individually configured by a user. *See, e.g.*, Ex. 1065, Cerami, *Delivering Push*, 1998, at 53 (“Netcaster, Internet Explorer 4.0, Marimba, BackWeb, and PointCast all follow a model known as request/reply or client polling. Each time you subscribe to a new channel, the channel includes a recommended update schedule. You might subscribe to a stock ticker that is set to update every 30 minutes, for example.”)

66. In October of 1999, push technology was a crowded field, with many participants. *See, e.g.*, Ex. 1065, Cerani, *Delivering Push*, 1998, at 3 (“Push technology has been hailed as the next killer application of the Internet. Small start-up companies are scrambling to deliver their products to market.... And, the David and Goliath rivalry between Netscape and Microsoft has moved beyond the browser war to include a push-technology war.”).

67. All these different push applications that existed before October of 1999 show that there were many well-known techniques at that time for automatically retrieving information from multiple sources simply.

b. Stock Trading Stations

68. Another category of well-known systems that retrieved information from multiple sources before October 1999 were systems used in stock trading. *See, e.g.*, Ex. 1017, US 6,807,558 at 6:32-39; Ex. 1018, US 5,959,621 at 3:41-51. These systems all had the ability to automatically retrieve information from multiple sources, which was necessary to support stock traders who needed access to vast amounts of current and constantly changing information. These types of applications were designed to provide traders with information from many sources as quickly as possible.

c. Video Systems

69. Video display systems also involved retrieval of information from multiple sources. In these applications (video monitoring, video conferencing, picture-in-picture), viewers wanted to have the ability to view or preview multiple video sources at the same time. The nature of video (a sequence of still images) inherently requires that these applications retrieve updated information automatically.

d. Dynamic Icons

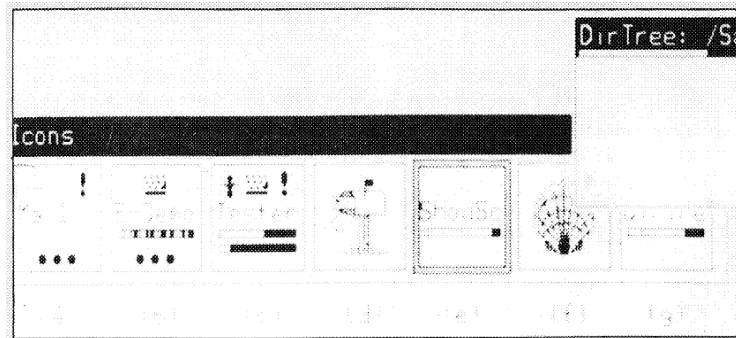
70. Dynamically updated icons were another example of an application that would provide current and updated information from multiple sources that was well known in October of 1999.

71. Here, I disagree with the suggestion in the '403 patent that icons were only static visual elements. *See, e.g.*, Ex. 1001 at 3:29-34, 8:35-38 (“A tile is different from an icon because it provides a real-time or near-real time view of the underlying information in that it contains continually refreshed content.”); 8:49-52 (“Tiles are superior to icons because they give an immediate indication of the current state of the file or program and have utility functions associated with them.”)).

72. Before October 1999, there were many examples of systems showing icons that would be continually refreshed with updated information.

73. For example, the Sapphire system from the early 1980s used icons that provided eight different types of “status” information. Examples include: a process name (text) that would change based on the status of the program (e.g., “a compiler might use ‘C-Foo’ when compiling a file titled Foo”); a progress bar; and an attention indicator (e.g., “program [reporting] that new mail has arrived”). Ex. 1066, Myers, *The User Interface for Sapphire*, 1984, at 17; *see also* Ex. 1067, Myers, *A Taxonomy of Window Manager User Interfaces*, 1988.

74. An example of a dynamically updated icon in the Sapphire system is shown below:



Ex. 1066 (Myers, *The User Interface for Sapphire*, 1984) at 16; *see also* Ex. 1067, Myers, *A Taxonomy of Window Manager User Interfaces*, 1988).

75. Another system from the 1980s with dynamically updating icons was Cedar. For example, this system would display a mail icon that would change when mail was received. Ex. 1068, Teitelman, *A Tour Through Cedar*, 1984 at 182 (“For example, the icon on the lower right in Figure 1 that looks like a mail box represents my mail reader, called Walnut. The fact that the flag on the mail box is up indicates that I have new mail.”).

76. Another 1980’s era system with dynamically updating icons was the Ultrix Window Manager (UWM) for the X windowing system. In that system, icons would be displayed that were miniaturized versions of full-sized windows. Ex. 1067 at 75 (Myers, *A Taxonomy of Window Manager User Interfaces*, 1988). Because these icons were simply a miniaturized image of the window, whenever the window changed, the icon would change to match the display in that window.

77. Yet another system that used dynamically updating icons was OpenStep. OpenStep icons provided a current indication of whether an associated program was not running, starting, or running. *See* Ex. 1069 at 1-7 (OpenStep User Interface Guidelines, 1996).

78. The dynamism of icons was examined in a 1991 paper authored by a group from Apple. *See* Ex. 1063 (Baecker et al., Bringing Icons to Life, 1991 *in* Readings in Human-Computer Interaction: Toward the Year 2000 (1995 2nd ed.)). In a 1993 patent application, this group described an icon scheme where the icons depicted the actual contents of the files that they represented, and would be updated when the underlying file was saved with new content. *See generally* Ex. 1019 at abstract (U.S. Patent 5,479,602).

79. What these examples all show is that the idea of updating a visual display element – such as an icon or window – to convey updated information associated with the change in status of information or an event (e.g., a change in file contents, the delivery of an email message, the change in the contents of a window on the display) was very well established before October 1999.

2. User Interfaces

80. The '403 patent describes a user interface that uses an array of tiles. In certain implementations described in the '403 patent, tiles have a rectangular,

uniform size and shape, or are presented in an ordered grid. These tiles are then updated or refreshed periodically to convey information to a user.

81. The use of “tiles” as a user interface design principle was well known by October of 1999. As I discuss below in my analysis of the prior art, many different systems known well before October 1999 would partition displays into regular arrays of rectangular regions.

82. I again do not agree with the statements in the ’403 patent that user interfaces before October 1999 used only “windows” and “icons.” *See, e.g.,* Ex. 1001, ’403 patent at 3: 52-54 (“The fact that the GUI’s of the present art are largely restricted to icons and windows diminishes the capacity to organize, manage, and access available information.”)

83. To be clear, before the ’403 patent, it was well known that “windows” were simply flexible user interface objects that could provide a broad array of interface functionality. In addition, while a typical window in a GUI would exhibit a number of visual control elements, such as a title bar, scroll bars, close box, etc., windows elements could be omitted and the behavior of windows could be controlled by the GUI or an application program (e.g., to omit scroll or title bar, to prevent or regulate resizing of the window).

84. In addition, there were many user interface objects having levels of functionality between those possible with windows and icons. For example, in

addition to the dynamic icons discussed above, examples included: the “miniwindows” of Openstep (Ex. 1069 (OpenStep User Interface Guidelines 1996 at 1-7), the “dockable” applications of FVWM and WindowMaker, and the “desktop items” of Microsoft Windows paired with Internet Explorer.

a. Tiled User Interfaces

85. Tiled user interfaces were well known before October 1999. *See, e.g.*, Ex. 1015, US 5,432,932, Ex. 1020, US 5,321,750, Ex. 1014, US 6,456,334, Ex. 1013, US, 6,118,493, Ex. 1031, US 5,848,356, Ex. 1007, MSIE Kit.

86. The '403 patent incorrectly claims that the idea of presenting information in regions of a display that do not overlap was not well known. *See, e.g.*, Ex. 1001, '403 patent at 8:38-41 (“A tile is different from a window because a tile will typically be smaller in size, allowing the user to view multiple tiles simultaneously if desired.”); Ex. 1001 at 8:45-49 (“Therefore tiles lead to a reduction in clutter on the display screen because many tiles may be displayed simultaneously without overlapping with one another in the way that windows must necessarily do.”).

87. The idea of organizing the presentation of information into non-overlapping regions of a display was well known by October of 1999.

88. In fact, it was well known that multiple windows could be displayed at once as a “tiled” interface. *See, e.g.*, Ex. 1037, US 5,371,847; Ex 1067 at 71-73

(Myers, A Taxonomy of Window manager User Interfaces, 1988); Ex 1071, Bly et al., A comparison of Tiled and Overlapping Windows, 1986).

89. In fact, well-before October of 1999, both “tiled” and “overlapping” layouts were well known. The choice to use one or both elements has long been a design option for human-computer interface design. Examples from the literature of which I am aware include the following:

On small displays with poor resolution, opportunities for using multiple windows are limited because users are annoyed by frequent horizontal and vertical scrolling. With medium-resolution displays and careful design, multiple windows can be practical and esthetically pleasing. Window-border decorations can be made to be informative and useful. On larger, high-resolution displays, windows become still more attractive, but the manipulation of windows can remain as distraction from the user’s task.

Ex. 1064, Ben Shneiderman, Designing the User Interface (3rd ed. 1998) at 445 (emphasis added).

Implementation and human factors issues guide the choice between tiling and overlapping. In tiling systems, the computer is typically in charge of managing the window placement and size, limited the user’s freedom. In covered window managers, the user must usually manage the windows. Putting the mouse in an arbitrary window is also easier with tiling, since all of the windows are always visible.

Ex. 1067, Brad A. Myers, A Taxonomy of Window Manager User Interfaces (1988) at 71-73.

Often, the ‘best’ style is a matter of personal taste, but one study discovered that, while users claimed to prefer covered window managers, they spent less time doing window management operations with tiled window managers.

Ex. 1067 at 73.

[M]any users fall into the cluttered desktop syndrome: many windows on the screen overlap each other, making it difficult to locate the appropriate window..... Unlike the arbitrary overlap interface, the tiled interface allows opening, closing, and movement of windows without overlap.

Ex. 1070, J. C. Lane, et al, User Interfaces for a Complex Robotic Task: A Comparison of Tiled vs. Overlapped Windows (January 1997) at 4.

Our hypothesis predicts that, after learning, performance times will be faster and error rates will be lower for the tiled interface. The tiled interface simplifies users' cognitive workload by relieving them of searching difficulties that may be associated with overlapping windows.

Ex. 1070 at 5.

Results show that for novice users, a tiled interface produces faster completion times than an arbitrary overlap interface in performing complex multiple window management tasks. As users become more experienced, completion times are reduced while performance differences between tiled and arbitrary overlap [sic] less defined.

Ex. 1070 at 11.

User requirements for a multi-window system can be characterized as

- the ability of windows to conform to the contents so as to maximize the the [sic] visibility of those contents, and
- the ability of the system to relieve the user of having to manage the size and location of the windows.

Overlapping window systems maximize the first user requirement..... Tiled window systems maximize the second user requirement.

Ex. 1071, Bly, et al., A comparison of Tiled and Overlapping Windows (April 1986) at 101-02.

A tiled system aids a user when a) the contents of the windows basically conform to the defined arrangement of window size and placement, or b) the user does not wish to be distracted by managing the windows.

Ex. 1071 at 102.

90. Thus, before October of 1999, it was known that tiled interfaces could remove the distraction of window sizing when multiple display areas were used at the same time.

91. U.S. Patent 5,712,995 describes some examples of tiled interfaces:

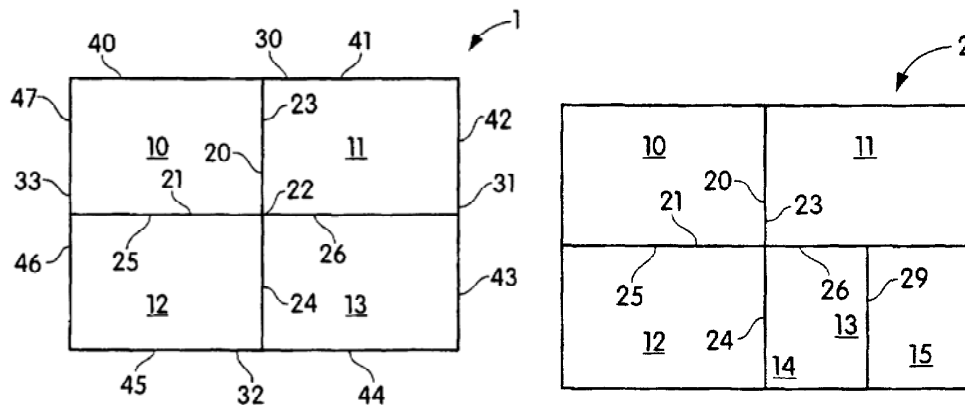


Fig. 1

Fig. 2

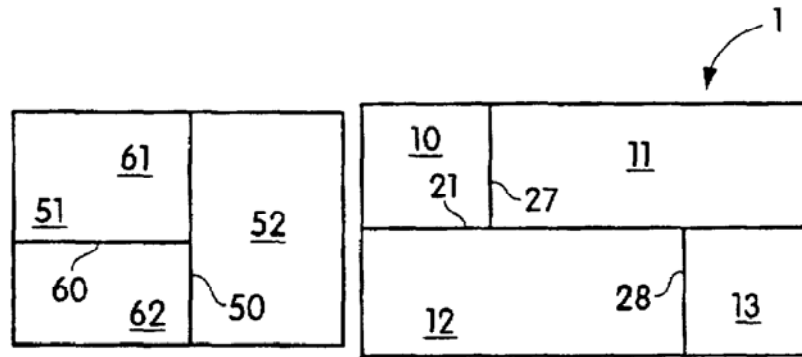


Fig. 3

Fig. 4

Ex. 1021, Cohn patent at Figs. 1-4.

92. The '403 patent incorrectly suggests that windows must include a variety of controls such as scroll bars, toolbars etc. The patent makes this point presumably to argue that windows cannot be considered “tiles.” *See, e.g.*, Ex. 1001 at 8:42-45 (“A tile provides an at-a-glance view of the current status of the program or file associated with it but does not necessarily have the large number of active areas associated with windows such as title bar, menu bar, and scroll bars.”).

93. Well before October of 1999, it was known that windows need not include “decoration” such as scroll bars, title bars or menus. *See, e.g.*, Ex. 1022, US 5,473,745 at Abstract (“A technique for the display ... of windows ... displays windows without visible borders, title bars, scroll bars and various graphical symbols that surround the information in conventional windows.”).

94. In fact, the decision whether to include or omit a control or other element from a window was known to be simply a design choice – it was a tradeoff

between maximizing the display area usable for content and providing window controls readily available to the user. *See, e.g.*, Ex. 1023, US 5,140,678 at 1:39-47 (“There are certain deficiencies in the presently existing window implementation. The various bars occupy a substantial amount of screen real estate. The area occupied by the bars decreases the size of the client area. Since users perform their work in the client area, their work space is limited. ... Most of the time, the bars only clutter the window.”)

b. Grid Interfaces

95. An interface that presents a regular rectangular grid is the simplest type of a tiled interface. Ex. 1066, Myers, *The User Interface for Sapphire* (1984) at 14 (“Almost all window managers require that windows be rectangular. A very simple window manager might divide the screen horizontally and/or vertically into some number of sections of fixed size.”).

96. For example, as explained in a well-known textbook,

Space-filling tiling with fixed number, size, and place. Simple display splits are often described as being tiled since the display space is often covered completely with rectangular sections resembling the ceramic tiles on a floor. Tiling usually is meant to convey space filling and no overlapping but there are many variations. Making simple dichotomy between tiling and overlapping ignores many interesting variations. The simplest case is fixed number of fixed-sized and fixed-placement tiles—for example, two, four, six, or eight rectangles filling the display—with the possible exception of some control or icon region. Ex. 1064, Shneiderman, *Designing the User Interface* (3rd ed. 1998) at 455.

97. A person of ordinary skill would have considered using a grid layout for a user interface to be a well-known design choice in October of 1999.

“Finally, rectangular layout is controlled by a style program using a gridded design. In gridding, style experts specify the number of columns in a gridded frame. Units within that frame are sized as multiples of the column width. A gridded frame, by having only a small number of unit sizes, typically looks more balanced than one with arbitrary sizes.”

ITS: A Tool for Rapidly Developing Interactive Applications In Readings in Human-Computer Interaction: Toward the Year 2000 (1995 2d ed.), Ex. 1063 at 385.

“Good introductions to the discipline of graphic design and its application to interface design are Marcus (1990), included here as a reading, and a recent book, Marcus (1992). He presents examples that demonstrate the importance of careful selection and arrangement in using typography, signs and symbols, charts and diagrams, color, and spatial and temporal arrangement. Echoing insights from psychology, he suggests the use of consistent layout and formatting conventions applied with reference to an appropriate grid. The resulting visual structure serves to guide the eye as the brain attempts to parse and interpret an image, and helps the user to navigate through the succession of displays and images presented by a system in the course of its use.”

Vision, Graphic Design, and Visual Display in Readings in Human-Computer Interaction: Toward the Year 2000 (1995 2d ed.), Ex. 1063 at 413.

“Grid layouts and consistent structure help to guide the reader”

Ex. 1064, Ben Shneiderman, Designing the User Interface (3d ed. 1998) at 557 (in the context of good graphical design for the world wide web).

“The Viewpoint tiled window system allows at most six open windows, three vertically on each half of the screen.... As a window opens, it divides the vertical space equally with the other windows on the same side of the screen (see Figure 3).

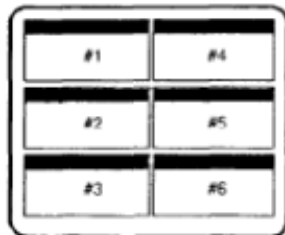


Figure 3. Default tiled locations.

Ex. 1071, Bly, et al., A comparison of Tiled and Overlapping Windows (April 1986) at 102-03.

“The second major way to organize visual displays is to design their spatial layout or composition. There are three primary ways of achieving organization of screen layout: use a grid structure, standardize the screen layout, and group related elements.” Aaron Marcus, Principles of Effective Visual Communication for Graphical User Interface Design in Readings in Human-Computer Interaction: Toward the Year 2000 (1995 2d ed.), Ex. 1063 at 427.

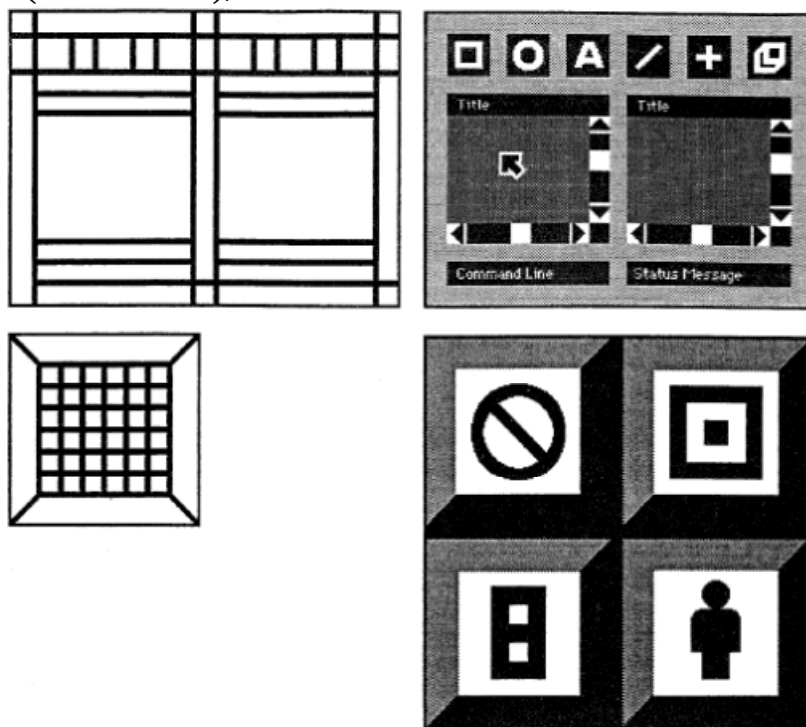


Figure 5: Screen, Control Panel and Icon Grids

Aaron Marcus, Principles of Effective Visual Communication for Graphical User Interface Design in Readings in Human-Computer Interaction: Toward the Year 2000 (1995 2d ed.), Ex. 1063 at 437.

“The tiled interface includes a group of non-resizable windows that can occupy twelve discrete locations on the perimeter of the display..... Figure 4 shows a graphical representation of the interfaces.” Ex. 1070, J. C. Lane, et al, User Interfaces for a Complex Robotic Task: A Comparison of Tiled vs. Overlapped Windows (January 1997) at 4.

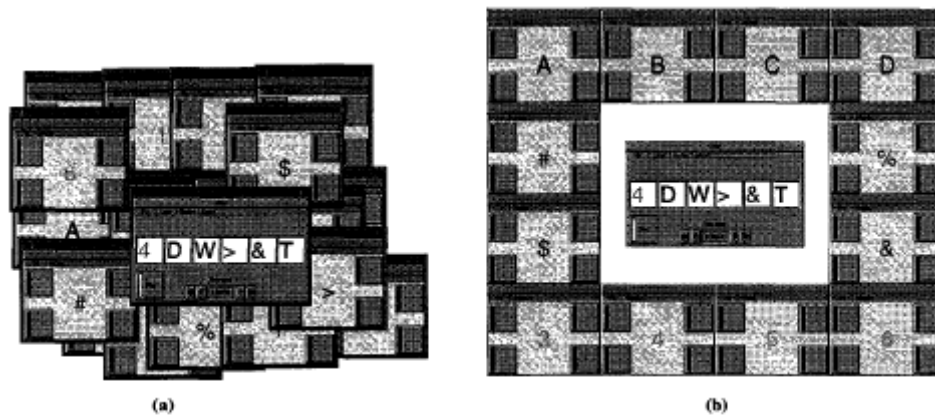


Figure 4: Two multiple window management strategies: (a) arbitrary overlap and (b) tiled
Ex. 1070 at 5.

98. In view of the comprehensive teaching of tiled and gridded interfaces available to a person of ordinary skill in the art, partitioning a display or a portion thereof into an array of tiles simply was not novel.

99. These user interfaces can be displayed in any display device. A television is one of a number of display devices (i.e., computer monitor, projector, television) that can be used to display the video output of a computer.

D. Effective Filing Date of the '403 Patent

100. I understand that a patent is granted by the Patent and Trademark Office (“PTO”) after an examination process. I also understand that the examination process is based on the contents (the “disclosure”) and claims in a patent application that was filed by the patent applicant.

101. I understand that a patent applicant may file a series of related patent applications. I also understand that a later-filed application may claim the benefit of the filing date of an earlier filed application.

102. I understand that a later-filed application may have an identical disclosure as an earlier application (called a “continuation”), or can add or change information in it relative to the disclosure in the earlier-filed application (a “continuation-in-part” application).

103. I understand that a continuation-in-part application may not be entitled to the same filing date as an earlier filed application to which it claims benefit because of the differences in the disclosure, and that this may cause some claims in a patent to have a different “effective filing date” than other claims in the patent. I also understand that the effective filing date is the date against which the claim is to be measured against the prior art.

104. I understand that the '403 patent issued from U.S. Application No. 09/702,325 (the '325 application), which was filed on October 30, 2000.

105. I also understand that the '325 application is designated as a continuation-in-part application of U.S. Provisional Application No. 60/162,422, filed October 29, 1999.

106. I understand that the Patent Owner has stated that the claims of the '403 patent have different effective filing dates. In particular, I understand that in the Maine Litigation, the patent owner stated that "...claims 1-9, 12-41, 44-48 and 50-52 are entitled to a priority claim to the provisional application filed October 29, 1999" but that "... claims 10, 11, 42, 43, and 49 were constructively reduced to practice no later than October 30, 2000." Ex. 1052, Surfcaster's Responses to Microsoft's First Set of Interrogatories, No. 6.

107. I understand that, based on the Patent Owner's statements, the effective filing date of claims 1-9, 12-41, 44-48 and 50-52 is not earlier than October 29, 1999, while the effective filing date of claims 10, 11, 42, 43, and 49 is not earlier than October 30, 2000.

E. Prosecution History Of The '403 Patent

108. I understand that the '403 patent lists Ovid Santoro and Klaus Lagermann as inventors.

109. I understand that, on April 15, 2003, the PTO rejected the claims that had been presented in the '403 patent, indicating that those claims would have been obvious over a variety of combinations of prior art references including:

- claims 1-7, 11, 14, 16-18, and 21-26 were rejected under 35 U.S.C. 103(a) as being obvious over Ex. 1075, Matthews et al.; Ex. 1076, Ross; and Ex. 1077. McFedries,
- claims 8, 10, 19 and 20 were rejected under 35 U.S.C. 103(a) as being obvious over Ex. 1075, Matthews et al.; Ex. 1076, Ross; Ex. 1077, McFedries; and Ex. 1040, US Patent No. 5,812,123,
- claims 9 and 12 were rejected under 35 U.S.C. 103(a) as being obvious over Ex. 1075, Matthews et al.; Ex. 1076, Ross; Ex. 1077, McFedries; and Ex. 1041, US Patent No. 6,411,275, and
- claim 13 was rejected under 35 U.S.C. 103(a) as being obvious over Ex. 1075, Matthews et al.; Ex. 1076, ; Ex. 1077, McFedries; and Ex. 1027, Miller.

110. I understand that on October 15, 2003, the Patent Owner disputed its claims were obvious. Among other things, I understand that the Patent Owner argued that “a tile is not a ‘window,’ and thus that the cited references in combination, which are based on windows, do not render Applicants’ claims obvious.” Ex. 1002, Amendment on October 15, 2003 at page 12.

111. I understand that the Patent Owner also argued that:

A tile, as described in the specification at pages 10-12, differs from a window in that a tile is smaller than a window, thereby permitting multiple tiles to be displayed simultaneously without overlapping one another, and without necessarily truncating the display of content. Additionally, tiles have a uniform appearance, without requiring the large number of active areas associated with them, such as title bar, menu bar, and scroll bars, that are associated with windows. Furthermore, a tile differs from a window in that it may be independently configured to provide a specified view, such as a thumbnail, of an application, or may provide a symbol indicating a current state of the application.” Ex. 1002, Amendment on October 15, 2003 at 12.

112. The Patent Owner in these statements to the PTO did not explain what a “tile” is or is not. It also did not explain why a “tile” is different from a “window” (other than due to its size). Instead, the Patent Owner argued that “the number of *panels* in McFedries’ array is simply the number of open windows at the time they are *tiled*.” Ex. 1002, Amendment on October 15, 2003 at 14. The Patent Owner also argued that “a priority value is not the same as a refresh rate.” *Id.*

113. I understand that after this response by the Patent Owner, the PTO decided to allow the ‘325 application. I understand that the PTO Examiner stated in a “Notice of Allowability” dated November 30, 2003, that the claims were being allowed because the prior art references of record did not disclose:

... assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles; updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate; and simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.” Ex. 1002, Notice of Allowability at page 3.

F. Claim Construction

114. I understand that in an *inter partes* review proceeding, the claims of the patent are to be given their broadest reasonable interpretation in light of the specification.

115. I understand that, where a patent applicant provides an explicit definition of a claim term in the specification, that definition may control the interpretation of that term in the claim.

116. I also understand that if no explicit definition is given to a term in the patent specification, the claim terms must be evaluated using the ordinary meaning of the words being used in those claims.

117. I also understand that the words in the claims are to be evaluated using the perspective of a person of ordinary skill in the art.

118. I understand that in concurrent litigation Patent Owner has proposed interpretations for certain claim terms. I have considered those proposed interpretations, as well as the meanings that I believe a person of ordinary skill would have given to the words in the claims in my analysis below. As I explain below, I believe claims 1-52 of the '403 patent are unpatentable over the prior art even using Patent Owner's proposed constructions.

119. I understand that claims 1, 22, and 46 are independent claims. I also understand that claims 2-9 and 11-21 directly depend from claim 1, while claim 10 depends from claim 9. I also understand that claims 23-41 and 43-45 directly depend from claim 22, while claim 42 depends from claim 41. I also understand that claims 47, 48, and 50-52 directly depend from claim 46, while claim 48 depends from claim 47.

120. The first clause of claim 1 reads: “A method executed by a device under the control of a program, said device including a memory for storing said program...” The remainder of claim 1 then lists the steps that are to be performed by the computer. There is nothing related to the presentation of information in this first clause in claim 1.

121. The first clause of claim 22 reads: “An electronic readable memory to direct an electronic device to function in a specified manner, comprising...” The remainder of claim 22 then lists a series of “instructions” that will cause a computer to perform steps. There is nothing specific to the presentation of information in this first clause in claim 22.

122. The first two clauses of claim 46 read:

A system for facilitating the organization and management of multiple data sources, comprising:

- a device that includes a processor configured to execute instructions, a memory connected to said processor to store at least one program that includes a graphical user interface, and an input device, wherein said processor executes instructions to:

123. These first two clauses describe a computer system that will have certain functional properties that are described by the remaining clauses in claim 46. Beyond stating that the computer system is for “facilitating the organization and management of multiple data sources” (which every programmed computer

will be capable of doing), there nothing specific to the presentation of information in these first two clauses of claim 46.

124. The '403 patent recognized it was known in the prior art that “a graphical user interface is a computer program that resides in memory 112 of some data processing system and that provides means for presenting information....”

See Ex. 1001, '403 patent at 7:34-39.

1. “information source(s)” and “plurality of information sources” (claims 1, 4, 21, 22, 33, 34, 46)

125. In its broadest reasonable construction consistent with the specification, an “information source” is a local or remote source of information. See, e.g., Ex. 1001, '403 patent at 4:41-54 (providing examples of information sources); 6:52-59.

126. Examples of information sources identified in the specification include an analog signal, a source of digital data or a datastream. Ex. 1001, '403 patent at 6:52-55 (“Within the scope of the present invention, an information source may comprise any analog signal, source of digital data or a datastream, including, but not limited to, video, audio, text and graphics.”).

127. A “plurality of information sources” means simply at least two information sources. See Ex. 1001, '403 patent at claim 21 (reciting “... wherein said plurality of information sources comprises at least two information sources...”).

2. **“tile” (claims 1-5, 9, 12-13, 15-16, 22, 25-30, 32-38, 41, 44, 46, 48, 51-52)**

128. In its broadest reasonable construction consistent with the specification, a “tile” can be a visual element occupying less than the entire display, and may contain one or more active areas (e.g., a part of the window displaying information) or control elements (e.g., scroll bars, title bar, toolbar). This conclusion logically flows from the language used in the independent and dependent claims, and from the descriptions of tiles in the specification.

129. I note that claims 1, 22 and 46 contain no explicit language that dictates the form, number or manner of presentation of tiles on a display other than a tile be displayed as part of an “array.” *See* Ex. 1001, ’403 patent at claim 1 (“...partitioning a visual display of the device into an array of tiles ...”); claims 22 and 46 (“arrange a display into an array of tiles”).

130. Other claims that depend from claims 1, 22, or 46 do impose restrictions on what a tile may look like or how it is presented on a display. *See, e.g.,* Ex. 1001, ’403 patent at claim 3 (“wherein said partitioning includes partitioning said array of tiles in a non-overlapping configuration wherein each tile of said array of tiles is a uniform size and shape.”); claims 8, 40 and 47 (specifying array with more than one row and one column); claim 21 (specifying at least two information sources associated, each associated with a tile); claim 30 (“wherein

said second set of instructions produce an array of non-overlapping tiles wherein each tile has a uniform size and shape”).

131. I understand that a dependent claim must define subject matter within the scope of the claim from which it depends. I also understand that when a dependent claim limits the independent claim, it usually means the independent claim more broadly defines that element of what the independent claim is defining.

132. With that understanding, I recognize that the restrictions on tiles in claims 3, 8 and 21, for example, make it clear that a “tile” as used in claims 1, 22, and 46 may be presented in an overlapping or non-overlapping manner on a display, that the tiles may have uniform or non-uniform sizes, that an array of tiles may include one or more rows and one or more columns, and that the tiles on a display may all be associated with the same information source, or with different information sources.

133. The specification does not explicitly or implicitly define the term “tile.” It also does not indicate that there are inherent on the form, number or manner of presentation of “tiles” on a display.

134. I also note that the specification attempts to distinguish a “tile” from a “window” by listing features of a window that are not in a tile, but all these features are not required to be present in a window either.

135. For example, the specification states that a tile may contain active areas that are commonly found in windows in a GUI. *See, e.g.*, Ex. 1001, '403 patent at 8:43-45 (emphasis added) (a tile “does not necessarily have the large number of active areas associated with windows such as title bar, menu bar and scroll bars.”).

136. The specification also shows embodiments of a “tile” having active areas. *See* Ex. 1001, '403 patent at 10:30-34 and 17:24 (describing widgets – a special type of tile – having a “titlebar” and a “toolbar”).

137. The specification also indicates that tiles may be, but are not required to be smaller than windows. *See* Ex. 1001, '403 patent at 8:38-41 (“tiles will typically be smaller in size” than a window) (emphasis added)).

138. The '403 specification states that “windows” (i) are resizable to any size, (ii) can occupy any fraction of a display and (iii) may include or omit elements such as menu bars, scroll bars or tool bars. *See* Ex. 1001, '403 patent at 3:35-37 (“a window may be resized as appropriate”); 3:37-41 (a window “may have active areas around its borders such as menu bars, scroll bars, or tool bars ...”).

139. This description of windows is consistent with my experiences prior to October of 1999. *See also* Ex. 1063 at 54 (The Xerox Star: A Retrospective in Human-Computer Interaction: Toward the Year 2000) (2nd Ed. 1995) (noting that

Windows systems “now commonly allow several programs to display information simultaneously in separate areas of the screen, rather than each taking up the entire display.”).

140. Before October 1999, “windows” omitting elements such as menu bars, scroll bars, or tool bars were well known in the art. *See, e.g.*, Ex. 1064 (Designing the User Interface) at 446, Figure 13.1 (showing windows without scroll or menu bars).

141. The ‘403 specification explains that a “tile” may appear and behave in a functionally equivalent way to a “window.” For example, it explains that a “tile” may be of any size (like a window) and may expand to occupy the entire display. (“In this embodiment, double clicking tile 402 or 412 causes the image to be expanded to fit the whole display area.”). Ex. 1001, ’403 patent at 9:45-46. I note that once the “tile” has been expanded, it may no longer a “tile” (e.g., it would fill the entire display).

142. I also understand that in concurrent litigation, the Patent Owner stated that a “tile” means a “graphical representation of an associated information source capable of displaying refreshed content, the graphical representation being persistent and selectable to provide access to underlying information of the associated information source.” Ex. 1053, Surfcast Proposed Claim Construction.

143. Based on the way “tile” is used in the claims, and how “tiles” and “windows” are discussed in the ’403 patent, a “window” plainly satisfies the definition of a “tile” as proposed by Surfcast.

3. **“array of tiles” (claims 1, 2, 3, 8, 9, 13-16, 22, 25-30, 32, 35-38, 40, 41, 44-48, 51-52)**

144. In its broadest reasonable construction consistent with the specification, the phrase “array of tiles” encompasses any arrangement on a display of two or more tiles.

145. An “array” as it is used throughout the patent indicates it is simply a “collection of data items.” This is consistent with at least one general computer dictionary that existed before October 1999. *See* Ex. 1058 (Dictionary of Computer and Internet Terms) (“**array**: a collection of data items...”).

146. The language used in claims 1, 3, 8, 12 and 13 is consistent with this meaning of “array.”

147. For example, in claim 3, the tiles in the array must be presented in a “nonoverlapping configuration” and have “a uniform size and shape.”

148. In a similar manner, claim 8 specifies that the “array comprises more than one row and more than one column” and claim 13 limits the array of tiles to those where each tile has “a fixed size equal to [the] unit tile size, or a multiple thereof” where the unit tile size is dictated by a “maximum number of tiles” that may be displayed, respectively, vertically and horizontally.

149. Claim 1 also does not require the tiles to be presented in a fixed grid. This is the logical consequence of claim 12, which states that “the array comprises a grid” and that each of the tiles “occupies a fixed position on said grid.”

150. The specification does not expressly define the term “grid” but does state an array may consist of a single tile. *See e.g.*, Ex. 1001, ’403 patent at 13:28-31 (“The grid can be configured to contain any number of tiles from one to as many as can reasonably fit on the user’s display.”); *see also* 12:6-12 (“FIG. 8 shows one embodiment in which all tiles are the same size and are presented in an array comprising M rows and N columns. There is no particular requirement that the arrangement consists of more than one row and more than one column....”) (emphases added).

151. I understand that in concurrent litigation Patent Owner has asserted that “array of tiles” means simply that “multiple tiles [are] displayed in an orderly fashion.” Ex. 1053, Surfcast Proposed Claim Construction. In October 1999, I believe any person working in this field would have recognized that placing tiles uniformly on a display (i.e., in an “orderly fashion”) would have been the most obvious way (and pleasing to a user) of presenting visual elements to a user. *See* ¶¶ 95 - 98.

4. **“tile . . . associated with an information source” /
“associate a . . . information source . . . to a . . . tile”
(claims 1, 22, 46)**

152. In its broadest reasonable construction, an association between a tile and an information source includes any type of relationship between the two. One could have implemented this type of association in October of 1999 using any of a wide variety of well-known techniques, including, for example, a bookmark, hyperlink or other pointer to the information source. In addition, information when presented in a tile would logically have been presented either directly or as a representation of the information from the information source (e.g., a thumbnail, excerpt or other summary).

153. The examples in the ‘403 specification are consistent with this meaning. See Ex. 1001, ‘403 patent at 8:31-34 (“Tiles permit ‘dynamic bookmarking’ of information in that each tile is a viewer of a single information source--including streaming data sources--and can be customized with the user's choice of content.”); 8:57-59 (“a tile is associated with a program, file or datastream, in the same way that an icon and a window are.”); 10:54-65 (“Each tile is associated with a data stream or application program and allows a choice of displayed images. In particular, different tiles can be associated with different contents.”); 11:1-3 (“Each tile is separately associated with a source of

information, for example, an application program, datastream or file, any one of which may be another grid object.”).

154. The '403 specification also explains that two or more tiles may be associated with the same information source. Ex. 1001, '403 patent at 11:60-61 (“Equally, a tile on more than one grid can point to the same information source.”).

5. **“partitioning a visual display of the device into an array of tiles” (claim 1) / “arrange a display into an array of tiles”(claims 22 and 46)**

155. In its broadest reasonable construction consistent with the specification, the phrase “partitioning a visual display of the device into an array of tiles” (claims 1 and 2) or “arrange a display into an array of tiles” (claims 22 and 46) encompasses a presentation of two or more tiles within a portion or region of the display. *See, e.g.*, Ex. 1001 at 13:28-31.

156. I understand that claim 14 narrows claim 1 by stating that the array of tiles must be presented in a “web-browser.” I understand this indicates that claim 1 must cover situations where the tiles are not presented within a window of a web browser.

157. The '403 specification explains that web-browsers may present multiple, overlapping windows that occupy a portion of a display. *See* Ex. 1001, '403 patent at 1:66-2:1 and 8:15-28 (web-browser displays page in a window and that window may be resized).

158. The '403 specification also illustrates the invention using a first tile which contains a second array of tiles. *See, e.g.*, Ex. 1001 at 9:9-11 (“Tile 406 displays a further array of tiles that may be displayed in full by expanding tile 406 to occupy the full area of the display.”).

159. I understand that in concurrent litigation Patent Owner has asserted that this claim language means simply “dividing/divide some or all of a display into an array of tiles.” Ex. 1054, Surfcast Rebuttal Proposed Claim Construction.

6. “user-defined array size” (claim 2)

160. In its broadest reasonable construction, a “user-defined array size” encompasses using user-input to influence how tiles are presented in a display (e.g., the amount of space required to display the number of tiles the user wishes to display, a certain number of rows and columns the user wishes to display). *See* Ex. 1001, '403 patent at 11:9-12 and 14:4-14.

161. The '403 patent explains that a user may define the size of an array by adding or removing a tile from the array. *See, e.g.*, Ex. 1001 at 13:28-30 (“The grid can be configured to contain any number of tiles from one to as many as can reasonably fit on the user’s display.”); *see also* Ex. 1052, SurfCast First ROG Responses, Exhibit B at 33 (“the user . . . may add or delete tiles from the array thereby defining the size of the array.”).

162. I understand that in concurrent litigation Patent Owner has asserted that a “user-defined array size” means “the number and arrangement of tile positions in the array as specified by the user.” Ex. 1054, Surfcast Rebuttal Proposed Claim Construction.

7. “refresh rate” (1, 4, 6, 7, 10, 11)

163. The broadest reasonable construction of a “refresh rate” would encompass a recurring time interval at which information displayed in a tile is refreshed.

164. For example, claim 1 specifies “updating information from a first information source ... presented to said first tile in accordance with said first refresh rate...” *See also*, Ex. 1001, ’403 patent at 12:50-65.

165. As used in the claims and the ’403 patent, a refresh rate is different from a “priority” value. *See, e.g.*, Ex. 1001 at 12:50-53 (“In a preferred embodiment, according to priorities that may be applied to individual tiles on a tile by tile basis if desired, the grid manages the refresh rate of each tile in the grid.”); 13:10-11 (“...the address of each tile, its priority and its refresh rate are stored by the grid program.”). *See also* Ex. 1002, 10/15/03 Amendment at 14 (“According to Applicants’ specification as filed, page 16, lines 7-8, a priority value is not the same as a refresh rate.”).

166. The '403 patent and its claims also show that “refresh rates” may be identical or different. For example, dependent claim 6 specifies the first and second refresh rates are “different.”

167. I also understand that in concurrent litigation Patent Owner has asserted that a “refresh rate” means simply “criteria for updating.” Ex. 1054, Surfcast Rebuttal Proposed Claim Construction.

8. “retrieval rate” (22, 31, 33, 39, 42, 43, 46, 49, 50)

168. The broadest reasonable construction of a “retrieval rate” would encompass any recurring time interval at which information is retrieved.

169. This interpretation is consistent with how “retrieval rate” is used in claim 22. Specifically, it specifies instructions for “retriev[ing] information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.”

170. The “retrieval rates” referred to in independent claim 22 may be either the same or may be different. This conclusion flows from dependent claim 39, which specifies the first and second retrieval rates are “different.”

171. The '403 specification also supports this reading of the claims. For example, the '403 specification explains that all of the tiles on a display may be configured to refresh in the same manner, or may be individually configured to

refresh in different ways. For example, refreshes may occur when information is written to a hard drive or according to a defined refresh rate. *See, e.g.*, Ex. 1001, ‘403 patent at 12:50-65 (“In a preferred embodiment, according to priorities that may be applied to individual tiles on a tile by tile basis if desired, the grid manages the refresh rate of each tile in the grid. For example, for locally stored word processing or spread sheet files, the user might configure the tiles to refresh only when the underlying data is written to the local hard drive. Similarly, a user might configure tiles containing infrequently updated HTML data from the Internet to refresh at a certain time each day. At the other extreme, a user might configure an active tile to display a television channel at a refresh rate of 29 frames per second, while at the same time configuring inactive tiles to display different channels at a refresh rate of once every five seconds. In this way, a user could monitor many channels until program content of interest appeared in one of the tiles without the burden of actively refreshing each tile.”)

172. I understand that in the Maine litigation, Patent Owner has claimed that a “retrieval rate” means simply “criteria for updating.” Ex. 1054, Surfcaster Rebuttal Proposed Claim Construction.

9. **“updating information from a [first/second] information source in said plurality of information sources presented to said [first/second] tile in accordance with said [first/second] refresh rate” (claim 1);**

173. The broadest reasonable construction consistent with the specification of the phrase “updating information from a [first/second] information source in said plurality of information sources presented to said [first/second] tile in accordance with said [first/second] refresh rate” encompasses any manner of changing information displayed in a specified tile at the refresh rate associated with that tile (or information source).

174. This interpretation is consistent with the language used in the claims, and with how the ‘403 specification discusses this feature. *See, e.g.*, Ex. 1001, ‘403 patent at 12:50-65; 8:35-37 (“A tile . . . provides a real-time or near-real time view of the underlying information in that it contains continually refreshed content.”); 8:41-42 (“A tile provides an at-a-glance view of the current status of the program or file associated with it . . .”); 8:49-51 (“Tiles . . . give an immediate indication of the current state of the file or program . . .”); 9:31-33 (“tiles are live in that each contains real-time or near real-time information.”)

175. I understand that the Patent Owner also has made assertions in concurrent litigation that are consistent with this conclusion. *See, e.g.*, Ex. 1052, SurfCast First ROG Responses, Exhibit B at 28 (“Microsoft describes ‘Live Tiles’

that update information from associated information sources in accordance with refresh rates, such as a first refresh rate . . .”).

10. “... retrieve information from said first [second] information source in accordance with a first [second] retrieval rate ...” (claims 22, 46)

176. The broadest reasonable construction consistent with the specification of the phrase “...retrieve information from said first [second] information source in accordance with a first [second] retrieval rate ...” encompasses any way of obtaining information from an information source at the specified retrieval rate.

177. The claim language itself does not refer to any particular way to retrieve data.

178. The ‘403 specification also does not seem to attach any unique meaning to “retrieving” information. Instead, it uses simple examples of retrieving data from a datastream or retrieving web pages. See Ex. 1001, ‘403 patent at 5:7-8 (“a fourth set of instructions to retrieve data from said first datastream in accordance with a first retrieval”); 14:53-56 (“Objects in the metabase 1506 that retrieve content from remote sources such as world wide web pages utilize a connection manager and bandwidth controller 1512.”); 16:13-15 (“Tiles and the metabase ask for content for a given URL and the content manager will attempt to retrieve it.”).

179. The language in claim 22 allows the first and second retrieval rates to be the same, or to be different. This is consistent with claim 39, which depends from claim 22, and requires the first retrieval rate to be different than the second retrieval rate.

180. In addition, the ‘403 specification describes a variety of scenarios where the first and second retrieval rates of information will either be the same or will be individually configured and can be different. *See, e.g.*, Ex. 1001, ‘403 patent at 12:50-65 (text cited above at ¶ 171).

11. “simultaneously updating information from a second information source . . . in accordance with said second refresh rate”(claim 1)

181. I understand that in concurrent litigation, Patent Owner has asserted that this claim phrase means “performing the repetitive process of updating information presented to the second tile and waiting for the next time at which the update is to occur as set by the refresh rate assigned to the second tile at the same time or nearly the same time as said updating information from said first information source.” Ex. 1053, Surfcaster Proposed Claim Construction.

182. I understand the Patent Owner’s position to be that this phrase requires only that the process of updating of a first tile occur at the same or nearly the same time as the process of updating a second tile is being performed.

183. I believe the term “simultaneously” would ordinarily would mean the processes of updating the first and second tiles are occurring concurrently (at the same time), but will use the Patent Owner’s proposed meaning in my analysis.

12. “uniform size and shape” (Claims 3 and 30)

184. In its broadest reasonable construction, the term “uniform size and shape” means that the tiles on the display have the same size and the same shape.

185. This is the ordinary meaning of this phrase. It is also consistent with how the ’403 patent uses these concepts. *See, e.g.*, Ex. 1001, ’403 patent at 8:52-56 (“Another advantage of using tiles is a uniformity of appearance between tiles which correspond to different programs and datastreams. The display content of a tile will differ from application to application though its size and format need not.”)(emphasis added); 11:63-64 (“In a preferred embodiment, the grid permits a regular layout of tiles on the display screen such that the tiles are uniform in size and shape, as depicted in FIGS. 8-11.”).

13. “assigning said first [second] refresh rate and said second refresh rate in accordance with a first [second] priority value of a first [second] information source associated with said first tile” (Claim 4)

186. In its broadest reasonable construction, this phrase encompasses (i) either a user or a device defining a priority value, and (ii) assigning refresh rates by any manner of reference to the priority value.

187. The specification shows setting general conditions for tiles, and refresh rates then being assigned by the device using events unrelated to user input. *See, e.g.*, Ex. 1001, ‘403 patent at 12:50-53 (“according to priorities that may be applied to individual tiles ...,”); *see also* Ex. 1001 at 7:52-59.

188. The specification does not define the term “priority.” I note that one example of when “priority” may be relevant is in a constrained resource setting, *e.g.*, a limited bandwidth or limited capacity of the user to process the information.

14. “assign said first retrieval rate and said second retrieval rate in accordance with a predetermined priority scheme” (claim 31)

189. In its broadest reasonable construction, this phrase encompasses (i) either a user or a device defining a priority value, and (ii) assigning refresh rates by any scheme that makes reference to the priority value.

190. For example, the specification shows setting general conditions for tiles, and refresh rates then being assigned by the device using events unrelated to user input. *See, e.g.*, Ex. 1001 at 12:50-60 (“according to priorities that may be applied to individual tiles ...,” configuring “tiles to refresh only when the underlying data is written to the local hard drive,” “tiles containing infrequently updated HTML data from the Internet to refresh at a certain time each day,” and tiles “to display a television channel at a refresh rate of 29 frames per second.”); *see also* Ex. 1001 at 7:52-59.

15. **“wherein said assigning includes attributing a selected state or an unselected state to said first tile and said second tile” (claim 5) / “selectively assign a selected or unselected state to specified tiles of said array of tiles” (claim 32)**

191. In its broadest reasonable construction, this phrase encompasses any manner of designating a tile as being selected or unselected, including by direct or indirect user action. *See, e.g.*, Ex 1001, '403 patent at 9:25-32.

16. **“wherein at least one attribute of each tile in said array of tiles is assigned uniformly” (claim 9) / “uniformly assigning at least one attribute of each tile” (claims 41, 48)**

192. The broadest reasonable construction of this term encompasses assigning one value to at least one attribute in each tile in an array, including by assigning a default value for an attribute of each tile that is created or displayed.

193. The claim term in its broadest reasonable construction therefore would encompass systems and processes where values are assigned without specific input by a user, and may occur independently of interactions with information sources. *See, e.g.*, Ex. 1001 at 13:21-23 (referencing Fig. 12 and Fig. 5 as providing examples of tile attributes); 13:10-11 (examples of tile attributes include “the address of each tile, its priority, and its refresh rate . . .”); *see also* discussion of “uniform size and shape” (*supra*). *See also* Ex. 1002 (Oct. 15 2003 Amendment at 10) (finding support for as-filed claims 28, 29, 42, 43, 48, and 49 in specification section, (Ex. 1002 at 24, 26), identifying attributes that may be

assigned to tiles and how a “grid” can be “automatically constructed” based on those tile attributes).

**17. “[refresh/retrieval] rate is assigned automatically”
(claims 11, 43, and 50)**

194. The broadest reasonable construction of this term encompasses assigning a refresh rate or retrieval rate without direct input from the end user.

195. I understand during examination of the ’403 patent, the meaning of this phrase was discussed. I also understand that the Patent Owner referred to a number of passages of the ’403 specification to explain what it believed this phrase meant. These included page 15, line 33 – page 16, line 4; page 16, lines 29-30; and page 26, line 23 – page 27, line 34. These passages show operations that perform updates in a manner that requires no direct user input. *See, e.g.*, Ex. 1001, ’403 patent at 12:56-62.

196. I understand that the Patent Owner has claimed that Microsoft’s “Weather and Finance tiles” infringe claim 11 because they employ a refresh rate defined in a configuration file and set at runtime. *See* Ex. 1052, SurfCast First ROG Responses, Exhibit A at 52.

197. I also understand that in concurrent litigation Patent Owner has asserted that this term means that the “rate is assigned without direct user input.” Ex. 1054, Surfcast Rebuttal Proposed Claim Construction.

18. “grid” (Claim 12)

198. In its broadest reasonable construction, the term “grid” means any presentation of tiles in a row and column arrangement.

199. The ‘403 specification uses the term “grid” when referring to row/column presentations of tiles. *See* Ex. 1001, ’403 patent at 13:7-8 (“The grid object stores the number of rows 1212 and the number of columns 1214 of tiles that are present.”); 13:12-14 (“The grid also stores other attributes of tiles such as their respective positions on the grid as given by their column and row number.”); 10:41-44, 11:63-12:30, and Figs. 8-11; Ex. 1059, Microsoft Computer Dictionary at 208.

200. I also understand that in concurrent litigation Patent Owner has asserted that “grid” means “a regular layout of rows and columns, wherein a single tile may occupy more than one row and/or column.” Ex. 1054, Surfcast Rebuttal Proposed Claim Construction.

19. “wherein each of said tiles occupies a fixed position on said grid” (Claim 12)

201. In its broadest reasonable construction, this phrase encompasses presenting a tile in a specific cell within a row and column of a grid, and does not require the tile to remain in the identical location on the display.

202. For example, a tile in a grid within a Internet browser window that retains its position within the grid would have a “fixed position” on the grid even if the window were moved to a different location on the display.

203. This is consistent with how the ‘403 specification refers to tiles having a “fixed” position. *See, e.g.*, Ex. 1001, ‘403 patent at 13:12-14 (“The grid also stores other attributes of tiles such as their respective positions on the grid as given by their column and row number.”); 11:65-66 (“Each tile is indexed by its position on the grid. For example 802-2-1 is the first tile in the second row.”).

204. Thus, in its broadest reasonable construction, where the tile is located on a display in an absolute sense may vary depending on where the grid is presented on the display. *See, e.g.*, Ex. 1001, ‘403 patent at 12:21-35 (showing a grid can itself be a tile, and that tiles can be individually resized); 9:43-49 (showing examples of resizing tiles by double-clicking on them, causing the tile to “occupy a substantial fraction of the whole display area” or to “occupy an area in the middle of the display that is large in area than a single tile.”)

205. I also understand that in the Maine litigation, SurfCast asserted that tiles may have a “fixed position” on a grid even if they are rearranged within the grid. *See, e.g.*, Ex. 1052 (SurfCast Interrogatory Responses and attached Exhibits) at 53 (contending Windows 8 infringes claim 12 based on documentation showing user can both rearrange and resize Windows 8 “tiles” visible on a display screen).

206. I understand that in the Maine litigation Patent Owner also has asserted that this term means “wherein each of said tiles occupies a particular position in the regular layout of rows and columns.” Ex. 1054, Surfcast Rebuttal Proposed Claim Construction.

20. “storing said array of tiles on a second device” (claims 15 and 51) / “storing said array of tiles on a second electronic device” (claim 44)

207. Under the broadest reasonable construction consistent with the specification, these terms encompass storing information regarding the tiles, *e.g.*, attributes of the tiles, layout of the array, size of the array, grid configurations, passwords, and other user-specific contents related to the array of tiles such as refresh rates, on a device that does not perform the steps of claims 1, 22, and 46.

208. For example, the ‘403 specification at 22:2-20 explains:

In one embodiment of the present invention, FIG. 24, the user at client device 2400 interacts with server software on a server 2402. The server stores locally a profile comprising user-specific content 2406 that can feed customized data to the user. For example, the user may store pre-defined grid configurations on the server. Additionally, passwords for specific web-sites can be stored along with the user's profile.

21. “wherein said array of tiles is retrieved from a second device” (claims 16 and 52) / “retrieving said array of tiles from a second electronic device” (claim 45)

209. Under the broadest reasonable construction consistent with the specification, these terms encompass retrieving information regarding the tiles, *e.g.*, attributes of the tiles, layout of the array, size of the array, grid

configurations, passwords, and other user-specific contents related to the array of tiles such as refresh rates, on a device that does not perform the steps of claims 1, 22, and 46.

210. This is again consistent with the explanation in the '403 specification of storage of a user-specific content and configuration settings on a server, as I discussed in ¶ 208.

22. “interrupt said first retrieval rate and present said first tile with static information from said first information source” (claim 33)

211. Under its broadest reasonable construction consistent with the specification, this term means to stop retrieving information for a tile and to present that tile with information that does not reflect the current state of the information source associated with the tile.

212. This is consistent with an example in the '403 specification which shows display of a static icon characteristic of a program instead of the program's current state or information content. *See, e.g.*, Ex. 1001, '403 patent at 3:30-32 (“Often, an icon is a static image which is merely characteristic of the program or data represented thereby rather than the program's current state or its information content.”).

23. “network document”(claim 37)

213. There is no mention anywhere in the '403 patent specification of the words “network document.” The only place this term appears is in claim 37.

214. Under its broadest reasonable construction consistent with the specification, the term “network document” would appear to refer to a file stored on a remote computer.

215. For example, I understand that the Patent Owner took the position with the PTO that a web page was a network document. *See* Ex. 1002, ('403 File History) 4/15/2003 Office Action at 8 (“a web page is also considered to be a network document”).

IV. PATENTABILITY ANALYSIS OF THE '403 PATENT

216. Before diving into the details of prior art citations, I would like to provide a higher-level overview of my reading of the '403 patent and the general sense in which I found each of its claims to reflect only what was known or obvious in the field of computer science in the late 1990s.

217. I'll be making frequent use of our community's understanding of abstraction, modularity and reuse. A typical computer system is made of numerous components that each exhibit some implicitly or explicitly specified behavior on a certain type of input; it is widely recognized that any one of these components can often be replaced by any other that meets the same specification,

even if it operates quite differently. Thus, for example, we recognize that nearly every networking protocol is designed to deliver an arbitrary collection of bits from one location to another; even if it is described as a protocol for delivering a document, we recognize that the same protocol can equally well be used to deliver a music file, an image, a video, or an email message, since each of these can be represented as a collection of bits. Similarly, we recognize that flash memory, local disk drives, and network storage devices all present the same abstraction of "being able to store information and retrieve it later"; we immediately recognize that a system using one of these devices could equally use another, and that the particular type of information being stored is irrelevant. Similarly, a system for managing windows that are used to display documents can equally be used to display still or moving images, web pages, spreadsheets, or any other type of content.

218. In general, the '403 patent is concerned with simultaneously and continuously retrieving information from a multiplicity of sources and presenting that information in a way that permits at-a-glance comprehension of the information from all the sources simultaneously. In its "Background" section, the patent aims to motivate the problem by describing a number of supposed limitations of the (then) state of the art; I do not believe these described limitations in fact existed at the time. The background asserts that the poor user interested in

monitoring sites for news needs to continuously refresh those sites to check for new content, and needs to juggle the layout of many complicated windows in order to view that content. It also complains that there is no plausible intermediate between full-screen windows and low-information icons.

219. I take issue with these arguments; they confuse the impoverished state of much consumer software with the well developed state of the art.

220. As the patent itself asserts, push technology was already common at the time of the filing. Long before 1999, the HTML standard included the “Refresh meta tag,” an annotation in a web page instructing the browser to periodically reload the page content. This annotation could be and was used by news and other sites that expected their pages to change frequently, to ensure that the user would always be looking at an up to date copy of the page.

221. I personally recall making use of push technology in the 1990s via services such as Pointcast. Importantly, I remember that this pushed information was presented in a variety of ways — for example, as a sequence of independent screens, or in something more like a ticker. This highlights the way that information retrieval and presentation are often separate "modules" of such a system, and that it is natural for a system designer to mix and match different retrieval and presentation modules. The fact that existing business have chosen a

limited number of presentation modes does not change the fact that any skilled practitioner understands that other choices are possible.

222. In particular, the topic of information presentation in windows had been very thoroughly developed by 1999. While the commercial sector had fixated primarily on overlapping windows, there had been substantial published work on "tiling" window systems that explicitly forbade overlap. There was much discussion of the benefits (and drawbacks) of such systems. There were numerous implemented systems demonstrating interfaces that allow users to add a tile or to rearrange the layout of tiles on the screen. In such tiling systems, a uniform layout of tiles is the most obvious possible default.

223. The '403 patent also aims to draw a distinction between windows and icons, and argue for the importance of a new middle ground it calls tiles. Here too the patent is focused on what was commonly sold rather than what was generally known. The current common paradigm, of small static icons and rich complex windows, is boiled down from a richer understanding of window presentation. Many early windowing systems made much richer use of icons that changed to display information about the state of the underlying object (a claimed innovation of this patent). I recall that my desktop, throughout graduate school, included a grid of a number of dynamically updating "tiles", including (i) xbiff, a small inbox icon that changed to indicate that new mail was available, (ii) xperformon, a small

tile that reported dynamically updating set statistics such as CPU load on the machines I was using (including remote machines), and (iii) xclock, an icon-sized element displaying the current time. Instinctively, I set all these tiles to be the same size so they would fit together nicely.

224. The particular windowing system I was using, X, also demonstrated several important principles that must be considered well-known in the computer science community. In X, there was no difference between icons and windows; icons were simply small windows (which made it natural to design icons that could change or be interactive). The complicated window "decorations" that the patent complains about were added by a higher level "window manager" such as twm or fvwm. I recall many cases where my window manager crashed and I was left with bare windows, displaying only their information contents without scrollbars or menubars. X's architecture, which expects information to be displayed on a different device than where it is generated, also highlights the fact that it is natural to take information being generated at a variety of sources and display it "uniformly" on a single device, as well as the fact that many different devices can be used to display the same information in the same way. This was recognized since long before 1999.

225. The patent also claims some novelty regarding the prioritization of information access. Coping with resource limitations is a core topic in computer

science, and it has been well recognized that a straightforward uniform division of the available resources is not always the best idea. Instead, if resources are limited, it is sometimes necessary to sacrifice certain consumers of the resource in order to allow at least some consumers to progress. Thus, for example, in scheduling computer processes that are competing for the CPU, an operating system could simply divide the available CPU evenly among all processes that want it; however, this means the scheduler will waste much of its time switching between different processes. Instead, modern schedulers will "swap out" some processes, putting them to sleep for a period of time, so that the few, remaining awake processes can make effective use of the CPU. Similarly, in networking we recognize that if all consumers attempt to make simultaneous use of a network, then all of them will get too little network to be any use. Instead, it makes sense to prioritize some subset of the consumers so that they, at least, can get productive use of the network and then, hopefully, get out of the way of other consumers.

226. As another example, even early web browsers allowed users to request an unlimited number of web page loads simultaneously. Perhaps the most obvious response would have been to use the network to load all those pages simultaneously. However, these browsers instead chose to limit the number of simultaneously open network connections to 4 – any pages beyond this got no network at all until the first 4 finished loading. The rationale for this choice was

that loading an unlimited number of pages simultaneously would mean that all of them would take forever to load. Limiting the number of simultaneous loads to 4 means that at least a few pages will be loaded quickly, giving the user something to read while other pages load. The user affected the prioritization by deciding the order in which they requested pages, as pages would load in the order requested by the user.

227. I have reviewed the claims of the '403 patent, and compared those claims to the prior art. As I explained above (see ¶¶ 59 - 98), the schemes defined by the claims of the '403 patent generally implicate two techniques: (1) regularly retrieving updated information from multiple sources, and (2) displaying the retrieved information in “tiles” on a display. Both of these techniques were well-developed and in widespread use by October of 1998, as were combinations based on these two techniques.

228. As explained in the summary of the prior art references above and as detailed below, I believe claims 1-52 of the '403 patent are either anticipated by or would have been considered obvious by one of ordinary skill in the art based on the a number of prior art references, particularly when the claims are given their broadest reasonable interpretation consistent with the specification of the '403 patent. My specific analysis of the claims is set forth below.

A. Prior Art References

1. Microsoft Internet Explorer Resource Kit (“MSIE Kit”)

229. Microsoft Resource Kit (“MSIE Kit”) was publicly available before October 22, 1998. Ex. 1006 (Declaration by Utah State Library). I understand that Microsoft Internet Explorer Resource Kit “MSIE Kit” is prior art to the ’403 patent under at least §§ 102(a) and 102(b) because it was published more than one year before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

2. U.S. Patent Number 6,832,355 (“Duperrouzel”)

230. U.S. Patent Number 6,832,355 (“Duperrouzel”) has a filing date of July 28, 1998. I understand that Duperrouzel is prior art to the ’403 patent under at least § 102(e) because it was filed before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

3. U.S. Patent Number 6,118,493 (“Duhault I”)

231. U.S. Patent Number 6,118,494 (“Duhault I”) has a filing date of April 1, 1997. I understand that Duhault I is prior art to the ’403 patent under at least § 102(e) because it was filed before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

4. U.S. Patent Number 6,456,334 (“Duhault II”)

232. U.S. Patent Number 6,456,334 (“Duhault II”) has a filing date of June 29, 1999. I understand that Duhault II is prior art to the ’403 patent under at least §

102(e) because it was filed before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

5. U.S. Patent Number 5,432,932 (“Chen”)

233. U.S. Patent Number 5,432,932 (“Chen”) has a filing date of October 23, 1992 and issued on July 11, 1995. I understand that Chen is prior art to the '403 patent under at least §§ 102(a), 102(e) and 102(b) because it was filed and issued more than one year before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

6. U.S. Patent Number 5,819,284 (“Farber”)

234. U.S. Patent Number 5,819,284 (“Farber”) has a filing date of March 24, 1995 and issued on October 6, 1998. I understand that Farber is prior art to the '403 patent under at least §§ 102(a), 102(b), and 102(e) because it was filed and issued more than one year before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

7. U.S. Patent Number 6,104,700 (“Haddock”)

235. U.S. Patent Number 6,104,700 (“Haddock”) has an effective filing date of August 29, 1997. I understand that Haddock is prior art to the '403 patent under at least § 102(e) because it was filed before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

8. U.S. Patent Number 5,721,951 (“DorEl”)

236. U.S. Patent Number 5,721,951 (“DorEl”) issued on February 24, 1998. I understand that DorEl is prior art to the ’403 patent under at least §§ 102(a), 102(b), and 102(e) because it was filed and issued more than one year before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

9. U.S. Patent Number 5,550,968 (“Miller”)

237. U.S. Patent Number 5,550,968 (“Miller”) issued on August 27, 1996. I understand that Miller is prior art to the ’403 patent under at least §§ 102(a), 102(b), and 102(e) because it was filed and issued more than one year before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

10. U.S. Patent Number 5,901,228 (“Crawford”)

238. U.S. Patent Number 5,901,228 (“Crawford”) has an effective filing date of November 4, 1993. I understand that Crawford is prior art to the ’403 patent under at least § 102(e) because it was filed before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

11. U.S. Patent Number 6,278,448 (“Brown”)

239. U.S. Patent Number 6,278,448 (“Brown”) has a filing date of February 17, 1998. I understand that Brown is prior art to the ’403 patent under at least § 102(e) because it was filed before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

12. U.S. Patent Number 5,848,356 (“Jambhekar”)

240. U.S. Patent Number 5,848,356 (“Jambhekar”) has a filing date of October 2, 1995 and issued on December 8, 1998. I understand that Jambhekar is prior art to the ’403 patent under at least §§ 102 (a) and 102(e) because it was filed and issued before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

B. Microsoft Internet Explorer Resource Kit (“MSIE Kit”)

241. The Microsoft Resource Kit (“MSIE Kit”) book was publicly available before October 22, 1998. Ex. 1006 (Declaration by Utah State Library).

242. I understand that “MSIE Kit” is prior art to the ’403 patent under at least §§ 102(a) and 102(b) because it was published more than one year before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

243. MSIE Kit describes features of Microsoft’s Internet Explorer 4, including Microsoft’s “Active Desktop” technology. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 174, 180, 183, 211.

244. Active Desktop allows users to add “Active Desktop items” to the display of a computer running Windows 98 or Windows NT in conjunction with Internet Explorer 4. *Id.*

245. Each desktop item added to the Active Desktop is associated with an information source, and multiple desktop items can be associated with different

information sources. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 180. For example, MSIE Kit explains at 176:

Active Desktop items and Active Desktop wallpaper are essentially Web sites that appear directly in borderless frames on users' desktops. Once a Web site is placed on the Active Desktop, the site's content is cached on the computer's hard disk, so it's always available for offline viewing. The user can then choose to "subscribe" to the Web site, and the Active Desktop item or wallpaper will be automatically updated at regularly scheduled times, so the content will always be up-to-date.")

246. MSIE Kit shows that Active Desktop can use as an information source for a desktop item any data type that Internet Explorer can retrieve and display, including any graphic, audio, video, web site, Java applet, ActiveX or HTML file. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 174, 177, 180, 183, and 419-20.

247. Desktop items may be associated with information sources that reside on local storage (e.g., on the hard drive of the computer), on local network storage, or at a public site on the Internet. This is because Internet Explorer can retrieve and display files stored locally, on a local network server or accessible over the Internet. *See, e.g.*, Ex. 1007, MSIE Kit at xvi, 97, 111, 143-145.

248. MSIE Kit shows two general ways to associate a desktop item with an information source.

249. First, it shows that a user can associate an information source with a desktop item using a URL when the desktop item is added to the Active Desktop.

See e.g., Ex. 1007, MSIE Kit at 180-181.

► To add an Active Desktop item

1. Right-click the Active Desktop to display the shortcut menu, and then click **Properties**.
2. Click the **Web** tab; then click **New**.



3. Enter the URL or path to the item, or click **Browse** to navigate to the file's location on your local or network drive.
4. Click **OK** to add the item to your desktop.

Alternatively, you can add a desktop item by subscribing to an Active Channel that specifies a desktop component. For more information, see Chapter 16, "Managed Webcasting."

250. Thus, MSIE Kit shows that an end user can create Active Desktop items by selecting any Internet URL and choosing the frequency with which the desktop item should retrieve and display updated information from the URL. *See, e.g., Ex. 1007, MSIE Kit at 180.*

251. Alternatively, MSIE Kit explains that content providers can create Internet-Explorer-specific information sources by authoring a Channel Definition File (CDF) which can then be used to create an Active Desktop item that is added to the Active Desktop. *See, e.g., Ex. 1007, MSIE Kit at 188; see also pp. 177, 183.*

252. A CDF file is a file created to enable Internet Explorer to retrieve information from a specified information source on a defined schedule. As MSIE Kit explains:

Similar to basic Webcasting managed Webcasting also works through a subscription process, except users subscribe to publisher-specified Active ChannelsTM, which deliver a defined range of Web content. This might be thought of as a “programmed pull.” Users can check for updates on specific types of content and can accept a publisher’s predefined update schedule or specify a custom schedule. When channel content changes, Internet Explorer notifies the user of changes- and can be set to download just the requested content for viewing offline.

Active Channels allow Web-site authors to optimize, personalize and more fully control how a site is Webcast, and adding Channel Definition Format (CDF) file is the only step required to convert any existing Web site into an Active Channel. Using CDF, it’s easy to design Active Channels, Active DesktopTM items, or channel screen savers for your intranet to efficiently deliver business information to users desktops. Ex. 1007, MSIE Kit at 188.

253. The “CDF” file is then provided to an end user who can use it to add an Active Desktop item for that CDF to the end user’s display. *See, e.g.*, Ex. 1007, MSIE Kit at 223-224; *see also* pp.229-233.

254. Active Desktop items are small user interface elements and typically do not contain window decoration such as title or toolbars. *See, e.g.*, Ex. 1007, MSIE Kit at 176.

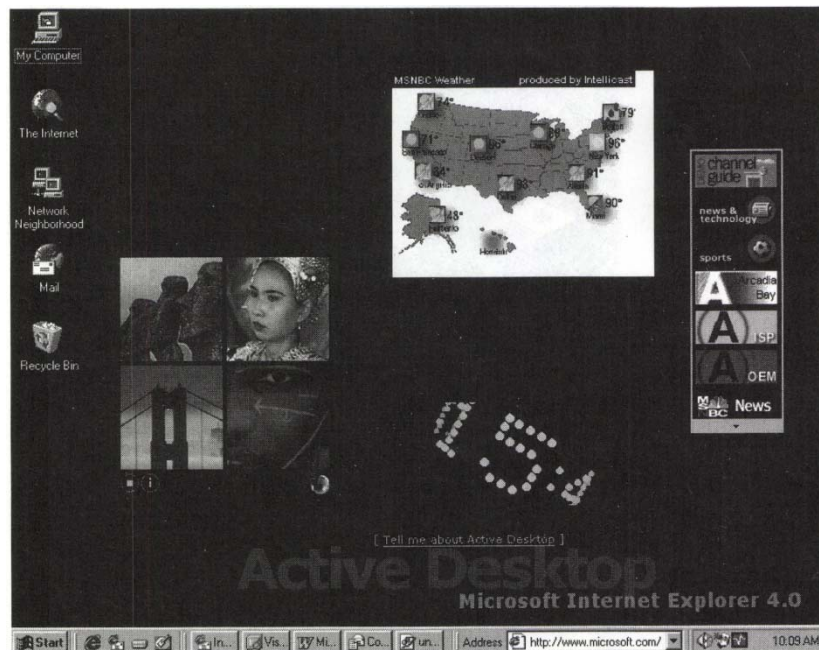
255. Active Desktop items are small and rectangular, and can be moved or resized by the user. *See, e.g.*, Ex. 1007, MSIE Kit at 180. For example, as MSIE Kit explains at 183:

Avoid using in-place navigation controls. Active Desktop items are meant to be lightweight and therefore have no navigation controls available for the user to move backward and forward. By default, clicking a link inside an Active Desktop item creates new browser

window. The intended purpose of an Active Desktop item is to provide quick summary information and an easy browser-launching mechanism if the user wants more information. Therefore, authors shouldn't create in-place navigation controls, and they shouldn't depend on the Back and Forward commands being available to the item. Active Desktop item authors should not make any assumptions about the context in which the item is running. (underline emphasis added)

256. MSIE Kit explains that “By default, Internet Explorer lays out new Active Desktop items on a 3 by 2 grid.” See Ex. 1007 at 183, xxx, 176-177, 180, 174, 213.

257. The MSIE Kit also illustrates desktop-item layouts that are different from the 3 by 2 grid default. See, e.g., Ex. 1007, MSIE Kit at xxx. For example, the MSIE Kit depicts a desktop displaying several Active Desktop items:



Ex. 1007, MSIE Kit at xxx.

258. MSIE Kit shows that when a desktop item is added to the Active Desktop, Internet Explorer places the desktop item onto a location within a grid region. *See, e.g.*, Ex. 1007, MSIE Kit at 183.

259. Desktop items on the Active Desktop can be configured to retrieve and display updated information on a defined basis. For example, on page 176, MSIE Kit explains:

The user can then choose to subscribe to the Web site and the Active Desktop item or wallpaper will be automatically updated at regularly scheduled times so the content will always be up-to-date.

260. Similarly, on page 177, MSIE Kit explains:

You can configure individual update schedules for each Active Desktop item. For example, a user's Active Desktop can display three different desktop items: an inventory ticker that is updated every 15 minutes, a workgroup home page that is updated once a day, and a newsletter that is updated once a week. Internet Explorer 4 automatically refreshes the desktop item whenever the update occurs.”)

261. On page 180, MSIE Kit explains:

You can add any graphic, URL or HTML file to your desktop as an Active Desktop Item. Adding a URL will automatically subscribe you to the site you selected. When you subscribe to a URL, site information is automatically cached on your computer for offline viewing, and Internet Explorer 4 will automatically update the desktop item on a schedule you choose.

262. MSIE Kit also shows that a user may program the frequency that Active Desktop items will be updated. For example, on page 201, MSIE Kit shows

how to set a custom schedule for a desktop item defined through a CDF file as follows:

- To create or edit a custom schedule
 1. On the **Schedule** tab, click **New** or **Edit**.
 2. Configure the options.

Option	Description
Schedule name	Enter a unique name for this schedule.
Daily	Select to specify an update interval based on days.
Every __ day(s)	Select this option, and enter an interval in days from 1 to 999 when automated updates are to occur. For example, enter 3 to specify updates every three days.
Every weekday	Select to update the site every weekday.
Weekly	Select to specify an update interval based on weeks.
Repeat every __ week(s) on	Enter an interval in weeks from 1 to 99, and select a day of the week (Sunday through Saturday) when automated updates are to occur. For example, you can enter 2 for week(s) and select Wednesday to specify biweekly updates on Wednesdays.
Monthly	Select to specify an update interval based on months.

263. When adding desktop items defined by a CDF file to their display, the end user can either accept a CDF-defined schedule for updating information, or set their own schedule for the items. *See, e.g.,* Ex. 1007, MSIE Kit at 188.

264. For CDF-created desktop items, content providers can provide a refresh rate that is automatically assigned as a default. *See, e.g.,* Ex. 1007, MSIE

Kit at 223. Users can accept or override this default. *See, e.g.*, Ex. 1007, MSIE Kit at 188. The modification by a user of the refresh rates assigned by a publisher in the CDF file could also be prevented using the Internet Explorer Administration Kit (IEAK). *See* Ex. 1007, MSIE Kit at 203-204.

265. For each desktop item, a default refresh rate will be used unless a user-specified refresh rate if one is provided. *See, e.g.*, MSIE Kit at 188. For user-created desktop items, Internet Explorer assigns the refresh rate chosen by the user. *See, e.g.*, Ex. 1007, MSIE Kit at 188.

1. Claim 1

266. MSIE Kit describes personal computers running the Windows operating system, in conjunction with Internet Explorer 4 and its Active Desktop functionality. *See, e.g.*, Ex. 1007, MSIE Kit at xv and 4. Personal computers must possess a processor, memory, and storage (e.g., a hard drive) to perform the described operations of the Active Desktop functionality that is part of the Internet Explorer program. *See, e.g.*, Ex. 1007, MSIE Kit at 4. MSIE Kit thus shows “[a] method executed by a device under the control of a program, said device including a memory for storing said program.”

267. MSIE Kit shows that Internet Explorer can use any graphic, audio, video, web site, Java applet, ActiveX, HTML file as the information source for a desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 174, 177, 180, 183, and 419-

20; *see also* ¶¶ 125-127. In addition, one skilled in the art would understand that content providers can create Internet-Explorer-specific information sources by authoring a CDF file. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 177, 183. MSIE Kit thus shows “selecting a plurality of information sources.”

268. Internet Explorer presents desktop items as rectangular, borderless frames on the user’s display. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 176-177. Each desktop item in the Active Desktop is therefore a “tile” as the term is used in claim 1. *See* ¶¶ 128-143. In addition, because MSIE Kit shows multiple desktop items being presented on the Active Desktop, it shows a “...tile in an array of tiles...” as specified in claim 1. *See* ¶¶ 144-151 and 155-159.

269. Each desktop item is associated with an Internet Explorer information source—a desktop item is linked to a specific graphic, URL, Java applet, ActiveX, or HTML file. *See, e.g.*, Ex. 1007, MSIE Kit at xxx and 180. Each desktop item in the MSIE scheme thus is a “tile in said array of tiles is associated with an information source in said plurality of information sources.” *See* ¶¶ 152-154.

270. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source,” Active Desktop allows users to interact with content displayed in a desktop item – when the user clicked on the desktop item, it could launch a web browser to retrieve the full and current content of the information source linked to the desktop item. *See, e.g.*, Ex.

1007, MSIE Kit at 177 and 183. MSIE Kit thus shows that desktop items (“tiles”) are “selectable to provide access to underlying information of the associated information source....”

271. MSIE Kit shows that Internet Explorer assigns – either automatically or as specified by a user – a refresh rate to each desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 201-202, xxx, 176, 177, 183, 188, 223. It also shows that a default refresh rate may be applied to one desktop item or a group of desktop items when that item is added to the Active Desktop. *See, e.g.*, Ex. 1007, MSIE Kit at 188, 223-224. In addition, MSIE Kit shows that the refresh rate for each desktop item can be assigned individually. *See, e.g.*, Ex. 1007, MSIE Kit at 196, 200-202, 230. MSIE Kit also shows, in a typical scenario, Internet Explorer will display multiple desktop items and assign a refresh rate to each. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 177, 183.

272. MSIE Kit thus shows that the refresh rate for one desktop item may be the same as the refresh rate for a second desktop item, which shows “assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles...” as specified in claim 1. *See* ¶¶ 163-167.

273. MSIE Kit shows that the updating functionality of desktop items in the Active Desktop will cause each desktop item to be refreshed at a specified rate assigned to that desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 180 and 223. In

addition, several desktop items may be assigned a default refresh rate value, which will cause each of those desktop items to be refreshed at the same time. *Id.*

274. MSIE Kit thus shows “updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate” as specified in claim 1. *See* ¶¶ 173-175.

275. In addition, MSIE Kit shows that Internet Explorer will simultaneously display multiple desktop items, updating each at its assigned refresh rate. *See, e.g.,* Ex. 1007, MSIE Kit at xxx, 177, 183. The updates for two or more desktop items, by this design, can occur at the same time (“simultaneously”). In addition, two or more desktop items, such as those defined by a CDF, can be assigned the same refresh value, which will be applied when those desktop items are added to the Active Desktop.

276. MSIE Kit thus shows “simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate” as specified in claim 1. *See* ¶¶ 181-183.

277. MSIE Kit therefore shows a process that performs every element of claim 1.

2. Claim 2

278. MSIE Kit shows that a user's desktop will be partitioned in accordance with a user-defined array size. *See, e.g.*, Ex. 1007, MSIE Kit at 176, 183. In addition, by default, Internet Explorer lays out desktop items on a 3x2 grid. *See, e.g.*, Ex. 1007, MSIE Kit at 183 ("By default Internet Explorer lays out new Active Desktop items on a 3 by 2 grid")

279. MSIE Kit shows that users may place desktop items in a different layout. For example, it shows that users can choose the number of desktop items to be displayed and may add or remove desktop items. *See, e.g.*, Ex. 1007, MSIE Kit at 176, 183.

280. MSIE Kit also shows that users can move and resize each desktop item, and thus can specify almost any layout and any number of Active Desktop items for display. *See, e.g.*, Ex. 1007, MSIE Kit at 176 (showing that desktop items can be moved or resized with ActiveX controls); *Id.* at 183 ("This gives Active Desktop users the maximum flexibility to arrange their desktop as they wish."). MSIE Kit also illustrates desktop-item layouts that are different from its 3x2 default value. *See, e.g.*, Ex. 1007, MSIE Kit at xxx (showing image of desktop items being arranged on user's display).

281. MSIE Kit therefore shows a system “wherein said partitioning includes partitioning said array of tiles in accordance with a user-defined array size” as specified in claim 2. *See* ¶¶ 160-162.

282. I also believe that a person of ordinary skill in the art would have considered the idea of allowing a user to define an array size for an Active Desktop configuration to have been an obvious variation of the schemes described in MSIE Kit in October of 1999.

283. There were many publications that described approaches for allowing users to configure the parameters for displaying “panes” or “tiles” containing information associated with multiple information sources. One example is described in Duperrouzel (described below at ¶¶ 414-429).

284. Like MSIE Kit, Duperrouzel is focused on techniques for displaying information selected and retrieved from several information sources in an array of “panes” or “tiles” on a display. Duperrouzel explains that its schemes can be implemented using Microsoft’s Active Desktop, which is the technology being described in MSIE Kit. *See, e.g.*, Ex. 1011, Duperrouzel at 11:38-65.

285. Duperrouzel explains that a user can designate the number of display panes to be presented in a display. *See, e.g.*, Ex. 1011, Duperrouzel at 13:22-27. In FIG. 2 of Duperrouzel, four display panes are shown, but Duperrouzel also

explains that the number of display panes can be more or less than four. *See, e.g.*, Ex. 1011, Duperrouzel at 12:45-47.

286. Duperrouzel also shows that it is possible to configure its system to display as a “Start Up” option a user-defined number of display panes. *See, e.g.*, Ex. 1011, Duperrouzel at 13:22-27.

287. To the extent it was not apparent from MSIE Kit that Active Desktop could be configured to provide a user-defined array size for desktop items, that idea is expressly suggested by the guidance in Duperrouzel. *See ¶¶* 160-162.

288. Thus, a person of ordinary skill in the art would have considered it obvious, based on the guidance in MSIE Kit in view of Duperrouzel, to partition an array of desktop items (tiles) in the Active Desktop environment in accordance with a user-defined array size. *See, e.g.*, Ex. 1011, Duperrouzel at 11:38-65, 12:45-47, 13:22-27.

3. Claim 3

289. MSIE Kit explains that desktop items placed on an Active Desktop will be non-overlapping and that each desktop item, by default, will have a uniform size and shape. *See, e.g.*, Ex. 1007, MSIE Kit at 183, 224, xxx.

290. For example, MSIE Kit explains that desktop items are generally presented as borderless rectangular frames. *See* Ex. 1007, MSIE Kit at 176 (“Active Desktop items and Active Desktop wallpaper are, essentially, Web-sites

that appear directly, in borderless frames, on users' desktops."); *Id.* at 694 ("An Active Desktop item is simply Web page that displays in floating, borderless frame on the user's desktop.")

291. MSIE Kit also shows, by default, Active Desktop items are laid out in a 3 by 2 grid on a user's display. *See, e.g.*, Ex. 1007, MSIE Kit at 183 ("By default, Internet Explorer lays out new Active Desktop items on a 3 by 2 grid."). *Id.* at 224.

292. MSIE Kit also suggests that desktop items will be given a maximum size of 200 x 200 pixels when used on a 640 x 480 pixel display area. *See, e.g.*, Ex. 1007, MSIE Kit at 183. It points out that this will allow for a reasonable space around each desktop item. *Id.*

293. MSIE Kit thus shows that Active Desktop, by default, will create a grid of non-overlapping desktop items, as each desktop item will be presented as a borderless rectangular frame, will have a uniform size, and will be placed in a 3 x 2 grid. *See* Ex. 1007, MSIE Kit at 183. MSIE Kit illustrates how this is done – it shows an example of a CDF configuration file for a desktop item on page 186 in which the default size of the desktop item is defined to be a rectangle having a

height of 80 pixels and a width of 200 pixels:

```
<ITEM HREF="http://www.microsoft.com" LASTMOD="1996.11.05T08:15-
0500">
  <Title>My News Ticker</Title>    <!-- Friendly name -->
  <USAGE VALUE="DesktopComponent"> <!-- Required -->
    <OPENAS VALUE="HTML"/> <!-- "HTML" (default) or "Image" -->
    <WIDTH VALUE="200" />    <!-- Width in pixels -->
    <HEIGHT VALUE="80" />   <!-- Height in pixels -->
    <CANRESIZE VALUE="Yes"/> <!-- Yes (default) or No -->
  </USAGE>
</ITEM>
```

294. MSIE therefore describes a scheme for partitioning an “array of tiles in a non-overlapping configuration wherein each tile of said array of tiles is a uniform size and shape” as specified in claim 3. See ¶¶ 184-185.

4. Claim 4

295. The ’403 patent specification does not define the term “priority value.” Based on how the term is used in claim 4, it does indicate that a “priority value” is different than a “refresh rate” and is associated with the information source of a tile.

296. The ’403 patent claims, however, do not explain what the connection is between a “priority value” and a refresh rate – it just says the refresh rate is assigned “in accordance with” a priority value of an information resource associated with a tile.

297. The '403 specification also does not show any particular scheme connecting refresh rates of tiles or information sources to a “priority value.” The language in claim 4 is thus vague and hard to decipher.

298. I believe person of ordinary skill in the art would have considered assigning refresh rates based on some form of a prioritization scheme to have been an obvious variation of the schemes described in MSIE Kit. Prioritization would be logical for any of a number of reasons, including network bandwidth, resource management on the user’s computer or even user capacity to consume the information being delivered.

299. One example of prioritization scheme is shown in Duhault I. The Duhault I systems retrieve video content from multiple sources and display the video content from each source in one of an array of rectangular viewing areas. *See, e.g.*, Duhault I at 3:30-34 and FIG. 2. Initially, all of the video viewing areas will be set to update their images at a rate that may be set by a user, and is typically dependent on the hardware and number of channels being displayed. Ex. 1013, Duhault I at 5:18-26. This updating rate is slower than a “live video” rate.

300. Duhault I also shows that when a user selects one of the video viewing areas for a “preview” function, the updating rate for that viewing area increases to a full-motion or “live” rate. *See, e.g.*, Ex. 1013, Duhault I at 5:45-59. The updating rate of the unselected channels is also changed automatically – a

static image is used for those viewing areas while the “preview” of the selected viewing area is ongoing. *Id.* Finally, when the selected channel is deselected, a slower updating rate will be re-assigned to each of the channel display areas. *Id.*

301. Duhault I thus shows a system that changes the refresh rates of the channel display areas based on a user’s viewing priority. A person of ordinary skill in the art would understand that the scheme in Duhault I uses “priority” values to set updating rates for different video viewing areas; namely, a high priority assigned by a “preview” selection causes a high update rate, and a low priority for the remaining video viewing areas causes a low update rate.

302. MSIE Kit explains that in the Active Desktop system, the information source of a desktop item can be video. A person of ordinary skill would thus recognize that the video prioritization scheme shown in Duhault I would be useful to an Active Desktop implementation displaying multiple video feeds in desktop items, as described in MSIE Kit.

303. The person of ordinary skill also would recognize the Duhault I scheme would be compatible with the MSIE Kit Active Desktop scheme. For example, the MSIE Kit scheme could be modified to use the video tuners of the Duhault I systems to provide video to desktop items. Then, the rate at which the video was sampled and presented to each desktop item would depend on whether a desktop item was selected. The refresh rate of the desktop items would be

assigned using the priority value (selected or unselected) of the desktop items, as described in Duhault I.

304. A person of ordinary skill would thus have considered MSIE Kit in conjunction with Duhault I, and from that would have considered it obvious in October 1999 to modify the Active Desktop system to use the Duhault I prioritization scheme for video displays. This would have made obvious the scheme defined by claim 4. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38, 3:30-34, 3:44-46, and FIG. 2; *see also* ¶¶ 186-190.

305. Another example of a network prioritization scheme is shown in Haddock. This patent describes processes for managing multiple streams of information transfer where there are network constraints. *See, e.g.*, Ex. 1024, Haddock at 1:17-2:30. Haddock describes a “flexible, policy-based, mechanism for managing, monitoring, and prioritizing traffic within a network....” Ex. 1024, Haddock at Abstract.

306. Haddock provides examples of schemes for managing network traffic to ensure that high priority traffic is usually sent first but transfer of low priority traffic is still guaranteed at an acceptable minimum transfer rate. Ex. 1024, Haddock at 3:19-30. For example, Haddock describes a scheme where network communications can be classified by attributes that include the network addresses (e.g., URLs) of the devices performing the communication. *Id.* at 5:16-49.

Classified network communications are then assigned relative priority values. *Id.* at 8:36-55 and 9:11-15. Similar to what is described in the '403 patent at 21:37-49 (Ex. 1001), Haddock teaches that lower priority communications may be delayed or canceled. Ex. 1024 at 9:43-57.

307. I believe a person of ordinary skill would have been motivated to integrate the network transfer prioritization schemes shown in Haddock within the Active Desktop environment because both schemes involve systems for retrieving information from multiple sources on a network (*e.g.*, the Internet) using network addresses (*e.g.*, URLs). For example, a typical Active Desktop implementation as illustrated in MSIE Kit would require network communications corresponding to the regular retrieval of updated information that is presented to desktop components. *See generally* Ex. 1007, MSIE Kit at 86-96. Where many desktop items are active and are set for frequent updates, it may be necessary to transfer a large volume of data, or to perform frequent data transfers. This would implicate a need for network prioritization given the limited bandwidth of the network.

308. A person of ordinary skill in the art would recognize that the Active Desktop environment could be easily configured to integrate the network prioritization schemes shown in Haddock. MSIE Kit shows that individual desktop items can be assigned refresh rates, and that this can be done using CDF configuration files. MSIE Kit also explains that the location of information

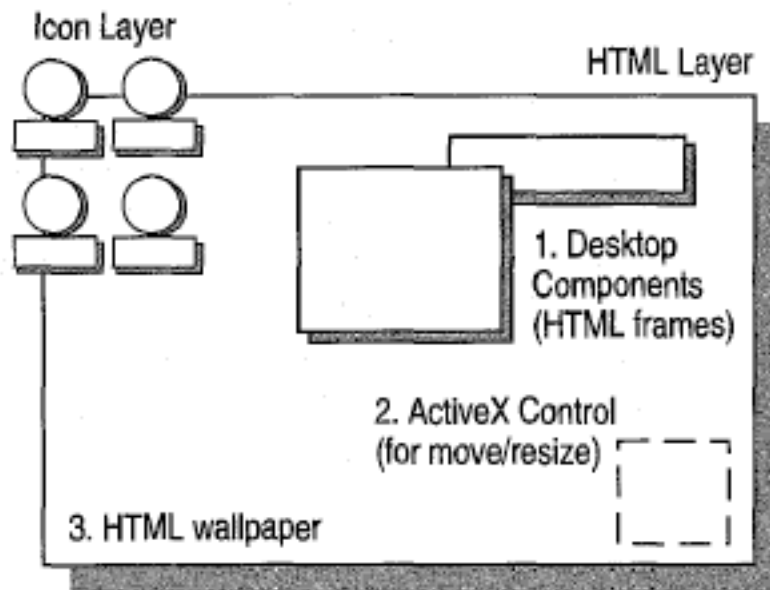
associated with a desktop item is often specified using an URL (which is a network address). It would have been simple and straightforward to assign priority values for each desktop item, and to set refresh rates for retrieval of network information associated with each item depending on its priority. Then, if bandwidth were limited, lower priority communications would be postponed or stalled in favor of higher priority communications, as Haddock proposed.

309. A person of ordinary skill in the art thus would have considered a system that includes assigning a first refresh rate and a second refresh rate in accordance with a first priority value of a first information source associated with said first tile and a second priority value of a second information source associated with said second tile to have been obvious based on MSIE Kit in view of Haddock. *See, e.g.*, Ex. 1024, Haddock at Abstract, 1:17-2:30, 3:19-30, 5:16-49, 8:36-55, 9:11-15, 21:37-49, 9:43-57; *see also* ¶¶ 186-190.

5. Claim 5

310. MSIE Kit shows that in the Active Desktop environment, a user can attributed a selected or unselected state to desktop items. For example, Active Desktop enables a user to select and move a desktop item from one location on the screen to another location. *See, e.g.*, Ex. 1007, MSIE Kit at 175 (“An ActiveX control that enables moving and resizing of the Active Desktop items and also helps manage the list of items.”); *see also* p. 176 (showing figure with ActiveX

controls for moving/resizing desktop items). Similarly, a user can select a link in a desktop item to open an Internet Explorer window that displays the content being displayed in the desktop item. See, e.g., Ex. 1007 at 183. Either action would involve a “selection” of the active desktop item.



311. A person of ordinary skill in the art would have considered the guidance in MSIE Kit in conjunction with the guidance about selection-based prioritization schemes shown in Duhault I. Duhault I, in particular, shows how to use the selected or unselected status of a channel display area on a display to determine whether to display video at a “live” refresh rate or at a slower refresh rate, and to automatically change the refresh rate of those display areas when they are selected or unselected. See, e.g., Ex. 1013, Duhault I at 4:26-38.

312. A person of ordinary skill would have considered the guidance in Duhault I in conjunction with Active Desktop implementations shown in MSIE Kit that use desktop items associated with video. From that, it would have been obvious in October of 1999 to change refresh rates of a desktop item associated with a video feed when it was selected or unselected based on the guidance in Duhault I, given that selecting a desktop item would be functionally equivalent to selecting a channel display area in the Duhault I scheme.

313. A person of ordinary skill also would also recognize the value of using the Duhault I scheme in Active Desktop settings where video was associated with a desktop item. In October of 1999, bandwidth concerns would have existed that would have led one to consider prioritization schemes for data intensive settings, such as live video being delivered in several desktop items in an Active Desktop.

314. Accordingly, a person of ordinary skill in the art would have considered it obvious to assign a refresh rate for an Active Desktop item associated with video based on whether that desktop item were selected or unselected based on the guidance in Duhault I. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38; *see also* ¶ 191.

315. For similar reasons, a person of ordinary skill in the art would have found it obvious to combine MSIE Kit with Duhault II because both references are

again directed towards solving the same problem – display of multiple video feeds in a desktop item or panel on a display. As I explain below, (¶ 727) Duhault II shows that the refresh rate of an unselected video image will be reduced when another video image is selected. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2. Duhault II shows the rate will remain above static, which is made possible by use of a second tuner, but will also be different than the “live” rate shown for the selected tile.

316. Accordingly, a person of ordinary skill in the art would have considered it obvious to assign refresh rates of individual desktop items associated with video feeds in the Active Desktop environment shown in MSIE Kit based on the guidance in Duhault II. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2; *see also* ¶ 191.

6. Claim 6

317. MSIE Kit shows that different desktop items can have distinct refresh rates. For example, MSIE Kit shows an example with three different desktop items, one configured to update every 15 minutes, another once a day, and a third once a week. *See, e.g.*, Ex. 1007, MSIE Kit at 177. MSIE Kit thus shows methods where the first and second refresh rates associated with a first and second “tile” or desktop item are different.

7. Claim 7

318. MSIE Kit explains that a user may specify the refresh rate for each desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 176 and 188. MSIE Kit thus shows methods where at least one of the refresh rates associated with multiple “tiles” is “specified by a user.”

8. Claim 8

319. MSIE Kit explains that, by default, desktop items are presented in 3 x 2 grid in an Active Desktop. *See, e.g.*, Ex. 1007, MSIE Kit at 183 (“By default, Internet Explorer lays out new Active Desktop items on a 3 by 2 grid.”). MSIE Kit thus shows methods where an “array comprises more than one row and more than one column.”

9. Claim 11

320. MSIE Kit shows that content publishers may define a refresh rate for a desktop item using a CDF file. *See, e.g.*, Ex. 1007, MSIE Kit at 188, 223. This will cause the desktop item to be given that refresh rate without any additional user input when the desktop item associated by the CDF is added to the Active Desktop. The refresh rate of the desktop item, from the user’s perspective, is thus automatically set. Also, MSIE Kit explains that a publisher may allow or not allow changes to attributes of a desktop item set in a CDF file. *See, e.g.*, Ex. 1007,

MSIE Kit at 181. MSIE Kit thus shows a method where the refresh rate of a first desktop item is assigned automatically. *See* ¶¶ 194-197.

10. Claim 12

321. MSIE Kit explains that, by default, desktop items in the Active Desktop will be displayed on a 3x2 grid. *See, e.g.*, MSIE Kit at 183 (“By default, Internet Explorer lays out new Active Desktop items on a 3 by 2 grid.”). In this default configuration, the MSIE Kit’s desktop items are placed in fixed positions within a regular grid. MSIE Kit thus shows a method which presents desktop items in an array in the form of a grid, and where each of the tiles occupies a fixed position within that grid. *See* ¶¶ 198-200 and 201-206.

11. Claim 14

322. MSIE Kit shows that Active Desktop uses the Internet Explorer web-browser software to display desktop items. *See, e.g.*, Ex. 1007, MSIE Kit at 144-45, 174, 175-176. In particular, MSIE Kit shows that when the Active Desktop interface is used, it replaces the user’s desktop management software by presenting a layer (the “desktop.htm” file) containing desktop items that is displayed using the Internet Explorer web-browser software. *Id.* at 175-176. Desktop items are displayed using Internet Explorer, a web browser. *See, e.g.*, Ex. 1007, MSIE Kit at 144-45. MSIE Kit thus shows a process where an “array is displayed in a web-browser” as specified in claim 14.

12. Claim 15

323. MSIE Kit shows that Internet Explorer settings for a user are stored in a “user profile” (e.g., the user.dat file). It also explains that “If a network is used, profiles can roam. This means the user’s copy of User.dat is stored on central server and downloaded to any workstation the user logs on to. This way users can see the same environment no matter what workstation they use. It also allows administrators central control over individual user settings.” Ex. 1007, MSIE at 50.

324. MSIE Kit explains that Active Desktop is implemented using Internet Explorer. See, e.g., Ex. 1007, MSIE Kit at 174. This means that a user’s Active Desktop configuration – including a users’ array of desktop items and settings applicable to those items – was stored within the user’s Internet Explorer user profile, which could reside locally on computer’s hard drive, or on a network server in a roaming profile environment. *Id.* at 50, 52. This is reflected in the descriptions in MSIE Kit. For example, on page 52, MSIE Kit shows Active Desktop elements being stored in the root structure of a profile (“Channels”), and observes that “If the Active Desktop is part of a corporate installation, this can be left on” (i.e., the user’s desktop and document folder profile settings can be retained in the profile.) See Ex. 1007, MSIE Kit at 52. MSIE Kit, thus, shows a

process that comprises storing an “array of tiles on a second device” as specified in claim 15. See ¶¶ 207-208.

13. Claim 16

325. MSIE Kit shows that a user can retrieve a roaming profile containing the user’s Internet Explorer profile from a network server. See, e.g., MSIE Kit at 50, 52. Internet Explorer uses roaming profiles to store a users’ configuration of desktop items and the retrieved content for a desktop item. *Id.* When users log on, Internet Explorer retrieves the stored tile content and configuration from the network server. See, e.g., Ex. 1007, MSIE Kit at 50, 52. MSIE Kit thus shows a process where an “array of tiles is retrieved from a second device.” See ¶¶ 209-210.

14. Claim 17

326. Claim 17 specifies that the device on which the method is deployed is a “mobile phone.” There is no description in the ’403 patent of any particular operating system or example for implementing a tiled interface that will update based on retrieved on a mobile phone.

327. In October of 1999, a number of mobile phones had been described that had the ability to retrieve information over a cellular network, and display that information or a summary of it on a mobile phone display. In addition, mobile phones that used tiled user interfaces also were well known. Examples of these are

described in the following patents: Ex. 1032, US 6,430,405 (disclosing a mobile phone with a tiled user interface in FIG. 6C) , Ex. 1033, US 6,047,197 (disclosing a cellular phone with a tiled user interface in FIG. 2); Ex. 1034, US 6,418,309 (disclosing a handheld device with a tiled user interface in FIG. 4); and Ex. 1050, EP 0651544 (disclosing a cellular phone with a tiled user interface in FIG. 4). I understand that each of these patents is prior art under 35 U.S.C. §102(e) because each was filed before October of 1999.

328. In addition, Jambhekar describes a radio communication device (a mobile phone) having a touch screen display which can display information from different information sources such as telephone, e-mail, fax, short messaging service or other services. *See, e.g.*, Ex. 1031, Jambhekar at 1:11-24 and 2:19-24.

329. Jambhekar shows use of “functional icons” on the mobile phone display to present updated information to a user regarding incoming/outgoing emails and incoming/outgoing faxes. *See* Ex. 1031, Jambhekar at 2:19-24. For example, a functional icon would show how many incoming/outgoing emails or faxes the mobile phone received/transmitted. *Id.* The functional icons shown in Jambhekar tiles are periodically updated in order for the phone to show the correct number of incoming/outgoing emails and faxes to the user. *Id.*

330. A person of ordinary skill in the art would have recognized that updating functional icons in Jambhekar involves a process similar to the updating

of desktop items in the MSIE Kit Active Desktop scheme. For example, both simultaneously show in portions of the display information retrieved from multiple information sources to provide a more efficient user interface. *See, e.g.*, Ex. 1031, Jambhekar at Abstract.

331. Due to the small size of the display, and limits on the amount of data that can be retrieved and displayed, a person of ordinary skill would have been motivated to use a “tiled” information interface on a mobile phone based on the guidance in Jambhekar. For example, Jambhekar points out that there was “increasing pressure in the marketplace to provide multi-functional radio communication devices that offer more than one of the typical radio communication services mentioned above.” *See, e.g.*, Ex. 1031, Jambhekar at 1:21-24. Jambhekar also explains that its mobile phone displays can provide a more efficient user interface. *See* Ex. 1031, Jambhekar at Abstract.

332. A person ordinary skill in the art would have considered MSIE Kit relevant to the mobile phones shown in Jambhekar, as both are directed to retrieving information and using it to update “tiles” on a display. *See, e.g.*, Ex. 1031, Jambhekar at Abstract, 1:11-24 and 2:19-24, FIG. 6C.

333. For example, FIG. 6C of Jambhekar illustrates how information from multiple information sources, *e.g.*, mail server and fax, can be simultaneously displayed on a mobile device display. *See, e.g.*, Ex. 1031, Jambhekar at FIG. 6C.

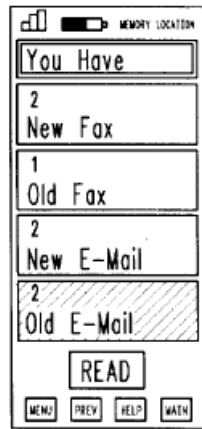


FIG. 6C

Jambhekar at FIG. 6C.

334. In this example, information regarding incoming/outgoing emails and incoming/outgoing fax are being displayed in an array of tiles. *Id.* Jambhekar thus shows “tiles” being periodically updated in order for the phone to show the correct number of incoming/outgoing emails and faxes to the user.

335. Thus, a person of ordinary skill would have considered it obvious, in October of 1999, to implement the processes defined in claim 1 on a mobile phone based on the guidance in MSIE Kit and Jambhekar.

336. Farber also shows a mobile phone with a real time display of multiple information sources in its display. Specifically, Farber shows “screen phones” that display information from multiple information sources. *See, e.g.*, Ex. 1016, Farber at 1:8-19 and 2:38-57.

337. The screen phones provide an “at-a-glance” screen that can display updated information from a variety of information sources, *e.g.*, weather, traffic,

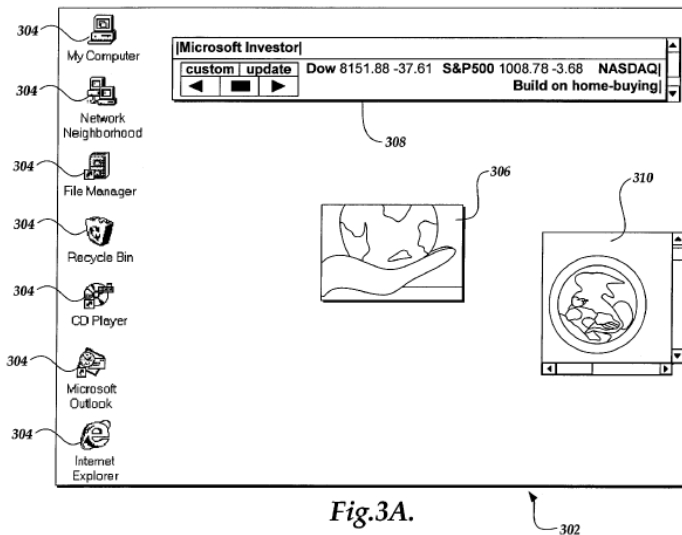
news, and financial information, at the same time. *See, e.g.*, Ex. 1016, Farber at FIG. 4 and 6:41-65. Farber explains that information from multiple information sources are displayed in an array or rectangular display “areas.” The arrangement of display areas is illustrated in Figure 4 of Farber. *Id.* In addition, Farber explains each rectangular display area is associated with an information source, and that users can specify time intervals at which the display areas will be updated. Ex. 1016, Farber at Abstract and 2:38-57.

338. The Farber screen phones function in an analogous way to the Active Desktop scheme described in MSIE Kit. For example, each involves dividing the display in a series of rectangular regions and updating on a periodic basis these rectangular regions. Both Farber and MSIE Kit point to the efficiencies of doing this – providing real time updated information on a display without the need for specific user actions. These similarities would let a person of ordinary skill to believe the Active Desktop functionality described in MSIE Kit could be implemented on the mobile phones described in Farber. Accordingly, a person of ordinary skill in the art would have considered it to have been obvious in October of 1999 to implement the processes defined by claim 1 on a mobile phone based on MSIE Kit in view of Farber.

339. Brown describes methods and systems for creating “active desktop components.” *See, e.g.*, Ex. 1030, Brown at 7:21-41. The subject matter of

Brown is closely related to the Microsoft's Active Desktop functionality described in MSIE Kit. *See, e.g.*, Ex. 1030, Brown at FIG. 4.

340. Brown explains that active desktop components are small user interface elements, typically without window decoration such as title or toolbars, that can provide regularly updated information. *See, e.g.*, Ex. 1030, Brown at FIG. 3A.



341. Brown also explains that active desktop components are rectangular user interface elements that can be resized and repositioned by the user as desired. *See, e.g.*, Ex. 1030, Brown at FIG. 3A and 7:21-41.

342. Brown explains that users can add active desktop components to the composite desktop by supplying the URL (address) of the information source that the user wishes to associate with the component. *See, e.g.*, Ex. 1030, Brown at

3:25-30 and 11:1-15. The Brown scheme uses that information to create the desktop component which it then adds to the composite desktop. *Id.*

343. Brown shows that each active desktop component regularly retrieves new data from its associated information source and regularly updates its display accordingly. *See, e.g.*, Ex. 1030, Brown at 3:40-43. Brown also explains that CDF files can be used to specify “subscriptions” which further detail how desktop components are regularly updated. *See, e.g.*, Ex. 1030, Brown at 13:1-8.

344. Brown explains that the Active Desktop scheme can be implemented on hand-held devices. As it states:

Moreover, those skilled in the art will appreciate that the invention may be practiced with other computer system configurations, including hand-held devices, multiprocessor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, and the like. The invention may also be practiced in distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. In a distributed computing environment, program modules may be located in both local and remote memory storage devices. (emphasis added). Ex. 1030, Brown at 4:44-54.

345. This description in Brown would tell a person of ordinary skill that a mobile phone is a type of device onto which the Active Desktop functionality can be implemented because a mobile phone is one of a very small number of hand-held devices that were known at that time. The other types of devices that would have been considered handheld devices in October 1999 were personal digital

assistants and two-way pagers. *See, e.g.*, Ex. 1078 (April 11, 1997 submission to W3C, organization that standardized HTML, and submitted by a group that included AT&T, Alcatel, Unwired Planet, and Sun, regarding the Handheld Device Markup language “handheld devices such as cellular phones, pagers, and wireless PDA's.”); Ex. 1079 (May 9, 1997 Handheld Device Markup Language document “handheld devices such as mobile phones and PDAs.”); Ex. 1080 (April 11, 1997 Handheld Device Markup Language document “Examples include mobile phones and two-way pagers.”); Ex. 1081 (May 7, 1997 article on Handheld Device Transport Protocol providing mobile phones and pagers as examples of handheld devices). And it can function as a remote processing device over a cellular network, which is a communications network. Brown therefore provides a specific suggestion to implement the Active Desktop scheme on a mobile phone.

346. MSIE Kit describes processes that meet all the requirements of the processes defined in claim 1 of the '403 patent. The specific suggestion in Brown to implement Active Desktop on hand-held devices that include mobile phones, provides a direct motivation to a person of ordinary skill to implement these processes on a mobile phone. Accordingly, a person of ordinary skill in the art would have considered claim 17 to have been obvious based on MSIE Kit in view of Brown. *See e.g.*, Ex. 1030, Brown at Fig. 4 and 4:44-49.

15. Claim 19

347. MSIE Kit shows the use of computers, including personal computers, to run Active Desktop. MSIE Kit thus shows the requirement of claim 19 that the device “is a computer.” *See, e.g.*, Ex. 1007, MSIE Kit at xv and 4.

16. Claim 20

348. Claim 20 specifies the process of claim 1 is to be run on “a personal digital assistant.” If it is determined that MSIE Kit does not explicitly describe this implementation, I believe a person of ordinary skill in the art would have found it to have been an obvious variation of the schemes disclosed in MSIE Kit in October of 1999.

349. For example, Brown explains that the Active Desktop functionality of Internet Explorer can be implemented on a “hand-held” device. *See* ¶¶ 339 - 344. *See also e.g.*, Ex. 1030, Brown at Fig. 4; 4:44-49. A person of ordinary skill, after reviewing MSIE Kit with Brown, would have concluded it would have been obvious in October of 1999 to implement the process of claim 1 on a personal digital assistant, which is a type of hand-held device suggested by Brown. *See, e.g.*, Ex. 1078 (April 11, 1997 submission to W3C, organization that standardized HTML, and submitted by a group that included AT&T, Alcatel, Unwired Planet, and Sun, regarding the Handheld Device Markup language “handheld devices such as cellular phones, pagers, and wireless PDA's.”); Ex. 1079 (May 9, 1997

Handheld Device Markup Language document “handheld devices such as mobile phones and PDAs.”).

350. Similarly, Farber describes systems for displaying information from multiple information sources on devices including personal digital assistants. *See, e.g.*, Ex. 1016, Farber at 1:8-11 and 2:38-57. The Farber schemes are analogous in their functionality to the MSIE Kit systems. *See* ¶¶ 336 - 338. Accordingly, a person of ordinary skill in the art would have considered it obvious based on MSIE Kit in view of Farber to implement the process of claim 1 on a personal digital assistant in October of 1999.

351. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over MSIE Kit in view of Brown. *See, e.g.*, Ex. 1030, Brown at Fig. 4 and 4:44-49.

17. Claim 21

352. MSIE Kit explains that the information sources that Internet Explorer associates with desktop items can be text, a world-wide-web page, an audio signal, and a video signal. *See, e.g.*, Ex. 1007, MSIE Kit xxx (graphics), 174 (world-wide web page and graphics), 177 (text), 213 (text), 419-20 (audio signal and video signal). MSIE Kit also explains that desktop items can be linked to distinct information sources. MSIE Kit thus shows that the process of claim 1 can be implemented to use at least two information sources selected from the group

consisting of: analog signal; video signal; audio signal; text; an e-mail program; a world-wide-web page; streaming video; streaming audio; and graphics” as specified in claim 21.

18. Claim 22

353. Claim 22 refers to an “electronic readable memory to direct an electronic device to function in a specified manner” and then refers to sets of “instructions” that perform different functions. See Ex. 1001, ’403 patent at claim 22.

354. When a general-purpose computer is configured with software to perform specified functions, it executes instructions stored in the computer’s memory. This means that a description of a computer running software and performing certain functions is describing to a person of ordinary skill “a memory” that contains “instructions” that direct the computer to perform specified functions.

355. I previously explained a number of features of the Active Desktop functionality described in MSIE Kit. See ¶¶ 243 - 265. The personal computers described in MSIE Kit have electronic readable memory that stores instructions that direct those computers to run the various functions I discuss below. *See, e.g.*, Ex. 1007, MSIE Kit at xv and 4.

356. MSIE Kit explains that Active Desktop uses Internet Explorer to retrieve and display information. *See, e.g.*, Ex. 1007, MSIE Kit at 143-145, 174.

This means that a desktop item in Active Desktop can use as an information source any type of graphic, audio, video, web site, Java applet, ActiveX, or HTML file that Internet Explorer could handle. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 174, 180, 419-20, 177 and 183.

357. MSIE Kit explains that each desktop item will be associated with a particular information source. *Id.* at 176. *See also* ¶¶ 245 - 253.

358. MSIE Kit shows that multiple desktop items will typically be displayed on the Active Desktop. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 177, 183. For example, the default display for the Active Desktop places six desktop items on the display in a 3 x 2 grid. *See, e.g.*, Ex. 1007, MSIE Kit at 183.

359. MSIE Kit shows that a computer running Internet Explorer can communicate with multiple information sources simultaneously. Ex. 1007, MSIE Kit at xxx, 175-176, 229-232.

360. MSIE Kit thus shows “a first set of instructions to control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

361. MSIE Kit explains that desktop items are ordinarily borderless rectangular frames placed on the user’s display. *See, e.g.*, Ex. 1007, MSIE Kit at 176-177. *See also* ¶¶ 254-257. Desktop items are “typically designed to provide

summary information in a small amount of screen space.” Ex. 1007, MSIE Kit at 213. They typically will not contain navigational controls. *Id.* at 183.

362. MSIE Kit also explains that “[b]y default, Internet Explorer lays out new Active Desktop items on a 3 by 2 grid.” *See, e.g.*, Ex. 1007, MSIE Kit at 183. MSIE Kit explains a user can change this default layout, add or delete desktop items, or move desktop items to other locations on the Active Desktop. *Id.* *See* also ¶¶ 257-258. Also, when a desktop item is added, it is placed onto a grid region. *See, e.g.*, Ex. 1007, MSIE Kit at 183.

363. Each desktop item is a “tile” as that term is used in the ’403 patent. *See* ¶¶ 128 - 143. MSIE Kit, thus, shows “a second set of instructions to arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

364. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source,” Active Desktop allows users to interact with content displayed in a desktop item – when the user clicked on the desktop item, it could launch a web browser to retrieve the full and current content of the information source linked to the desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 177 and 183. MSIE Kit thus shows that desktop items (“tiles”) are “selectable to provide access to underlying information of the associated information source....”

365. MSIE Kit shows that each desktop item is associated with an information source. *See* Ex. 1007, MSIE Kit at 180, 183. *See also* ¶¶ 245- 253. Specifically, each desktop item can be linked to a specific graphic, URL, HTML file, Java applet, ActiveX control, VBScript, ECMA Script or Active Server Page. *See, e.g.*, Ex. 1007, MSIE Kit at 174, 176-177, 180, 213. *See also* ¶¶ 246 - 254.

366. MSIE Kit also explains a typical Active Desktop will contain multiple desktop items, each linked to an information source. *See, e.g.*, Ex. 1007, MSIE Kit at 183.

367. MSIE Kit thus shows “a third set of instructions to associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

368. MSIE Kit explains that a computer running Active Desktop will retrieve information from the information source associated with each desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 180, 223, 188, xxx, 176, 177, 183, 201-202.

369. MSIE Kit shows that the rate at which information is retrieved for each desktop item will be based on a refresh rate value assigned to each desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 176, 177, 180, 183.

370. For desktop items created via a CDF file, the refresh rate will be assigned as a default value from the CDF file, which will automatically be applied

to the desktop item when it is added. *See, e.g.*, Ex. 1007, MSIE Kit at 223. *See* also ¶¶ 259 - 265.

371. MSIE Kit shows that users can accept or override a default value for the refresh rate of a desktop item, unless the publisher has restricted this capability. *See, e.g.*, Ex. 1007, MSIE Kit at 188; *Id.* at 235-238.

372. For user-created desktop items, Internet Explorer retrieves information at the refresh rate chosen by the user. *See, e.g.*, Ex. 1007, MSIE Kit at 188.

373. MSIE Kit thus shows instructions to “retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate...” *See* ¶¶ 168-172 and 176-180.

374. MSIE Kit shows that Internet Explorer will update desktop items when information has been retrieved under the schedule set for retrieval for each desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 175, 176, 177, 180, 223.

375. MSIE Kit thus shows “a fifth set of instructions to present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” *See* ¶¶ 168-172.

376. MSIE Kit thus shows every element of claim 22.

19. Claim 25

377. Claim 25 would have been obvious over MSIE Kit in view of Jambhekar, MSIE Kit in view of Farber, or MSIE Kit in view of Brown for the same reasons I provided above for claim 17.

20. Claim 27

378. MSIE Kit shows the elements of claim 27 for the same reasons I provided above for claim 19.

21. Claim 28

379. Claim 28 would have been obvious over MSIE Kit in view of Farber, or MSIE Kit in view of Brown for the same reasons I provided above for claim 20.

22. Claim 30

380. MSIE Kit shows the elements of claim 30 for the same reasons I provided above for claim 3.

23. Claim 31

381. The only place the words “priority scheme” appear in the ‘403 patent is in claim 31. The ‘403 specification, thus, does not identify what a “priority scheme” is or how it should be connected to refresh rates.

382. The ‘403 patent claims do not explain what the connection is between a “priority scheme” and a retrieval rate – it just says the retrieval rate is assigned “in accordance with” a priority scheme.

383. The language in claim 31, “assign [a] first retrieval rate and [] second retrieval rate in accordance with a predetermined priority scheme,” is thus vague and hard to decipher.

384. I believe person of ordinary skill in the art would have considered assigning refresh rates based on some form of a prioritization scheme to have been an obvious variation of the schemes described in MSIE Kit. Prioritization would be logical for any of a number of reasons, including network bandwidth, resource management on the user’s computer or even user capacity to consume the information being delivered.

385. For example, I previously explained why refresh rates of different desktop items based on a prioritization scheme or values would have been obvious based on MSIE Kit when that was considered in view of Haddock. See ¶¶ 298 - 309. For the same reasons, I believe a person of ordinary skill would have considered instructions that “assign [a] first retrieval rate and [] second retrieval rate in accordance with a predetermined priority scheme” as specified in claim 31 to have been obvious based on MSIE Kit in view of Haddock.

386. I also previously explained why refresh rates of different desktop items based on a prioritization scheme or values would have been obvious based on MSIE Kit when that was considered in view of Duhault I. See ¶¶ 298-304, above. For the same reasons, I believe a person of ordinary skill would have

considered instructions that “assign [a] first retrieval rate and [] second retrieval rate in accordance with a predetermined priority scheme” as specified in claim 31 to have been obvious based on MSIE Kit in view of Duhault I.

24. Claim 32

387. MSIE Kit shows the elements of claim 32 for the same reasons I provided above for claim 5. Claim 32 would have been obvious over MSIE Kit in view of Duhault I or MSIE Kit in view of Duhault II for the same reasons I provided above for claim 5.

25. Claim 34

388. MSIE Kit shows that a desktop item associated with a source containing text, such as a website, will retrieve and display text from that information source. *See, e.g.*, Ex. 1007, MSIE Kit at 177, 213. In addition, MSIE Kit shows that a user that selects a link, for example, in a desktop item can trigger actions, such as launching a web browser to display the information associated with that link. *See, e.g.*, Ex. 1007, MSIE Kit at 183.

389. MSIE Kit, thus, shows “instructions to deliver selected textual content from said first information source to said first tile” as specified in claim 34.

26. Claim 37

390. MSIE Kit shows that a desktop item can be associated with a network document, such as an Internet web page specified by an URL or a file specified by

a network file path. *See, e.g.*, Ex. 1007, MSIE Kit at 180-181. The association of the URL with the desktop item will cause the information in the network document to be delivered to the desktop item.

391. MSIE Kit, thus, shows instructions that “deliver information from a network document to a selected tile of said array of tiles” as specified in claim 37. *See* ¶¶ 213-215.

27. Claim 38

392. MSIE Kit shows that a desktop item can be associated with an Internet web page specified by an URL. *See, e.g.*, Ex. 1007, MSIE Kit at 180-181. The association of the URL with the desktop item will cause the information in the web page to be delivered to the desktop item.

393. MSIE Kit, thus, shows instructions that “deliver a web page to a selected tile of said array of tiles” as specified in claim 38.

28. Claim 39

394. MSIE Kit shows the elements of claim 39 for the same reasons I provided above for claim 6. For example, the refresh rate of MSIE Kit is also a retrieval rate as required by claim 39.

29. Claim 40

395. MSIE Kit shows the elements of claim 40 for the same reasons I provided above for claim 8.

30. Claim 43

396. MSIE Kit shows the elements of claim 43 for the same reasons I provided above for claim 11. For example, MSIE Kit shows that the default refresh rate defined in CDF files is also a retrieval rate as required by claim 43.

31. Claim 44

397. MSIE Kit shows the elements of claim 44 for the same reasons I provided above for claim 15.

32. Claim 45

398. MSIE Kit shows the elements of claim 45 for the same reasons I provided above for claim 16.

33. Claim 46

399. MSIE Kit describes the Active Desktop interface available to computers running Windows and Internet Explorer 4, which is a “system for facilitating the organization and management of multiple data sources.” *See, e.g.*, Ex. 1007, MSIE Kit at 174.

400. MSIE Kit also explains that the Active Desktop interface typically is deployed on a personal computer running the Windows operating system and Internet Explorer 4, which is “a device that includes a processor configured to execute instructions, a memory connected to said processor to store at least one program that includes a graphical user interface, and an input device.” *See, e.g.*,

Ex. 1007, MSIE Kit at xv, 4, 174. MSIE Kit also specifies the processor, memory, and hard drive capabilities required to perform the described operations including executing the graphical user interface of Internet Explorer. *See, e.g.*, Ex. 1007, MSIE Kit at 4.

401. MSIE Kit explains that Active Desktop uses Internet Explorer to retrieve and display information. *See, e.g.*, Ex. 1007, MSIE Kit at 143-145, 174. This means that a desktop item in Active Desktop can use as an information source any type of graphic, audio, video, web site, Java applet, ActiveX, or HTML file that Internet Explorer could handle. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 174, 180, 419-20, 177 and 183.

402. MSIE Kit explains that each desktop item will be associated with a particular information source. *Id.* at 176. *See also* ¶¶ 245 - 253. MSIE Kit shows that multiple desktop items will typically be displayed on the Active Desktop. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 177, 183. For example, the default display for the Active Desktop places six desktop items on the display in a 3 x 2 grid. *See, e.g.*, Ex. 1007, MSIE Kit at 183.

403. MSIE Kit shows that a computer running Internet Explorer can communicate with multiple information sources simultaneously. Ex. 1007, MSIE Kit at xxx, 175-176, 229-232. MSIE Kit shows that Internet Explorer will simultaneously display multiple desktop items, updating each at its assigned

refresh rate. *See, e.g.*, Ex. 1007, MSIE Kit at xxx, 177, 183. The updates for two or more desktop items, by this design, can occur at the same time. In addition, two or more desktop items, such as those defined by a CDF, can be assigned the same refresh value, which will be applied when those desktop items are added to the Active Desktop. MSIE Kit thus shows “control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

404. MSIE Kit shows that desktop items are arranged into an array on the Active Desktop interface. *See, e.g.*, Ex. 1007, MSIE Kit at 183 (“By default, Internet Explorer lays out new Active Desktop items on a 3 by 2 grid.”). Each desktop item is a “tile” as that term is used in the ’403 patent. *See* ¶¶ 128 - 143. A grid is a type of array. MSIE Kit, thus, shows “arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

405. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source,” Active Desktop allows users to interact with content displayed in a desktop item – when the user clicked on the desktop item, it could launch a web browser to retrieve the full and current content of the information source linked to the desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 177 and 183. MSIE Kit thus shows that desktop items (“tiles”) are “selectable to provide access to underlying information of the associated information source....”

406. MSIE Kit shows that each desktop item is associated with a particular information source, and that typically more than one desktop item is added to the Active Desktop by a user. See Ex. 1007, MSIE Kit at 174, 176, 180, 183. See also ¶¶ 245 - 253. MSIE Kit, thus, shows associating “a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” See ¶¶ 152-154.

407. MSIE Kit shows that desktop items will retrieve and display updated information on a defined basis, and that each desktop item will be individually configured. See, e.g., Ex. 1007, MSIE Kit at 177, 183. MSIE Kit also explains that, using a CDF file, the refresh rates for desktop items can be assigned a default value, which will remain in effect until a user overrides it manually. See, e.g., Ex. 1007, MSIE Kit at 176, 177, 183, 201. MSIE Kit thus shows retrieving “information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” See ¶¶ 168-172 and 176-180.

408. MSIE Kit also shows that retrieved information will be displayed on the Active Desktop location of a desktop item after it has been retrieved. See MSIE Kit at 174, 176, 180, 183. See also ¶¶ 245 - 253. MSIE Kit thus shows presenting “information to said first tile in accordance with said first retrieval rate

and present information to said second tile in accordance with said second retrieval rate.” See ¶¶ 168-172.

409. MSIE Kit, thus, shows systems that meet every one of the requirements of claim 46 of the ’403 patent.

34. Claim 47

410. MSIE Kit shows the elements of claim 47 for the same reasons I provided above for claim 8.

35. Claim 50

411. MSIE Kit shows the elements of claim 50 for the same reasons I provided above for claims 11 and 43.

36. Claim 51

412. MSIE Kit shows the elements of claim 51 for the same reasons I provided above for claim 15.

37. Claim 52

413. MSIE Kit shows the elements of claim 52 for the same reasons I provided above for claim 16.

C. U.S. Patent Number 6,832,355 (“Duperrouzel”)

414. U.S. Patent Number 6,832,355 (“Duperrouzel”) has a filing date of July 28, 1998. I understand that Duperrouzel is prior art to the ’403 patent under at

least § 102(e) because it was filed before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

415. Duperrouzel describes systems that simultaneously display multiple information sources in distinct, non-overlapping areas on a display. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 2:4-11, 3:31-34, 4:46-51, 4:58-60, and FIG. 2.

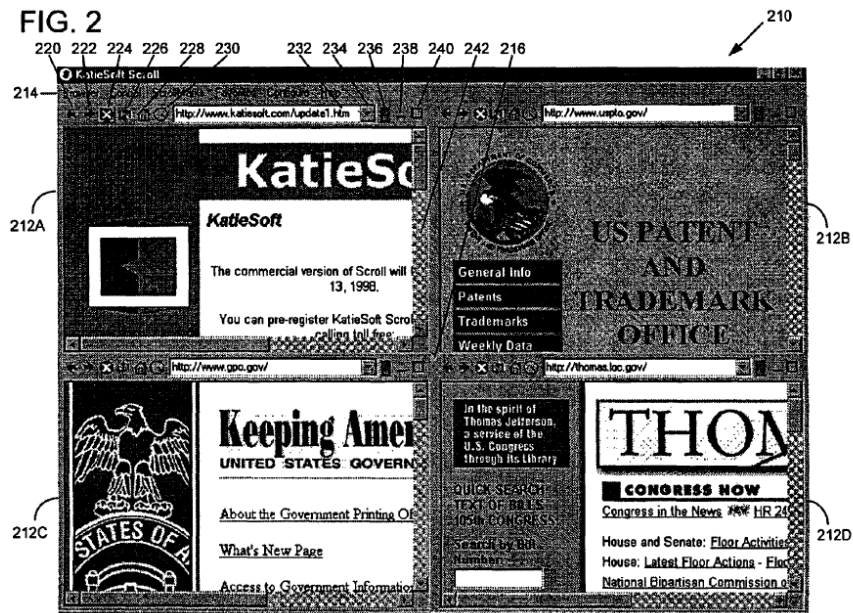
416. For example, Duperrouzel states at 2:4-6:

The display system further includes a display having display controls and a plurality of non-overlapping display areas having adjustable sizes. The plurality of non-overlapping display areas have a collective size equal to the sum of the non-overlapping display areas. Each non-overlapping display area has independent display area controls and is configured to independently display a web page received by the computer.

417. Duperrouzel also explains at 4:4-8:

The present invention is directed to a system and method for a web page display system. Multiple web pages are displayed simultaneously with a reduction of time and effort required by the user to position, size, and configure the web pages compared to prior art techniques.

418. Duperrouzel describes using non-overlapping display areas that it calls “display panes.” *See, e.g.*, Ex. 1011, Duperrouzel at 2:4-11, 5:1-2 and FIG. 2.



Ex. 1011, Duperrouzel at FIG. 2.

419. Although FIG. 2 of Duperrouzel shows an example with four display panes, Duperrouzel explains that any number of display panes may be displayed (subject to the limits of the display size). *See, e.g.*, Ex. 1011, Duperrouzel at 12:45-47.

420. Duperrouzel explains that each non-overlapping display area has independent display area controls and can be configured to independently display a web page received by the computer. *See, e.g.*, Ex. 1011, Duperrouzel at 2:9-11; 5:12-20.

421. Duperrouzel also explains that the panes have a variety of display controls that can be configured and which perform different functions. For example, Duperrouzel explains:

The four web page display 210 also includes pop-down menu controls 214 and a sizing control 216. While the controls for each display pane 212 affect only that display pane, the pop-down menu controls 214 are operable to control all four display panes 212 a, 212 b, 212 c, and 212d simultaneously. Certain aspects of the pop-down menu controls 214 can be inactivated in a locked mode so that one or more of display panes 212 are not affected by certain controls of the pop-down menu controls 214.

See, e.g., Ex. 1011, Duperrouzel at 6:46-54.

422. Each display pane also can be individually controlled to refresh the web page currently displayed on the display pane at a rate specified by the user.

See, e.g., Ex. 1011, Duperrouzel at 13:36-42, and FIG. 19.

423. The “plurality” of information sources referred to in Duperrouzel can be different “web sites” that provide many different types of information including “text, graphics, video, sound, and any other format of electronic data.” *See, e.g.,* Ex. 1011, Duperrouzel at Abstract and 1:36-45.

424. Duperrouzel also explains that its systems can be configured with “Start Up” options that include a user-selectable option for designating the number of display panes to be displayed. *See, e.g.,* Ex. 1011, Duperrouzel at 13:22-27.

425. Duperrouzel describes an “Auto Refresh” option that will “include a checkbox to allow autorefresh for each of the display panes ... and a user-selectable option that allows the user to designate how often the currently displayed web page in each individual display pane is downloaded from the web page site to refresh the display.” Ex. 1011, Duperrouzel at 13:36-42. This figure

shows a configuration page for the Duperrouzel system which demonstrates it is possible to designate the same or different refresh rates for each pane. In the example being shown, the same refresh rate is being assigned to all four panes, which is showing a uniform rate being assigned to the four panes.

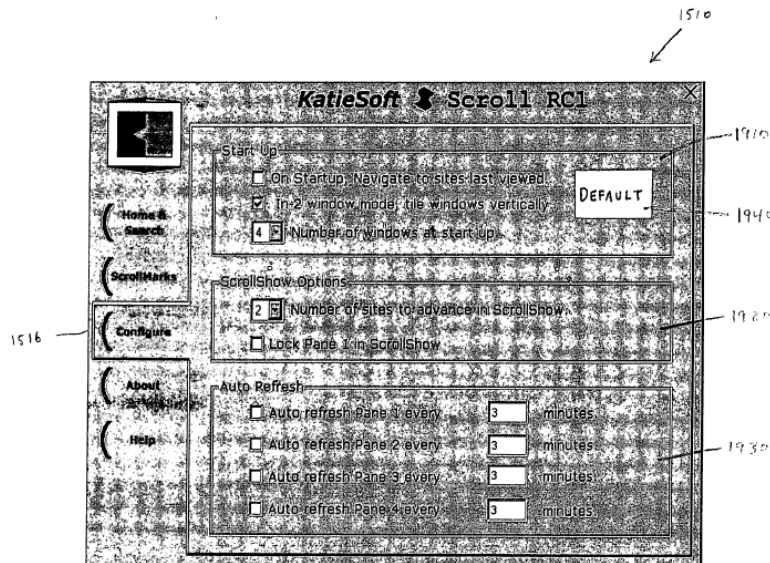


FIG. 19

Ex. 1011, Duperrouzel at FIG. 19; *see also* Ex. 1012, File History of Duperrouzel at FIG. 19.

426. Duperrouzel also explains that it has a “Refresh All” selection. This option causes all active panes on the display to refresh their content at the same time. *See* Ex. 1011, Duperrouzel at 10:8-20. As it explains:

The Refresh All selection 1014 is the same as the refresh control 226 of display pane 212-a shown in FIG. 2 except that the refresh control 226 controls refresh of only the display pane 21.2-a, whereas the Refresh All selection 1014 activates refresh of all the active display panes. For the case of the four web page display 210 of FIG. 10;

activation of the Refresh All selection 214 repeats the download of each of the web pages currently being displayed in the four display panes 212. For the case of the three web page display 510, two web page display 610, and the one web page display 220, the Refresh All selection 1014 operates the same except the number of web pages being refreshed is fewer according to the number of selected display panes.”

427. Duperrouzel shows the refresh rate for each pane can be set individually, or set to be uniform for all panes on the display. See Ex. 1011, Duperrouzel at FIG. 19; Id. at 13:35-42. See ¶ 425.

428. Duperrouzel explains that when its system receives updated information from a web page associated with a panel, it will display that updated information in the panel linked to that web page. Duperrouzel provides an example of how this works at 12:26-38:

For example, Pane 1 shown in FIG. 2 has a URL of “http://www.katiesoft.com/update1.htm.” Given this designation for the default home site of display pane 212a, when a user selects the home control 229 of the individual display pane 212-a shown in FIG. 2, a web page having an address with the URL of “http://www.katiesoft.com/update1.htm” is downloaded into the web page display system and displayed in display pane 212a. If the two web page display 610 is currently being displayed, then Pane 2 would also be used for display pane 212b. If the three web page display 510 is being used, then Panes 1-3 would be used. Finally, if the four web page display 210 is being used, then Panes 1-4 would be used.

429. Duperrouzel also explains that its scheme can be implemented using the Microsoft Active Desktop system. As it explains:

In an alternative embodiment, the web page display is executed in a windows environment such as Microsoft Active Desktop in

conjunction with the Internet Explorer engine which allows the Favorites menu 1210 of the pop-down menu controls 214 to directly display titles and descriptions associated with URLs that are also stored in the Favorites list. A user then has an option of selecting a URL directly from the Favorites menu 1210 or the Favorites list. As part of this alternative embodiment, a user selects a URL directly from the Favorites menu 1210 by positioning a display cursor over a desired URL title or description on the Favorites menu 1210 and then a first single click of the mouse button 120-a of the mouse input device 120 is performed. After the first single click of the mouse button 120-a, the display cursor is displayed as a graphical object different than displayed before performance of the first single click. For example, the display cursor may change from an arrow to an cross-hairs after the first click of the mouse button 120-a. With the mouse input device 120, the user then moves the display cursor (eg. the cross-hairs) into an area of a desired one of the currently active display panes 212 and then performs a second single click of the mouse button 120-a. This initiates download of a desired web page associated with the desired URL and subsequent display of the desired web page in the desired display pane 212. The display cursor is then displayed as it was displayed before the first single click of the mouse button 120-a was performed.

Ex. 1011, Duperrouzel at 11:38-65.

1. Claim 1

430. Duperrouzel shows a computer workstation, including a memory, to perform various operations related to displaying information from several information sources on several display panes on the display. *See, e.g.*, Ex. 1011, Duperrouzel at 4:20-22, 5:25-28 and FIG. 1. Duperrouzel thus shows a “method executed by a device under the control of a program, said device including a memory for storing said program...” in claim 1.

431. Duperrouzel shows that users are allowed to select web pages for display by using the drag-and-drop feature, *i.e.*, to drag the description or title of a web page from the Favorites list into one of the display panels. *See, e.g.*, Ex. 1011, Duperrouzel at 11:1-65, Abstract and 1:36-45.

432. Duperrouzel also shows that the information source can include “text, graphics, video, sound, and any other format of electronic data.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract and 1:36-45.

433. Duperrouzel thus shows “selecting a plurality of information sources” in claim 1. *See* ¶¶ 125-127.

434. As explained in ¶ 418 above, Duperrouzel shows that a visual display can be partitioned into a collection of display areas called “display panes.” *See, e.g.*, Ex. 1011, Duperrouzel at 2:4-11, 5:1-5, FIG. 2, Abstract, 1:36-45, 5:12-20, 6:36-40. Duperrouzel shows a 2 x 2 grid of panes as an example. *See, e.g.*, Duperrouzel at FIG. 2. Duperrouzel also explains that more or less panes can be displayed. *See* ¶ 419.

435. Each display pane is “a display area that frames and provides control for a particular web page being displayed within the display pane.” *See, e.g.*, Ex. 1011, Duperrouzel at 5:2-5.

436. Each display pane in the Duperrouzel scheme can be associated with an information source, *e.g.*, a web page linked to a specific “text, graphics, video,

sound, and any other format of electronic data.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 1:36-45, and 5:12-20. In particular, each display pane can be configured to display each web page, which is associated with the particular display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 5:12-20.

437. Duperrouzel also shows that users can maximize the display pane onto the entire display by activating the maximize control of the particular display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 6:36-40.

438. The panes in Duperrouzel are “tiles” within the meaning of the ’403 patent claims. *See* ¶¶ 128-143. In addition, Duperrouzel shows “partitioning a visual display of the device into an array of tiles, wherein each tile in said array of tiles is associated with an information source in said plurality of information sources” as specified in claim 1. *See* ¶¶ 144-159.

439. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source,” Duperrouzel shows that users can maximize the display pane onto the entire display by activating the maximize control of the particular display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 6:36-40.

440. Claim 1 allows the first and second refresh rates to be the same or different. *See* ¶¶ 163-167.

441. Duperrouzel shows that each display pane can be individually controlled to refresh the web page currently displayed on the display pane at a rate specified by the user. *See, e.g.*, Ex. 1011, Duperrouzel at 13:36-42, and FIG. 19.

442. As explained in ¶ 425, above, Duperrouzel shows an Auto Refresh option, which “include a checkbox to allow autorefresh for each of the display panes ... and a user-selectable option that allows the user to designate how often the currently displayed web page in each individual display pane is downloaded from the web page site to refresh the display.” Ex. 1011, Duperrouzel at 13:36-42.

443. Duperrouzel also explains that it has a “Refresh All” function that will cause all panes to refresh at the same time. *See* ¶ 426.

444. Duperrouzel thus shows “assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles.” *See* ¶¶ 163-167.

445. Duperrouzel shows that a Refresh Control of the display pane downloads and refreshes the web page currently displayed on the each display pane at its assigned refresh rate. *See, e.g.*, Ex. 1011, Duperrouzel at 13:36-42.

446. Duperrouzel also explains that information from a several web pages on the different panes will be displayed concurrently, with each being updated at its assigned refresh rate. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 2:4-11, 3:31-34, 4:46-51, 4:58-60, and 13:36-42.

447. Duperrouzel also shows that the refresh rates of individual panes can be set individually, or that the same refresh rate can be assigned to all active panes. See ¶¶ 422, 425 - 426.

448. Duperrouzel thus shows “updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate and simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.” See ¶¶ 173-175 and 181-183.

449. Duperrouzel thus shows processes that perform all of the steps listed in claim 1.

2. Claim 2

450. Duperrouzel shows that a user can designate the number of display panes. *See, e.g.*, Ex. 1011, Duperrouzel at 13:22-27 and 12:45-47. It also explains that while FIG. 2 shows an example with four display panes in a 2 x 2 grid, Duperrouzel also explains that greater or fewer display panes can be designated for display. *See, e.g.*, Ex. 1011, Duperrouzel at 12:45-47. Duperrouzel also explains that the Start Up options include a user-selectable option for designating the number of display panes. *See, e.g.*, Ex. 1011, Duperrouzel at 13:22-27.

451. Duperrouzel thus shows “partitioning said array of tiles in accordance with a user-defined array size” as specified in claim 2. *See* ¶¶ 160-162.

3. Claim 3

452. Duperrouzel shows that it will partition a display into an array of panes that are presented in a non-overlapping configuration and where each pane has the same size and shape. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 2:4-11, 4:58-60, and FIG. 2. FIG. 2 of Duperrouzel provides an illustration of this where all of the display panes have the same size and shape. The way Duperrouzel shows how it creates the initial display of panes also indicates that it will make the panes have the same size and shape – it simply divides the area of the display by the number of panes to be displayed, and sets the size of each to create a non-overlapping set of panes that fills the entire display. *See, e.g.*, Ex. 1011 at FIG. 2. If it is determined that the display panes in FIG. 2 do not have uniform size and shape in the strictest sense, Duperrouzel’s disclosures suggest that each tile having a uniform size and shape is perfectly sensible. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 2:4-11, 4:58-60, and FIG. 2.

453. Duperrouzel thus shows a process of “partitioning said array of tiles in a non-overlapping configuration wherein each tile of said array of tiles is a uniform size and shape” as specified in claim 3. *See* ¶¶ 184-185.

4. Claim 5

454. Duperrouzel shows that each display pane in its multi-pane display presentation can receive input from the user once the display pane is selected. *See, e.g.,* Ex. 1011, Duperrouzel at FIG. 2.

455. For example, FIG. 2 shows four different web pages being displayed in four display panes. Display pane 212D is shown as having retrieved and displayed information from a web page (<http://thomas.loc.gov>). The field titled “Search by Bill Number” in display pane 212D of FIG. 2 indicates that the display pane can accept user input.

456. A person of ordinary skill in the art would understand that the fourth display pane 212D must necessarily be in a “selected state” before text could be entered into the search field in this pane. This is necessary to ensure the text entered by the user is properly routed to the target field in this display pane. In this example, the other unselected display panes 212A-212C are in an “unselected state.” *See* ¶ 191.

457. If it is found that Duperrouzel does not explicitly describe assigning a selected or unselected state to one or more panes in its scheme, I believe a person of ordinary skill in the art would have considered that step to have been an obvious variation of the schemes disclosed in Duperrouzel in October 1999.

458. For example, it is a basic feature of GUI interfaces such as those described in Duperrouzel to assign a “selected” or “unselected” status to a display element in the GUI incidental to performing an operation on that display element. This provides the user with feedback on the action the user took (e.g., clicking on a pane). Assigning a selected or unselected state to an item in the GUI, thus, is effectively compelled as a feature of how GUIs work, and would be an obvious design choice to a person of ordinary skill.

459. In addition, a person of ordinary skill in the art would have found examples of similar schemes in the prior art that use a selected or unselected status of a display element in connection with the assignment of refresh rates. For example, Duhault I shows a scheme for displaying multiple video feeds in rectangular channel views on the display. Duhault I is conceptually similar to Duperrouzel because both are showing schemes for retrieving information from multiple sources and displaying these multiple sources of information on a single display.

460. Duhault I shows a system where the refresh rate of one channel view being displayed can change when that channel display area is selected by a user. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. Specifically, it shows that when one channel view is selected by a user, its refresh rate increases to a “live” rate from a slower refresh rate. Simultaneously, the refresh rates of the unselected channel

views is decreased – the other channels simply display a static image while the live “preview” of the selected channel view is occurring. This shows the basic technique of using the user selection to alter the refresh rate of that selected channel view. *See, e.g.,* Ex. 1013, Duhault I at 3:46-54.

461. A person of ordinary skill would recognize that this technique could be applied to the Duperrouzel scheme. For example, that person could set the Duperrouzel scheme to change the web page retrieval frequency when a display pane associated with that page is selected. This would be a simple step to perform, and would cause the Duperrouzel system to alter refresh rates for one of the panes based on the user selection of that pane in precisely the same manner that Duhault I shows this being done for a channel display in that system.

462. A person of ordinary skill in the art would have considered altering the refresh rate of a pane in the Duperrouzel system based on a user selection of one of the panes being displayed to have been obvious based on the guidance in Duhault I showing this technique. Accordingly, claim 5 would have been considered obvious by a person of ordinary skill in the art in October of 1999 based on Duperrouzel in view of Duhault I. *See* ¶ 191.

463. Another example of a system which changes refresh rates of a display element based on a user selection of that element is shown in Duhault II. For the same reasons I explained above with regard to Duperrouzel and Duhault I, I

believe a person of ordinary skill in the art would have considered the techniques shown in Duhault II as being relevant to the design of the Duperrouzel scheme.

464. Duhault II shows a similar technique to that shown in Duhault I where a user selection of a channel view will alter the refresh rate of the video in that channel view, and will also alter the refresh rates of unselected channels. Specifically, Duhault II shows that the selected channel view will change to live video, while the unselected channel views will reduce their refresh rates to a periodic rate. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2.

465. A person of ordinary skill would recognize that this technique in Duhault II could be applied to the Duperrouzel scheme. For example, that person could set the Duperrouzel scheme to change the web page retrieval frequency when a display pane associated with that page is selected. This would be a simple step to perform, and would cause the Duperrouzel system to alter refresh rates for one of the panes based on the user selection of that pane in the same manner that Duhault II shows this being done for a channel display in that system.

466. A person of ordinary skill in the art would have considered altering the refresh rate of a pane in the Duperrouzel system based on a user selection of one of the panes being displayed to have been obvious based on the guidance in Duhault II showing this technique. Accordingly, claim 5 would have been

considered obvious by a person of ordinary skill in the art in October of 1999 based on Duperrouzel in view of Duhault II. *See* ¶ 191.

5. **Claim 6**

467. Duperrouzel shows that each display pane can be individually configured to refresh the web page being displayed on that display pane at its own rate. *See, e.g.*, Ex. 1011, Duperrouzel at 2:8-10, 13:36-42, and FIG. 19.

468. For example, Duperrouzel shows an Auto Refresh option, which “include a checkbox to allow autorefresh for each of the display panes ... and a user-selectable option that allows the user to designate how often the currently displayed web page in each individual display pane is downloaded from the web page site to refresh the display.” Ex. 1011, Duperrouzel at 13:36-42. While FIG. 19 shows an example of the refresh rate for the four display panes being individually set to occur “every 3 minutes,” a person of ordinary skill in the art would recognize that unique values could be assigned to each display panes because each display pane has independent display area controls. *See, e.g.*, Ex. 1011, Duperrouzel at 2:8-10.

469. Duperrouzel, thus, shows a process where the “first refresh rate is different from said second refresh rate” as specified in claim 6.

6. Claim 7

470. Duperrouzel shows that the refresh rate for each pane in its scheme can be set by a user. *See, e.g.*, Ex. 1011, Duperrouzel at 13:36-42 and FIG. 19.

471. For example, Duperrouzel shows use of an Auto Refresh option, which uses “a checkbox to allow autorefresh for each of the display panes ... and a user-selectable option that allows the user to designate how often the currently displayed web page in each individual display pane is downloaded from the web page site to refresh the display.” Ex. 1011, Duperrouzel at 13:36-42.

472. Duperrouzel, thus, shows a process where “at least one of said first refresh rate and said second refresh rate is specified by a user” as specified by claim 7.

7. Claim 8

473. Duperrouzel shows examples of a number of panes being arranged in a 2 x 2 grid. *See, e.g.*, Ex. 1011, Duperrouzel at FIG. 2.

474. Duperrouzel, thus, shows a process which creates a display with an array in the form of a grid that “comprises more than one row and more than one column” as specified in claim 8.

8. Claim 10

475. Duperrouzel shows an example of the refresh rates of the four display panes in FIG. 2 being set to a uniform value (i.e., “every 3 minutes.”) *See, e.g.*, Ex. 1011, Duperrouzel at FIGs. 2 and 19.

476. Duperrouzel, thus, shows a process where the uniformly assigned attribute of a “tile” is “a refresh rate” of that tile, as specified in claim 10.

9. Claim 11

477. Duperrouzel shows a “Auto Refresh” option that will cause all displayed panes to automatically refresh their content at the rate specified for each pane. *See* ¶ 426.

478. In this example in Figure 19, all four of the panes have been assigned the same refresh value (3 minutes). Thus, in this example, all of the panes in the display will be refreshed at the same time.

479. If it is found that Duperrouzel does not explicitly show a “first refresh rate is assigned automatically,” I believe person of ordinary skill in the art would have considered this element to be an obvious variation of the schemes disclosed in Duperrouzel.

480. Initially, a person of ordinary skill in the art would recognize from Duperrouzel that each pane has an attribute that can be set to define how frequently that pane will refresh its content. *See, e.g.*, Ex. 1011, Duperrouzel at FIG. 19.

Duperrouzel also shows other attributes of panes in its system being automatically set. For example, Duperrouzel shows automatic resizing of panes based on a user's action to move a sizing control element on the display. See, e.g., Ex. 1011, Duperrouzel at 7:8-19 ("In this embodiment, the user manipulates the mouse input device 120 to position a cursor (not shown) on the sizing control, activates a mouse button 120-a and keeps the mouse button activated while moving the cursor to a desired new location. Once the cursor is at the desired location, the user releases the mouse button to automatically activate the resizing process. Thus, if the sizing control 216 is moved to a different position, the size of the display panes 212 will be automatically adjusted accordingly so that the intersection of the common corners of the display panes 212 will continue to be in the position of the sizing control 216.")

481. Because the person of ordinary skill would recognize that the refresh rate of each pane is an attribute of that pane, it would be have been an obvious design choice to provide for an automatic setting of the refresh rate (e.g., to a default refresh rate) when the pane is created or modified. In fact, using a default value that is automatically assigned in the absence of user input is a well known and common technique.

482. In addition, a person of ordinary skill in the art would have considered Duperrouzel with MSIE Kit because Duperrouzel indicates that its scheme can be

implemented using the Microsoft Active Desktop functionality being described in MSIE Kit. *See, e.g.*, Ex. 1011, Duperrouzel at 11:38-65.

483. MSIE Kit shows that content publishers can specify a refresh rate in a CDF file defining a desktop item. *See, e.g.*, Ex. 1007, MSIE Kit at 188, 223. This will be the default refresh rate and will be automatically assigned (from the perspective of the user) as a parameter of that desktop item. It will remain as the refresh rate value if the end user does not specify a different refresh rate. *Id.*

484. A person of ordinary skill in the art would thus recognize, either by a consequence of how the Duperrouzel schemes function or as a consequence of the specific guidance in MSIE Kit regarding assigning default refresh rate values, that it would have been obvious in October of 1999 to assign a default refresh rate for panes in the Duperrouzel scheme.

485. Accordingly, person of ordinary skill in the art would have considered a process in which a “first refresh rate is assigned automatically” to have been obvious based on Duperrouzel considered in view of MSIE Kit. *See* ¶¶ 194-197.

10. Claim 12

486. Duperrouzel creates a grid of display panes, and shows that a user can lock the display panes into a fixed location within the grid. Specifically, Duperrouzel shows that an individual panel or all panels can be “locked” in their position by selecting a checkbox on the display. *See, e.g.*, Ex. 1011, Duperrouzel

at FIG. 2 and 13:28-36. When a user checks the “locked” box for a panel in the grid, that panel will occupy a the same, fixed position within the grid.

487. Dupperrouzel, thus, shows a process where an “array comprises a grid wherein each of said tiles occupies a fixed position on said grid” as specified in claim 12. *See ¶¶ 198-200 and 201-206.*

11. Claim 13

488. Duperrouzel explains that the heights and widths of the display panes displayed in its scheme are determined by reference to the total width of the display and the number of panes to be displayed. *See, e.g., Ex. 1011, Duperrouzel at 7:45-8:11 and FIG. 2.*

489. For example, in connection with the example of a 2x2 grid of display panes (i.e., 212a-212d shown in FIG. 2), Duperrouzel explains that the “width of display pane 212b” is determined to be “the distance from left border inside edge to right border inside edge of the four web page display 210 less the width of display pane 212a and less the width of an interior vertical border dividing display panes 212a and 212b.” *See, e.g., Ex. 1011, Duperrouzel at 7:46-53.* Similarly, Duperrouzel explains that the “height of display pane 212c” is determined in a similar manner to 212a and 212b and takes into account the “distance from top border inside edge to bottom border inside edge of the four web page display 210

and height of an interior horizontal border 220 between display panes 212a and 212c.” *See, e.g.,* Ex. 1011, Duperrouzel at 7:55-63.

490. Duperrouzel, thus, shows a process “wherein each tile in said array of tiles has a fixed size that is equal to said unit tile size, or a multiple thereof” as specified in claim 13.

12. Claim 14

491. Duperrouzel explains that its system uses web browsers (e.g., “Microsoft Internet Explorer web browser” or “Netscape Navigator web browser”) to display multiple display panes. *See, e.g.,* Ex. 1011, Duperrouzel at 5:8-15 and 5:29-31.

492. Duperrouzel, thus, shows a process “wherein said array is displayed in a web browser” as specified in claim 14.

13. Claim 15

493. If it is found that Duperrouzel does not explicitly show “storing said array of tiles on a second device,” I believe person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Duperrouzel.

494. A person of ordinary skill would know that remote storage of a user’s display preferences and settings was a widely known technique in use in October of 1999.

495. Also, Duperrouzel indicates that its scheme can be implemented using the Microsoft Active Desktop functionality, which is described extensively in the MSIE Kit publication. *See, e.g.*, Ex. 1011, Duperrouzel at 11:38-65.

496. MSIE Kit shows use of roaming profiles to store the Active Desktop settings of a user. Specifically, MSIE Kit shows how a user's Active Desktop configuration and settings, including the desktop items and the configuration of each desktop items, can be stored in a "roaming profile" on a network server. *See, e.g.*, Ex. 1007, MSIE Kit at 50, 52. In particular, MSIE Kit explains that Internet Explorer (which is used to implement the Active Desktop interface) can store users' array of desktop items on a network server. *Id.*

497. Given that Duperrouzel indicates that its scheme should be implemented using the Microsoft Active Desktop functionality, and that MSIE Kit shows a user's Active Desktop settings are stored in roaming profiles for that user, it would have been obvious to a person of ordinary skill to implement the Duperrouzel scheme using the "roaming profile" capability shown in MSIE Kit.

498. Accordingly, person of ordinary skill in the art would have considered a process "comprising storing said array of tiles on a second device" to have been obvious over Duperrouzel in view of MSIE Kit in October of 1999. *See ¶¶ 207-208.*

14. Claim 16

499. If it is found that Duperrouzel does not explicitly show an “array of tiles is retrieved from a second device,” I believe person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Duperrouzel.

500. A person of ordinary skill would know that remote storage of a user’s display preferences and settings was a widely known technique in use in October of 1999. Indeed, a person of ordinary skill in the art would know by October 1999 that storing anything on another device was a widely known technique.

501. Also, Duperrouzel indicates that its scheme can be implemented using the Microsoft Active Desktop functionality, which is described extensively in the MSIE Kit publication. *See, e.g.,* Ex. 1011, Duperrouzel at 11:38-65.

502. MSIE Kit shows use of roaming profiles to store the Active Desktop settings of a user. Specifically, MSIE Kit shows how a user’s Active Desktop configuration and settings, including the desktop items and the configuration of each desktop items, can be stored in a “roaming profile” on a network server. *See, e.g.,* Ex. 1007, MSIE Kit at 50, 52. In particular, MSIE Kit explains that Internet Explorer (which is used to implement the Active Desktop interface) can store users’ array of desktop items on a network server. *Id.* MSIE Kit also show that a

user's roaming profile is retrieved from a network server and used to setup the user's Active Desktop environment. *Id.*

503. Given that Duperrouzel indicates that its scheme should be implemented using the Microsoft Active Desktop functionality, and that MSIE Kit shows a user's Active Desktop settings are stored in roaming profiles for that user, it would have been obvious to a person of ordinary skill to implement the Duperrouzel scheme by retrieving a user's "roaming profile" as is shown in MSIE Kit.

504. Accordingly, person of ordinary skill in the art would have considered a process "where said array of tiles is retrieved from a second device" to have been obvious based on Duperrouzel in view of MSIE Kit in October of 1999. *See* ¶¶ 209-210.

15. Claim 17

505. If it is found that Duperrouzel does not explicitly describe implementing its scheme on a device which "is a mobile telephone," I believe person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Duperrouzel.

506. Before October of 1999, mobile phones with display interfaces that employed "tiling" concepts were well-known. *See* ¶ 327.

507. For example, Jambhekar describes mobile phones that can simultaneously display information from several information sources such as telephone, e-mail, fax, short messaging service or other services. Ex. 1031, Jambhekar at 1:11-24 and 2:19-24. In particular, FIG. 6C of Jambhekar shows an example of how information from several different information sources, *e.g.*, mail server and fax, can be simultaneously displayed on the display of a mobile phone.

508. In this example, the display presents a grid of rectangular regions or tiles showing updated information regarding old or new emails and old or new faxes. *See, e.g.*, Ex. 1031, Jambhekar at FIG. 6C. Specifically, each tile shows how many incoming/outgoing emails or faxes the mobile phone received/transmitted. The way this is displayed shows that the tiles are periodically updated in order for the phone to show the correct number of incoming/outgoing emails and faxes to the user.

509. Jambhekar explains using these types of displays on a mobile phone can provide a more efficient user interface. *See, e.g.*, Ex. 1031, Jambhekar at Abstract.

510. A person of ordinary skill in the art would have been motivated to consider the combination of Duperrouzel and Jambhekar. For example, it was known in October of 1999 that there was “increasing pressure in the marketplace to provide multi-functional radio communication devices that offer more than one of

the typical radio communication services mentioned above.” *See, e.g.*, Ex. 1031, Jambhekar at 1:21-24. Both Duperrouzel and Jambhekar show user interfaces that respond to this pressure – they each use a set of tiles or panes to efficiently present updated information from different sources to a user.

511. Consequently, a person of ordinary skill in the art would have considered implementing a scheme shown in Duperrouzel on a mobile phone to have been obvious in October of 1999 based on the guidance in Jambhekar.

512. Another example of a mobile phone that provides a real time display of multiple information sources in its display are the “screen phones” shown in Farber. *See, e.g.*, Ex. 1016, Farber at 1:8-19 and 2:38-57.

513. The Farber screen phones provide an “at-a-glance” screen that can display updated information from a variety of information sources, *e.g.*, weather, traffic, news, and financial information, at the same time. *See, e.g.*, Ex. 1016, Farber at FIG. 4 and 6:41-65. Farber explains that information from several different information sources are displayed in an array or rectangular display “areas.” The arrangement of display areas is illustrated in Figure 4 of Farber. *Id.* In addition, Farber explains each rectangular display area is associated with an information source, and that users can specify time intervals at which the display areas will be updated. Ex. 1016, Farber at Abstract and 2:38-57.

514. Both the Farber screen phone scheme and the systems in Duperrouzel are designed to periodically retrieve information and display that information in an efficient way to a user by dividing the display into regular regions and displaying the information in those regions. The two approaches thus have an analogous design and functionality, and a person of ordinary skill would have considered them together.

515. A person of ordinary skill in the art would have found it obvious in October of 1999 to implement a process shown in Duperrouzel on a mobile phone, as suggested by Farber. Consequently, a person of ordinary skill would have considered a process of claim 1 that is implemented on a mobile telephone to have been obvious in October of 1999 based on Duperrouzel in view of Farber.

516. A person of ordinary skill in the art also would have considered Duperrouzel in conjunction with Brown. Brown is a patent that describes the Microsoft Active Desktop technology, which Duperrouzel specifically identifies as being suitable for implementing its schemes. See Ex. 1011, Duperrouzel at 11:38-65. See also ¶ 428.

517. Brown explains that information from several information sources can be displayed using the Active Desktop scheme on hand-held devices. See, e.g., Ex. 1030, Brown at 4:44-49 (“Moreover, those skilled in the art will appreciate that the invention may be practiced with other computer system configurations, including

hand-held devices...”). The Active Desktop scheme uses an array of rectangular regions on a display to convey information associated with those items to a user. See Ex. 1030, Brown at 12:62-13:13.

518. In October of 1999, a person of ordinary skill in the art would have recognized there were only a small number of “hand-held devices” that were being referred to by this passage in Brown; namely, personal digital assistants, mobile phones and two-way pagers. See, *e.g.*, Ex. 1078 (April 11, 1997 submission to W3C, organization that standardized HTML, and submitted by a group that included AT&T, Alcatel, Unwired Planet, and Sun, regarding the Handheld Device Markup language “handheld devices such as cellular phones, pagers, and wireless PDA's.”); Ex. 1079 (May 9, 1997 Handheld Device Markup Language document “handheld devices such as mobile phones and PDAs.”); Ex. 1080 (April 11, 1997 Handheld Device Markup Language document “Examples include mobile phones and two-way pagers.”); Ex. 1081 (May 7, 1997 article on Handheld Device Transport Protocol providing mobile phones and pagers as examples of handheld devices).

519. Because Duperrouzel specifically suggests using Active Desktop to implement its scheme, and because Brown shows that the Active Desktop technology can be implemented on a hand-held device (*e.g.*, a mobile phone), a

person of ordinary skill in the art would have found it to have been obvious to implement the Duperrouzel system on a mobile phone.

520. Accordingly, person of ordinary skill in the art would have considered the implementation of the process defined in claim 1 of the '403 patent on a mobile phone as specified in claim 17 to have been obvious based on Duperrouzel in view of Brown in October of 1999.

16. Claim 19

521. Duperrouzel shows use of computer workstations in its systems. *See, e.g.,* Ex. 1011, Duperrouzel at 4:20-22, 5:25-28 and FIG. 1. Duperrouzel, thus, shows a process that uses a device that “is a computer” as specified in claim 19.

17. Claim 20

522. If it is found that Duperrouzel does not explicitly describe the use of “a personal digital assistant,” I believe person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Duperrouzel. Personal digital assistants are no more than miniaturized computers.

523. For example, person of ordinary skill in the art would have found it obvious to combine Duperrouzel with Farber because they are analogous art directed towards solving the same problem. Specifically, both Duperrouzel and Farber describe systems for providing a real time display of multiple sources of

information using a partitioned display that presents the information in panels or “tiles.”

524. Farber shows that its schemes can be implemented using computers and other devices including personal digital assistants. *See, e.g.*, Ex. 1016, Farber at 1:8-11 (“Representative multimedia terminals other than the personal computers 101 shown in FIG. 1 can include ... a personal digital assistant, such as a MagicLink™ personal digital assistance available from Sony.”); 2:38-57.

525. A person of ordinary skill in the art considering Duperrouzel together with Farber would have been given the specific suggestion to implement the Duperrouzel schemes on a personal digital assistant, as Farber specifically suggests. Consequently, a person of ordinary skill would have found it obvious to implement a process specified by claim 1 on a personal digital assistant, as specified in claim 20.

526. A person of ordinary skill in the art also would have considered Duperrouzel in conjunction with Brown. Brown is a patent that describes the Microsoft Active Desktop technology, which Duperrouzel specifically identifies as being suitable for implementing its schemes. *See* Ex. 1011, Duperrouzel at 11:38-65. *See also* ¶ 428.

527. Brown explains that information from several information sources can be displayed using the Active Desktop scheme on hand-held devices. *See, e.g.*, Ex.

1030, Brown at 4:44-49 (“Moreover, those skilled in the art will appreciate that the invention may be practiced with other computer system configurations, including hand-held devices...”). The Active Desktop scheme uses an array of rectangular regions on a display to convey information associated with those items to a user. See Ex. 1030, Brown at 12:62-13:13.

528. As I explained previously in ¶ 518, in October of 1999, a person of ordinary skill in the art would have recognized there were only a small number of “hand-held devices” that were being referred to by this passage in Brown; namely, personal digital assistants, mobile phones, and two-way pagers.

529. Because Duperrouzel specifically suggests using Active Desktop to implement its scheme, and because Brown shows that the Active Desktop technology can be implemented on a hand-held device (e.g., a personal digital assistant), a person of ordinary skill in the art would have found it to have been obvious to implement the Duperrouzel system on a personal digital assistant.

530. Accordingly, person of ordinary skill in the art would have considered the implementation of the process defined in claim 1 of the ’403 patent on a personal digital assistant as specified in claim 20 to have been obvious based on Duperrouzel in view of Brown in October of 1999.

18. Claim 21

531. Duperrouzel shows that its systems work by displaying multiple “web sites” in a grid of panels on a display. The information in a web site that is being retrieved and displayed in these panels will include many different formats of information including “text, graphics, video, sound, and any other format of electronic data.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract and 1:36-45. Duperrouzel also explains that in one example, four panels are displayed in a 2 x 2 grid. Ex. 1011, Duperrouzel at FIG. 19.

532. Thus, Duperrouzel shows a process which presents in its panels “at least two information sources selected from the group consisting of analog signal; video signal; audio signal; text; an e-mail program; a world-wide-web page; streaming video; streaming audio; and graphics” as specified in claim 21.

19. Claim 22

533. Duperrouzel shows its systems are implemented on computer workstations. *See, e.g.*, Ex. 1011, Duperrouzel at 4:20-22, 5:25-28 and FIG. 1.

534. Computer workstations include electronic readable memory which store instructions that direct the computer to perform specific actions. When a computer is configured with software to perform specified functions, it executes instructions stored in the computer’s memory. This means that a description of a computer running software and performing certain functions is describing to a

person of ordinary skill “a memory” that contains “instructions” that direct the computer to perform specified functions.

535. Duperrouzel shows computer-based systems that communicate with several information sources (web sites). *See, e.g.*, Ex. 1011, Duperrouzel at 3:31-34, 4:46-51, 4:58-60, Abstract and 1:36-45. Duperrouzel also explains that “web sites” contain many different formats of information including “text, graphics, video, sound, and any other format of electronic data.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract and 1:36-45.

536. Duperrouzel also explains that its computer-based systems manage simultaneous communications with multiple web sites. *See, e.g.*, Ex. 1011, Duperrouzel at 4:4-8; 10:8-20; 13:36-42. *See also* ¶¶ 415 - 418.

537. Duperrouzel, thus, shows a “first set of instructions to control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

538. Duperrouzel shows that, in its systems, the visual display can be arranged into a collection of display areas called “display panes.” *See, e.g.*, Ex. 1011, Duperrouzel at 2:4-11, 5:1-5, FIG. 2, and 6:36-40.

539. Duperrouzel also provides an example which presents a grid of four panels arranged in a 2x2 grid. *See, e.g.*, Ex. 1011, Duperrouzel at FIG. 2.

540. Each display pane in the Duperrouzel scheme is “a display area that frames and provides control for a particular web page being displayed within the display pane.” See Ex. 1011, Duperrouzel at 5:2-5. Each display pane in Duperrouzel, thus, is a “tile” according to the ’403 patent. See ¶¶ 128 - 143.

541. Duperrouzel shows an arrangement of panes into a 2 x 2 grid.. See, *e.g.*, Ex. 1011, Duperrouzel at FIG. 2. Duperrouzel, thus, shows a set of instructions that “arrange a display into an array of tiles.” See ¶¶ 144-151 and 155-159.

542. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source,” Duperrouzel shows that users can maximize the display pane onto the entire display by activating the maximize control of the particular display pane. See, *e.g.*, Ex. 1011, Duperrouzel at 6:36-40.

543. Duperrouzel shows that each display pane can be associated with an information source, *e.g.*, a web page linked to a specific “text, graphics, video, sound, and any other format of electronic data.” See, *e.g.*, Ex. 1011, Duperrouzel at Abstract, 1: 36-45, and 5:12-20. In particular, each display pane can be configured to display a specific web *page*, which is associated with that particular display pane. See, *e.g.*, Ex. 1011, Duperrouzel at 5:12-20.

544. Duperrouzel also shows an example where several different web pages are being displayed in different panels in a 2 x 2 grid. See, e.g., Ex. 1011, Duperrouzel at FIG. 2.

545. Duperrouzel, thus, shows a set of instructions that “associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” See ¶¶ 152-154.

546. Duperrouzel shows systems that retrieve information from multiple information sources – different information sources are associated with each display pane. See, e.g., Ex. 1011, Duperrouzel at 5:12-20, and 13:36-42.

547. Duperrouzel also shows use of a “Refresh Control” for the display pane which retrieves and refreshes the web page currently displayed on the each display pane at an assigned refresh rate specific to that pane. See, e.g., Ex. 1011, Duperrouzel at 13:36-42, 5:12-20, FIG. 19.

548. Duperrouzel also shows that each display pane can be individually configured to refresh the web page it is displaying on the display pane at a rate specified by the user. See, e.g., Ex. 1011, Duperrouzel at 13:36-42 and FIG. 19. Duperrouzel shows an Auto Refresh option, which “include[s] a checkbox to allow autorefresh for each of the display panes ... and a user-selectable option that allows the user to designate how often the currently displayed web page in each

individual display pane is downloaded from the web page site to refresh the display.” Ex. 1011, Duperrouzel at 13:36-42.

549. Duperrouzel, thus, shows a set of instructions “to retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” See ¶¶ 168-172 and 176-180.

550. Duperrouzel shows computer systems that will display information from a web site in a panel that is associated with that web site in accordance with the retrieval rate set for that panel. See, e.g., Ex. 1011, Duperrouzel at 12:26-38, 13:36-42. See also ¶ 428.

551. Duperrouzel, thus, shows a set of instructions “to present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” See ¶¶ 168-172.

552. Duperrouzel thus shows each of the sets of instructions listed in claim 22.

20. Claim 23

553. Duperrouzel shows computer systems that retrieve and display web pages in panels on a display. See, e.g., Ex. 1011, Duperrouzel at Abstract, 1:36-45, 4:44-51.

554. Duperrouzel, thus, shows a set of instructions to “process a network datastream from a network datasource, such as Internet web pages” as specified in claim 23.

21. Claim 25

555. Claim 25 would have been obvious over Duperrouzel in view of Jambhekar, Duperrouzel in view of Farber, or Duperrouzel in view of Brown for the same reasons I provided above for claim 17.

22. Claim 27

556. Duperrouzel shows the elements of claim 27 for the same reasons I provided above for claim 19.

23. Claim 28

557. Claim 28 would have been obvious over Duperrouzel in view of Farber, or Duperrouzel in view of Brown for the same reasons I provided above for claim 20.

24. Claim 30

558. Duperrouzel shows the elements of claim 30 for the same reasons I provided above for claim 3.

25. Claim 32

559. Duperrouzel shows the elements of claim 32 for the same reasons I provided above for claim 5. Claim 32 also would have been obvious over

Duperrouzel in view of Duhault I, or Duperrouzel in view of Duhault II for the same reasons I provided above for claim 5.

26. Claim 34

560. Duperrouzel shows that the plurality of information sources can be “web sites” that provides many different formats of information including “text.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 1: 36-45, and FIG. 2.

561. Duperrouzel thus shows “a set of instructions to deliver selected textual content from said first information source to said first tile.”

27. Claim 37

562. Duperrouzel shows computer systems that will retrieve and deliver information from a network document, such a web page, to a specified panel on a display associated with that web page. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 1:36-45, 4:44-51

563. Duperrouzel thus shows “a set of instructions to deliver information from a network document to a selected tile of said array of tiles” as specified in claim 37. *See ¶¶* 213-215.

28. Claim 38

564. Duperrouzel shows computer systems that will retrieve and deliver a web page to a specified panel on a display associated with that web page. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 1:36-45, 4:4-10, 4:44-51.

565. Duperrouzel thus shows “a set of instructions to deliver a web page to a selected tile of said array of tiles” as specified in claim 38.

29. Claim 39

566. Duperrouzel shows the elements of claim 39 for the same reasons I provided above for claim 6. For example, the refresh rate of Duperrouzel is also a retrieval rate as required by claim 39.

30. Claim 40

567. Duperrouzel shows the elements of claim 40 for the same reasons I provided above for claim 8.

31. Claim 43

568. Duperrouzel shows the elements of claim 43 for the same reasons I provided above for claim 11. Claim 43 would have been obvious over Duperrouzel in view of MSIE Kit for the same reasons I provided above for claim 11. For example, the refresh rates of Duperrouzel and MSIE Kit are also retrieval rates as required by claim 43.

32. Claim 44

569. Claim 44 would have been obvious over Duperrouzel in view of MSIE Kit for the same reasons I provided above for claim 15.

33. Claim 45

570. Claim 45 would have been obvious over Duperrouzel in view of MSIE Kit for the same reasons I provided above for claim 16.

34. Claim 46

571. Duperrouzel shows computer systems that retrieve and display information from multiple sources to different panels on a display. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract. The computer systems described in Duperrouzel are computer workstations that will have a memory on which is stored executable software (a program) that creates a graphical user interface and manages input devices, and perform various operations to retrieve and display information on panels on the computer display. *See, e.g.*, Ex. 1011, Duperrouzel at 1:57-63, 2:26-36, 4:20-25, 5:25-28 and FIG. 1.

572. Duperrouzel thus shows “a device that includes a processor configured to execute instructions, a memory connected to said processor to store at least one program that includes a graphical user interface, and an input device”

573. Duperrouzel shows that its computer systems manage simultaneous communication with multiple information sources. *See, e.g.*, Ex. 1011, Duperrouzel at 3:31-34, 4:46-51, 4:58-60, Abstract and 1:36-45. These information sources are typically “web sites” that provide many different formats

of information including “text, graphics, video, sound, and any other format of electronic data.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract and 1:36-45.

574. Duperrouzel thus shows a system that will “control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

575. Duperrouzel shows that its computer systems will create a visual display arranged into a collection of display areas called “display panes.” *See, e.g.*, Ex. 1011, Duperrouzel at 2:4-11, 5:1-5, FIG. 2, 6:36-40. Duperrouzel also shows an example of this being deployed as a 2x2 grid of panes. *See, e.g.*, Ex. 1011, Duperrouzel at FIG. 2.

576. Each display pane in the Duperrouzel scheme is “a display area that frames and provides control for a particular web page being displayed within the display pane,” which corresponds to the “tile” of the ’403 patent. *See, e.g.*, Ex. 1011, Duperrouzel at 5:2-5. *See* ¶¶ 128 - 143.

577. Duperrouzel also shows that users can maximize the display pane onto the entire display by activating the maximize control of the particular display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 6:36-40. Duperrouzel, thus, shows a system that will “arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

578. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source,” Duperrouzel shows that users can maximize the display pane onto the entire display by activating the

maximize control of the particular display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 6:36-40.

579. Duperrouzel shows a system in which each display pane can be associated with an information source, *e.g.*, a web page linked to a specific “text, graphics, video, sound, and any other format of electronic data.” *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 1: 36-45, and 5:12-20. In particular, each display pane can be configured to display each web page, which is associated with the particular display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 5:12-20.

580. Duperrouzel also shows that its systems will present multiple panes, with each pane being linked often to a different web site. *See, e.g.*, Ex. 1011, Duperrouzel at FIG 2 (showing different web sites in the different panes).

581. Duperrouzel, thus, shows a system that can “associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

582. Duperrouzel shows use of the “Auto Refresh” option on the display pane can be used to retrieve and refresh the web pages currently being displayed on each display pane at the assigned refresh rate for each pane. *See, e.g.*, Ex. 1011, Duperrouzel at 13:36-42, 5:12-20, and FIG. 19.

583. Duperrouzel also shows that information received from multiple information sources are associated with multiple display panes that retrieve information from the source associated with each display pane. *See, e.g.*, Ex. 1011, Duperrouzel at 5:12-20, and 13:36-42.

584. Duperrouzel also explains that each display pane can be individually configured to refresh the web page displayed on that display pane at a rate specified by the user. *See, e.g.*, Ex. 1011, Duperrouzel at 13:36-42, and FIG. 19.

585. Duperrouzel also shows an Auto Refresh option, which will “include a checkbox to allow autorefresh for each of the display panes ... and a user-selectable option that allows the user to designate how often the currently displayed web page in each individual display pane is downloaded from the web page site to refresh the display.” Ex. 1011, Duperrouzel at 13:36-42.

586. Duperrouzel explains that information from a several web pages on the different panes will be displayed concurrently, with each being updated at its assigned refresh rate. *See, e.g.*, Ex. 1011, Duperrouzel at Abstract, 2:4-11, 3:31-34, 4:46-51, 4:58-60, and 13:36-42.

587. Duperrouzel also shows that the refresh rates of individual panes can be set individually, or that the same refresh rate can be assigned to all active panes. *See ¶¶ 422, 425 - 426.*

588. Duperrouzel, thus, shows a system that can “retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” See ¶¶ 168-172 and 176-180.

589. Duperrouzel shows systems that will display information from a web site in a panel that is linked to that web site in accordance with the retrieval rate set for that panel. See, e.g., Ex. 1011, Duperrouzel at 12:26-38, 13:36-42. See also ¶ 428.

590. Duperrouzel thus shows computer systems that “present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” See ¶¶ 168-172.

35. Claim 47

591. Duperrouzel shows the elements of claim 47 for the same reasons I provided above for claim 8.

36. Claim 50

592. Duperrouzel shows the elements of claim 50 for the same reasons I provided above for claims 11 and 43. Claim 50 would have been obvious over Duperrouzel in view of MSIE Kit for the same reasons I provided above for claims 11 and 43.

37. Claim 51

593. Claim 51 would have been obvious over Duperrouzel in view of MSIE Kit for the same reasons I provided above for claim 15.

38. Claim 52

594. Claim 52 would have been obvious over Duperrouzel in view of MSIE Kit for the same reasons I provided above for claim 16.

D. U.S. Patent Number 6,118,493 (“Duhault I”)

595. U.S. Patent Number 6,118,494 (“Duhault I”) has a filing date of April 1, 1997. I understand that Duhault I is prior art to the ’403 patent under at least § 102(e) because it was filed before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

596. Duhault I describes a system for displaying multiple television video broadcasts at the same time on a single display. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18.

597. Duhault I shows that in the multiple channel display mode, the tuner within the display system will periodically retrieve samples of live broadcasts of various channels to be displayed. *Id.*

598. Duhault I shows that in the multiple channel display mode, the display area is partitioned into an array of “channel display areas.” These channel display areas correspond to the “tiles” of the ’403 patent.

599. Duhault I depicts an example of how the display area can be partitioned into an array of channel display areas, *e.g.*, in a grid configuration:

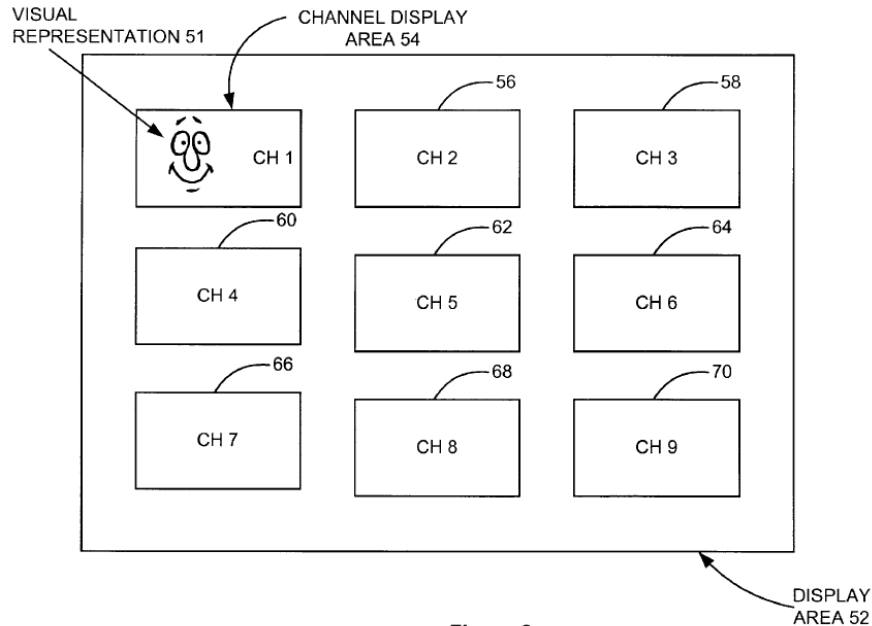


Figure 2

Ex. 1013, Duhault I at FIG. 2.

600. The rate at which the channel display areas are updated is generally assigned by the tuner. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, and 4:17-23. Alternatively, the refresh rates can be assigned by the user. *See, e.g.*, Ex. 1013, Duhault I at 4:23-26 and 4:59-62.

601. Duhault I explains that, in the multiple channel display mode, multiple channel display areas are updated at a periodic rate that is assigned by the tuner and/or the user. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18. When a particular channel display area is selected, that channel is updated at a live rate. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38.

1. Claim 1

602. Duhault I shows a digital storage medium that stores programming instructions that causes the processor to display multiple channels in the display wherein at least one channel is refreshed and displayed at a live rate while the remaining channels are refreshed and displayed at a periodic rate. *See, e.g.*, Ex. 1013, Duhault I at 2:57-3:5, FIG. 1, and 2:10-19. Duhault I thus shows “[a] method executed by a device under the control of a program, said device including a memory for storing said program.”

603. Duhault I shows allowing users to customize, *e.g.*, select, which channels to include in the multi-channel display. *See, e.g.*, Ex. 1013, Duhault I at 1:46-53. Duhault I further shows that the plurality of channels can include broadcast television channels, cable television channels, satellite television channels, multi-cast mode broadcasts, or broadcast radio channels. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18. The television channels are the plurality of information sources and each channel is a video information source. Duhault I thus shows “selecting a plurality of information sources.” *See ¶¶ 125-127.*

604. Duhault I shows partitioning the display area 52 into a grid including an array of channel display areas 54, 56, 58, 60, 62, 64, 66, 68, or 70. *See, e.g.*, Ex. 1013, Duhault I at 1:59-61, 3:30-34, and FIG. 2.

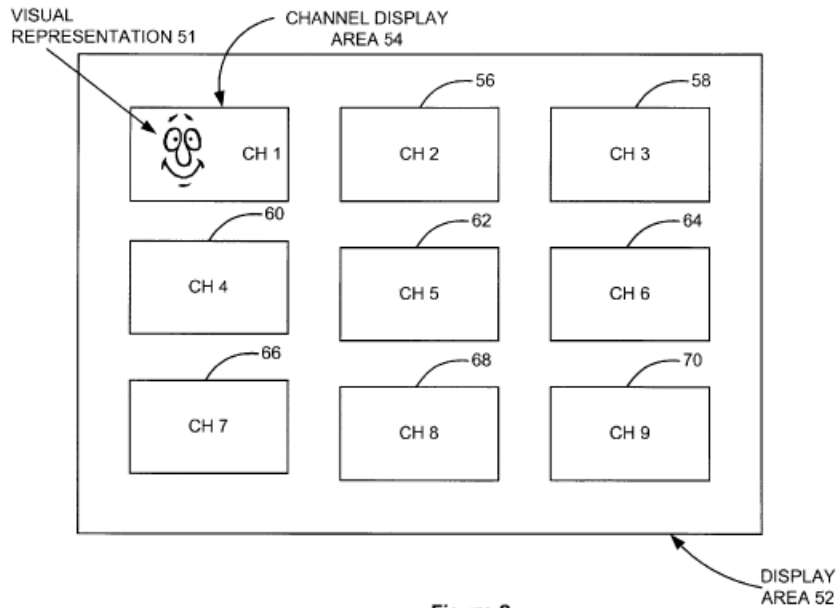


Figure 2

Ex. 1013, Duhault I at FIG. 2.

605. Each channel is displayed in a corresponding channel display area. *See, e.g.*, Ex. 1013, Duhault I at 4:17-23. Each channel display area is the “tile” as claimed. *See* ¶¶ 128-143. Duhault I thus shows “partitioning a visual display of the device into an array of tiles, wherein each tile in said array of tiles is associated with an information source in said plurality of information sources.” *See* ¶¶ 144-151 and 155-159.

606. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Duhault I shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. By selecting the video viewing areas, underlying video and/or audio information can

be accessed. *Id.* Duhault I thus shows that a tile is “selectable to provide access to underlying information of the associated information source.”

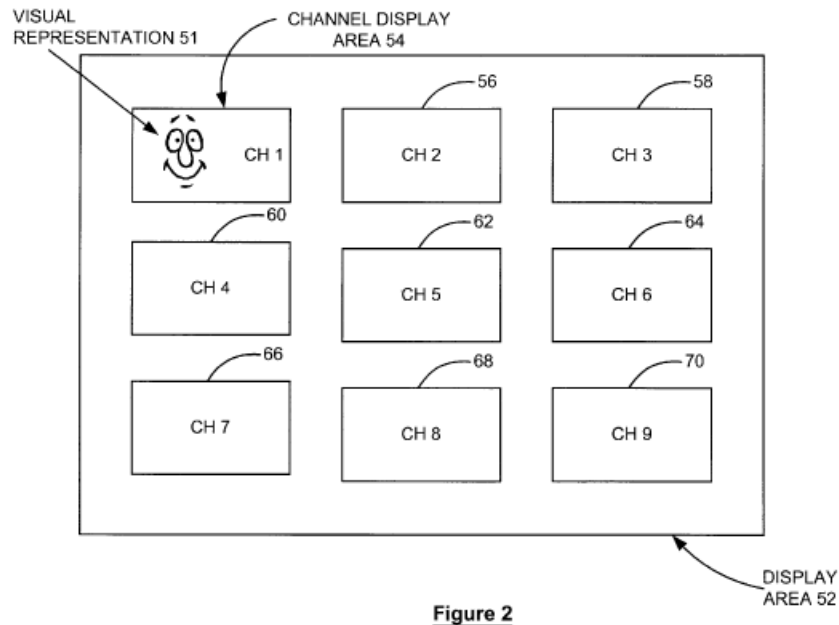
607. Duhault I shows that the first and second channel display areas in FIG. 2 (*e.g.*, 54 and 56) will be updated or refreshed at a periodic rate, *i.e.*, the first refresh rate and the second refresh rate, by a tuner when the display is in a multiple channel display mode. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, 4:17-23, FIG. 2. The refresh rates can be assigned by the user. *See, e.g.*, Ex. 1013, Duhault I at 4:23-26 and 4:59-62. Moreover, Duhault I shows that the visual representations are “subsequently” displayed after the representations are “recently” received and/or sampled. *See, e.g.*, Ex. 1013, Duhault I at 4:17-23 and 3:22-28. A person of ordinary skill in the art would understand that the display of information is in accordance with the refresh (or sample) rates. As such, the rate at which each television channel is sampled and displayed in a tile is the refresh rate assigned to the tile. Both a first refresh rate and a second refresh rate are assigned because multiple channels will be periodically sampled and displayed simultaneously. In view of dependent claims, *e.g.*, claims 6 and 10, and/or the doctrine of claim differentiation, it is my opinion that the first and second refresh rates need not be different. Duhault I thus shows “assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles.” *See* ¶¶ 163-167.

608. Duhault I shows that the visual representation of each channel display area (*e.g.*, 54) is sampled, updated, or refreshed in accordance with a periodic rate, *i.e.*, a first refresh rate. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, and 4:17-23. Duhault I thus shows “updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate.” *See* ¶¶ 173-175.

609. Duhault I shows that the visual representation of each channel display area (*e.g.*, 56) is sampled, updated, or refreshed in accordance with a periodic rate, *i.e.*, a second refresh rate. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, 4:17-23, and FIG. 2. A person of ordinary skill in the art would understand that information from a second information source is simultaneously updated in accordance with said second refresh rate because Duhault I shows displaying multiple channel display areas, which are updated at the periodic rate, at the same time. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46 and FIG. 2. Duhault I thus shows “simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.” *See* ¶¶ 181-183.

2. Claim 3

610. Duhault I shows a collection of non-overlapping channel display areas 54, 56, 58, 60, 62, 64, 66, 68, and 70 with uniform size and shape. *See, e.g.*, Ex. 1013, Duhault I at 3:30-34 and FIG. 2.



Ex. 1013, Duhault I at FIG. 2.

611. Duhault I thus shows “wherein said partitioning includes partitioning said array of tiles in a non-overlapping configuration wherein each tile of said array of tiles is a uniform size and shape.” *See* ¶¶ 184-185.

3. Claim 4

612. Duhault I shows how the refresh rates of video viewing areas depends on whether a user has prioritized that area by selecting it. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38, 3:30-34, 3:44-46, and FIG. 2. In particular, Duhault I shows

changing the refresh rates of the channel display areas based on priorities, *e.g.*, whether a particular channel is selected for live update, because “live” reflects higher priority over a periodic rate and/or a static rate. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. A person of ordinary skill in the art would understand that a value indicating the state of the channel, *e.g.*, whether the channel is selected or not, necessarily exists. When a particular channel is selected, a live rate will be assigned to the selected channel (among the plurality of channels disclosed in FIG. 2). *See, e.g.*, Ex. 1013, Duhault I at 4:26-38, 3:30-34, and FIG. 2. The remaining channels will be assigned a static rate (rather than the “periodic rate”) because the embodiment disclosed in Duhault I only uses one tuner, which will be sampling at the live rate. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. When the selected channel is deselected, a periodic rate will be re-assigned to all channel display areas. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46. As such, the refresh rates of the viewing areas depend on the priority value—the higher-priority viewing area has a higher (full motion) refresh rate, while the refresh rate for the other viewing areas is less. When a viewing area is unselected, the refresh rates for all video areas have same priority value, and thus are assigned the same refresh rate—the preview rate. Duhault I thus shows “wherein said assigning includes assigning said first refresh rate and said second refresh rate in accordance with a first priority value of a first

information source associated with said first tile and a second priority value of a second information source associated with said second tile.” See ¶¶ 186-190.

4. Claim 5

613. Duhault I shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. Once selected, a higher refresh rate will be assigned to that video viewing area. *Id.* Duhault I thus shows “wherein said assigning includes attributing a selected state or an unselected state to said first tile and said second tile.” *See* ¶ 191.

5. Claim 7

614. Duhault I shows that the refresh rate may be controlled by the user to be at any rate. *See, e.g.*, Ex. 1013, Duhault I at 4:23-26, 4:59-62. Duhault I further shows how users can specify the refresh rate of a video viewing area by selecting the viewing area which causes the refresh rate to increase to a full motion rate or unselecting the area which causes the refresh rates of all video areas to be the preview rate. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. Duhault I thus shows “wherein at least one of said first refresh rate and said second refresh rate is specified by a user.”

6. Claim 8

615. Duhault I shows a collection of tiles (*e.g.*, channel display areas 54, 56, 58, 60, 62, 64, 66, 68, and 70) with three rows and three columns. *See, e.g.*, Ex. 1013, Duhault I at 3:30-34 and FIG. 2.

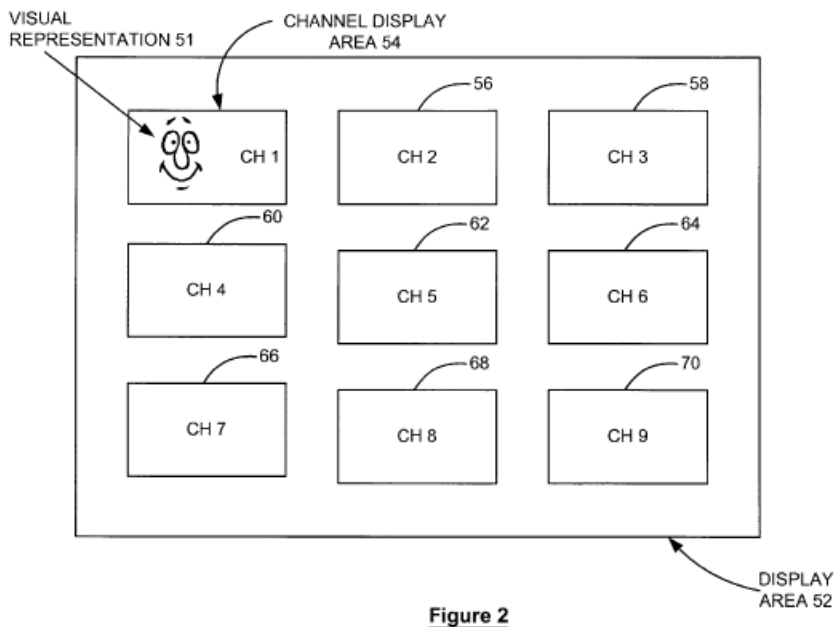


Figure 2

Ex. 1013, Duhault I at FIG. 2.

Duhault I thus shows “wherein said array comprises more than one row and more than one column.”

7. Claim 9

616. Duhault I shows that the tiles (*e.g.*, channel display areas) are updated or refreshed at the same rate, *i.e.*, a periodic rate (rather than a live rate), when no selection has been made. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, and

4:17-23. Duhault I thus shows “wherein at least one attribute of each tile in said array of tiles is assigned uniformly.” See ¶¶ 192-193.

8. Claim 10

617. Duhault I shows that the tiles (*e.g.*, channel display areas) are updated or refreshed at the same rate, *i.e.*, a periodic rate (rather than a live rate), when no selection has been made. See, *e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, and 4:17-23. Duhault I thus shows “wherein said attribute is a refresh rate.”

9. Claim 11

618. While Duhault I shows that the refresh rate of unselected tile “may be user controlled,” it also shows that “[t]he periodic rate is primarily a function of the speed of the tuner 12 in switching from channel to channel and the number of channels.” See, *e.g.*, Ex. 1013, Duhault I at 3:47-50 and 4:23-26. One of ordinary skill in the art would read this disclosure to mean that the refresh rate of Duhault I for unselected tiles is assigned automatically unless the user manually controls the refresh rate. Duhault I thus shows “wherein said first refresh rate is assigned automatically.” See ¶¶ 194-197.

10. Claim 12

619. Duhault I shows that the tiles (*e.g.*, channel display areas 54, 56, 58, 60, 62, 64, 66, 68, and 70) occupy a fixed position on a grid with three rows and three columns. See, *e.g.*, Ex. 1013, Duhault I at 3:30-34 and FIG. 2.

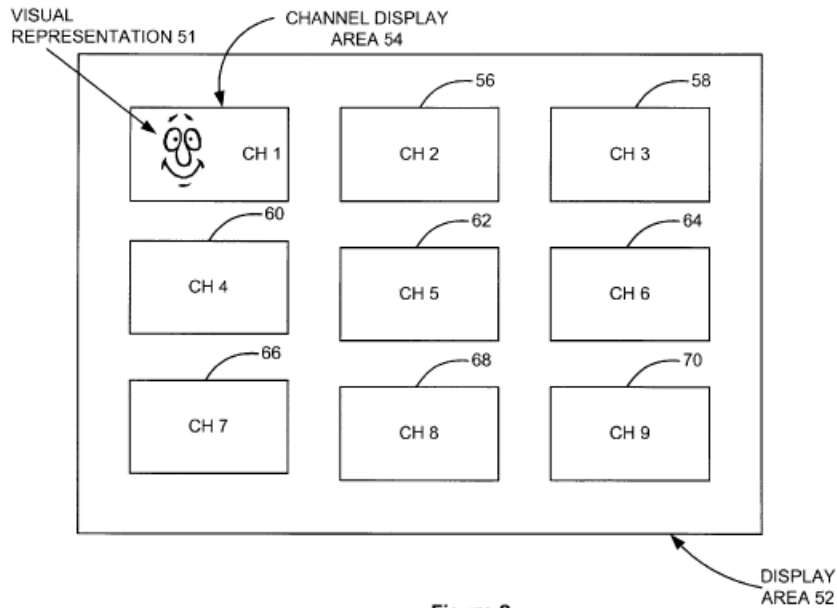


Figure 2

Ex. 1013, Duhault I at FIG. 2.

Duhault I thus shows “wherein said array comprises a grid wherein each of said tiles occupies a fixed position on said grid.” See ¶¶ 198-200 and 201-206.

11. Claim 13

620. Duhault I shows that the size of the channel display area depends on the size of the display area and the number of channels to be displayed. *See, e.g.*, Ex. 1013, Duhault I at 3:33-41. As an example, Duhault I shows an array of tiles with three rows and three columns wherein the unit tile size, *i.e.*, size of channel display areas 54, 56, 58, 60, 62, 64, 66, 68, and 70, is dependent upon the maximum number of tiles displayed vertically (*i.e.*, three) and maximum number of tiles displayed horizontally (*i.e.*, three). *See, e.g.*, Ex. 1013, Duhault I at 3:30-34 and FIG. 2. It is implicit in the figure that the different channels are intended to

tile the available display space, and hence, the unit tile size will depend upon the number of tiles. Duhault I thus shows “wherein a unit tile size is associated with said array of tiles, dependent upon a maximum number of tiles displayed vertically and a maximum number of tiles displayed horizontally.”

621. Duhault I shows an array of tiles with three rows and three columns wherein each tile has a fixed size that is equal to the unit tile size, *i.e.*, size of channel display areas 54, 56, 58, 60, 62, 64, 66, 68, and 70 in FIG. 2. *See, e.g.*, Ex. 1013, Duhault I at 3:30-34 and FIG. 2. Duhault I thus shows “wherein each tile in said array of tiles has a fixed size that is equal to said unit tile size, or a multiple thereof.”

12. Claim 18

622. Duhault I shows that the display device can be a television. *See, e.g.*, Ex. 1013, Duhault I at 2:32-42 and 3:22-28. Duhault I thus shows “wherein said device is a television.”

13. Claim 19

623. Duhault I shows that the device is a computer. *See, e.g.*, Ex. 1013, Duhault I at 1:6-10 and 3:22-28. Duhault I thus shows “wherein said device is a computer.”

14. Claim 21

624. Duhault I shows that the information to be displayed can include various video and audio contents. *See, e.g.*, Ex. 1013, Duhault I at 2:62-3:5. As such, Duhault I shows how its information sources can be an analog signal, a video signal, an audio signal, streaming video, and streaming audio. Duhault I thus shows “wherein said plurality of information sources comprises at least two information sources selected from the group consisting of: analog signal; video signal; audio signal; text; an e-mail program; a world-wide-web page; streaming video; streaming audio; and graphics.”

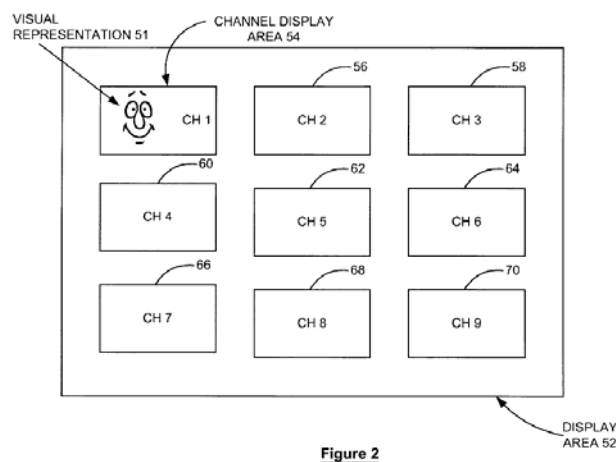
15. Claim 22

625. Duhault I shows a digital storage medium that stores programming instructions that causes the processor to display multiple channels in the display wherein at least one channel is refreshed and displayed at a live rate while the remaining channels are refreshed and displayed at a periodic rate. *See, e.g.*, Ex. 1013, Duhault I at 2:57-3:5, FIG. 1, and 2:10-19. Duhault I thus shows “[a]n electronic readable memory to direct an electronic device to function in a specified manner.”

626. Duhault I describes a computer-based implementation for performing these various functions. It therefore necessarily shows computer instructions stored in a memory for implementing such functions.

627. Duhault I shows that the video graphics processing circuit 16 and the digital storage medium 26 can control simultaneous communication with multiple channels, including broadcast television channels, cable television channels, satellite television channels, multi-cast mode broadcasts, or broadcast radio channels, via a channel tuner 12. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18 and 2:34-42. The television channels are the plurality of information sources and each channel is a video information source. Duhault I thus shows “a first set of instructions to control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

628. Duhault I shows arranging the display area 52 into a grid including an array of channel display areas 54, 56, 58, 60, 62, 64, 66, 68, or 70. *See, e.g.*, Ex. 1013, Duhault I at 1:59-61, 3:30-34, FIG. 2. Each channel display area is the “tile” as claimed. *See* ¶¶ 128-143.



Ex. 1013, Duhault I at FIG. 2.

629. Duhault I thus shows “a second set of instructions to arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

630. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Duhault I shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. By selecting the video viewing areas, underlying video and/or audio information can be accessed. *Id.* Duhault I thus shows that a tile is “selectable to provide access to underlying information of the associated information source.”

631. Duhault I shows that each channel is displayed in a corresponding channel display area. *See, e.g.*, Ex. 1013, Duhault I at 4:17-23. Duhault I thus shows “a third set of instructions to associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

632. Duhault I shows that the first and second channel display areas in FIG. 2 (*e.g.*, 54 and 56) will be updated or refreshed at a periodic rate, *i.e.*, the first retrieval rate and the second retrieval rate, when the display is in a multiple channel display mode. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, 4:17-23 and FIG. 2. In view of dependent claims, *e.g.*, claims 39 and 42, and/or the

doctrine of claim differentiation, it is my opinion that the first and second retrieval rates need not be different. Duhault I thus shows “a fourth set of instructions to retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” See ¶¶ 168-172 and 176-180.

633. Duhault I shows that the visual representations are “subsequently” displayed after the representations are “recently” received and/or sampled. *See, e.g.*, Ex. 1013, Duhault I at 4:17-23 and 3:22-28. A person of ordinary skill in the art would understand that the display of information is also in accordance with the retrieval (or sample) rates. Duhault I thus shows a “a fifth set of instructions to present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” *See* ¶¶ 168-172.

16. Claim 23

634. Duhault I shows processing video and/or audio signals received across a network of channels, *e.g.*, broadcast television channels, cable television channels, satellite television channels, multi-cast mode broadcasts, or broadcast radio channels. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18. Duhault I thus shows “a set of instructions to process a network datastream from a network data source.”

17. Claim 24

635. Duhault I shows using tuners 12 in association with a processing circuit 16. *See, e.g.*, Ex. 1013, Duhault I at 2:34-42. Duhault I thus shows “a set of instructions to process a tuner signal from a tuner device.”

18. Claim 26

636. Duhault I shows the elements of claim 26 for the same reasons I provided above for claim 18.

19. Claim 27

637. Duhault I shows the elements of claim 27 for the same reasons I provided above for claim 19.

20. Claim 29

638. If it is found that Duhault I does not explicitly describe the element, “a set of instructions to assign a password to a selected tile of said array of tiles,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Duhault I. A person of ordinary skill would have considered “a set of instructions to assign a password to a selected tile of said array of tiles” to be an obvious design choice or a routine modification to an existing system.

639. For example, a person of ordinary skill in the art would have found it obvious to combine Duhault I with Miller because they are analogous art in related

fields. In particular, similar to Duhault I, Miller is directed towards graphical user interfaces. Moreover, Miller explains the motivations for adding its password system to objects in graphical user interfaces.

640. Miller shows a scheme for assigning passwords to individual objects of a graphical user interface. *See, e.g.*, Ex. 1027, Miller at 1:41-2:48.

641. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Duhault I in view of Miller.

21. Claim 30

642. Duhault I shows the elements of claim 30 for the same reasons I provided above for claim 3.

22. Claim 31

643. Duhault I shows the elements of claim 31 for the same reasons I provided above for claim 4. For example, the sampling rate of Duhault I is also a retrieval rate as required by claim 31. Similarly, the scheme in Duhault I in which selection of a tile causes a higher retrieval rate is a priority scheme.

23. Claim 32

644. Duhault I shows the elements of claim 32 for the same reasons I provided above for claim 5.

24. Claim 33

645. Duhault I shows that the first retrieval rate (*i.e.*, periodic rate) is interrupted when a channel is selected. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 4:26-38, 3:30-34, and FIG. 2. When a particular channel is selected, the selected channel (among the plurality of channels disclosed in FIG. 2) will be updated at a live rate. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38, 3:30-34, and FIG. 2. The remaining channels that are unselected will no longer be updated at the “periodic rate” and will display static information because the embodiment disclosed in Duhault I only uses one tuner. Duhault I thus shows “a set of instructions to interrupt said first retrieval rate and present said first tile with static information from said first information source.” *See* ¶¶ 211-212.

25. Claim 35

646. Duhault I shows delivering a live video signal to a selected channel display area. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. Duhault I thus shows “a set of instructions to deliver a video signal to a selected tile of said array of tiles.”

26. Claim 36

647. Duhault I shows delivering broadcast television signals to a selected channel display area. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38 and 3:7-18. Duhault I thus shows “a set of instructions to deliver a frame of a broadcast TV signal to a selected tile of said array of tiles.”

27. Claim 37

648. Duhault I shows that the audio and/or video signals can be signals received across a network of channels, *e.g.*, broadcast television channels, cable television channels, satellite television channels, multi-cast mode broadcasts, or broadcast radio channels. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18. Duhault I thus shows “a set of instructions to deliver information from a network document to a selected tile of said array of tiles.” *See* ¶¶ 213-215.

28. Claim 38

649. If it is found that Duhault I does not explicitly describe the element, “a set of instructions to deliver a web page to a selected tile of said array of tiles,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Duhault I. A person of ordinary skill would have considered “a set of instructions to deliver a web page to a selected tile of said array of tiles” to be an obvious design choice or a routine modification to an existing system.

650. For example, a person of ordinary skill in the art would have found it obvious to combine Duhault I with Brown because they are analogous art directed towards solving the same problem. In particular, similar to Duhault I, Brown is directed towards displaying tiles linked to various information sources which are periodically updated over a network.

651. Brown shows how information is delivered from web pages to desktop components. *See, e.g.*, Ex. 1030, Brown at 7:36-39, 2:13-28, 5:45-6:8.

652. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Duhault I in view of Brown.

29. Claim 40

653. Duhault I shows the elements of claim 40 for the same reasons I provided above for claim 8.

30. Claim 41

654. Duhault I shows the elements of claim 41 for the same reasons I provided above for claim 9.

31. Claim 42

655. Duhault I shows the elements of claim 42 for the same reasons I provided above for claim 10. For example, the sampling rate of Duhault I is also a retrieval rate as required by claim 42.

32. Claim 43

656. Duhault I shows the elements of claim 43 for the same reasons I provided above for claim 11. For example, the sampling rate of Duhault I is also a retrieval rate as required by claim 43.

33. Claim 46

657. Duhault I shows a multiple channel display system. *See, e.g.*, Ex. 1013, Duhault I at 4:2-5 and Title. Duhault I thus shows “[a] system for facilitating the organization and management of multiple data sources.”

658. Duhault I describes a computer-based implementation for performing these various functions. It therefore necessarily shows computer instructions stored in a memory for implementing such functions.

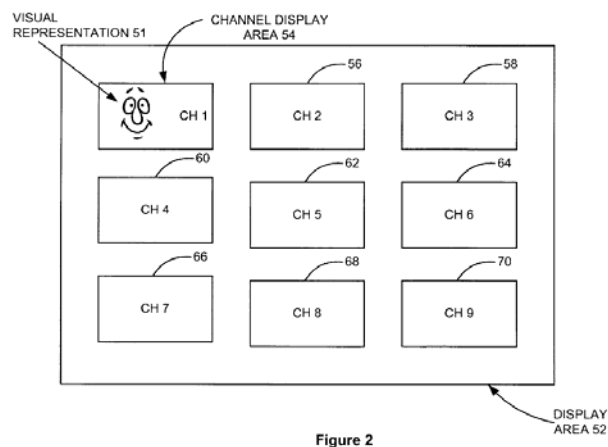
659. Duhault I shows a video graphics circuit 16 including a processor 28, an input device (e.g., mouse or keyboard), and a digital storage medium that stores programming instructions that causes the processor to display multiple channels in the display wherein at least one channel is refreshed and displayed at a live rate while the remaining channels are refreshed and displayed at a periodic rate. *See, e.g.*, Ex. 1013, Duhault I at 2:57-3:5, FIG. 1, 2:10-19, 2:42-56, 4:26-32. Duhault I thus shows “a device that includes a processor configured to execute instructions, a memory connected to said processor to store at least one program that includes a graphical user interface, and an input device.”

660. Duhault I shows that the video graphics processing circuit 16 and the digital storage medium 26 can control simultaneous communication with multiple channels, including broadcast television channels, cable television channels, satellite television channels, multi-cast mode broadcasts, or broadcast radio

channels, via a channel tuner 12. *See, e.g.*, Ex. 1013, Duhault I at 3:7-18, 2:34-42.

The television channels are the plurality of information sources and each channel is a video information source. Duhault I thus shows “control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

661. Duhault I shows arranging the display area 52 into a grid including an array of channel display areas 54, 56, 58, 60, 62, 64, 66, 68, or 70. *See, e.g.*, Ex. 1013, Duhault I at 1:59-61, 3:30-34, FIG. 2. Each channel display area is the “tile” as claimed. *See* ¶¶ 128-143.



Ex. 1013, Duhault I at FIG. 2.

662. Duhault I thus shows “arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

663. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Duhault I shows how users may select one of the

multiple video viewing areas. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38. By selecting the video viewing areas, underlying video and/or audio information can be accessed. *Id.* Duhault I thus shows that a tile is “selectable to provide access to underlying information of the associated information source.”

664. Duhault I shows that each channel is displayed in a corresponding channel display area. *See, e.g.*, Ex. 1013, Duhault I at 4:17-23. Duhault I thus shows “associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

665. Duhault I shows that the first and second channel display areas in FIG. 2 (*e.g.*, 54 and 56) will be updated or refreshed at a periodic rate, *i.e.*, the first retrieval rate and the second retrieval rate, when the display is in a multiple channel display mode. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46, 3:14-18, 4:17-23 and FIG. 2. In view of dependent claim 49 and/or the doctrine of claim differentiation, it is my opinion that the first and second retrieval rates need not be different. Duhault I thus shows “retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” *See* ¶¶ 168-172 and 176-180.

666. Duhault I shows that the visual representations are “subsequently” displayed after the representations are “recently” received and/or sampled. *See, e.g.,* Ex. 1013, Duhault I at 4:17-23 and 3:22-28. A person of ordinary skill in the art would understand that the display of information is also in accordance with the retrieval (or sample) rates. Duhault I thus shows “present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” *See* ¶¶ 168-172 .

34. Claim 47

667. Duhault I shows the elements of claim 47 for the same reasons I provided above for claim 8.

35. Claim 48

668. Duhault I shows the elements of claim 48 for the same reasons I provided above for claim 9.

36. Claim 49

669. Duhault I shows the elements of claim 49 for the same reasons I provided above for claims 10 and 42.

37. Claim 50

670. Duhault I shows the elements of claim 50 for the same reasons I provided above for claims 11 and 43.

E. U.S. Patent Number 6,456,334 (“Duhault II”)

671. U.S. Patent Number 6,456,334 (“Duhault II”) has a filing date of June 29, 1999. Duhault II is prior art to the ’403 patent under at least § 102(e) because it was filed before the earliest priority date of the ’403 patent, *i.e.*, October 29, 1999.

672. Similar to Duhault I, Duhault II describes a system for watching multiple television video broadcasts at the same time. *See, e.g.*, Ex. 1014, Duhault II at 1:29-32.

673. Duhault II also shows that the tuner within the display system periodically retrieves samples of live broadcasts of various channels to be displayed. *See, e.g.*, Ex. 1014, Duhault II at 3:42-46.

674. Duhault II describes use of a second tuner relative to the scheme shown in Duhault I, which allows two channels being displayed to have different refresh rates.

675. In Duhault II, the display area is partitioned into an array of “video images” (141-149), which correspond to the “tiles” of the ’403 patent.

676. In Figure 1, Duhault II depicts an example of how the display area can be partitioned into an array of tiles, *e.g.*, in a grid configuration:

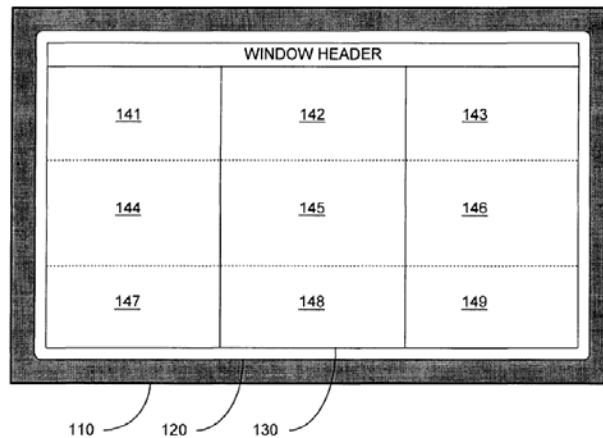


FIGURE 1

Ex. 1014, Duhault II at FIG. 1.

677. Duhault II explains that the rate at which the video images are updated is generally assigned by the tuner. *See, e.g.*, Ex. 1014, Duhault II at 4:63-5:2. It also explains that, alternatively, the refresh rates can be assigned by the user. *See, e.g.*, Ex. 1014, Duhault II at claim 10.

678. In Duhault II, a first video image can be updated at a first refresh rate, *e.g.*, a full-motion-video rate, by the first tuner, and a second video image can be simultaneously updated at a second refresh rate, *e.g.*, a lower rate, by the second tuner. *See, e.g.*, Ex. 1014, Duhault II at 4:63-5:2.

679. The second tuner of Duhault II allows a video source to be sampled and displayed in a video image area at a full-motion refresh rate at the same time that the other video areas are refreshed at a lower non-zero rate, *i.e.*, a “preview” rate. *Id.*

1. Claim 1

680. Duhault II shows a memory including RAM and ROM that stores the program implementing the functionality disclosed in Duhault II. *See, e.g.*, Ex. 1014, Duhault II at 7:42-50. Duhault II thus shows “[a] method executed by a device under the control of a program, said device including a memory for storing said program.”

681. Duhault II shows that multiple channels (digital or analog) can be displayed. *See, e.g.*, Ex. 1014, Duhault II at 1:29-32 and 3:1-6. The television channels are the plurality of information sources and each channel is a video information source. Duhault II thus shows “selecting a plurality of information sources.” *See* ¶¶ 125-127.

682. Duhault II shows partitioning a visual display into a collection of “video images” wherein each “video image” is associated with its unique channel of video. *See, e.g.*, Ex. 1014, Duhault II at 3:1-6, FIGs. 1 and 2. Each “video image” is the “tile” as claimed. *See* ¶¶ 128-143. In particular, Duhault II shows partitioning a computer display or television screen into a grid of rectangular video viewing areas. *Id.* The grid of video viewing areas is an array of tiles. Each video viewing area is associated with one of the television sources. Duhault II thus shows “partitioning a visual display of the device into an array of tiles, wherein

each tile in said array of tiles is associated with an information source in said plurality of information sources.” See ¶¶ 144-151 and 155-159.

683. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Duhault II shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2. By selecting the video viewing areas, underlying video information can be accessed. *Id.* Duhault II thus shows that a tile is “selectable to provide access to underlying information of the associated information source.”

684. Duhault II shows that a first portion of the plurality of video images is assigned a refresh rate (*e.g.*, sampling rate) of the first tuner while the second portion of the plurality of video images is assigned a refresh rate (*e.g.*, sampling rate) of the second tuner. *See, e.g.*, Ex. 1014, Duhault II at 3:10-41 and Abstract. Here, both a first refresh rate and a second refresh rate are assigned because multiple channels will be periodically sampled and displayed simultaneously. *Id.* Duhault II further shows that the refresh rate (*e.g.*, sampling rate) of a “video image” can change when the user selects the video image. *See, e.g.*, Ex. 1014, Duhault II at 4:56-62. The rate at which each television channel is sampled and displayed in a tile is the refresh rate assigned to the tile. In view of dependent claims, *e.g.*, claims 6 and 10, and/or the doctrine of claim differentiation, it is my

opinion that the first and second refresh rates need not be different. Duhault II thus shows “assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles.” *See* ¶¶ 163-167.

685. Duhault II shows that the first portion of the plurality of images is updated by a first tuner. *See, e.g.*, Ex. 1014, Duhault II at Abstract, 4:63-5:2 and FIG. 2. Duhault II thus shows “updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate.” *See* ¶¶ 173-175.

686. Duhault II shows that the second portion of the plurality of images is updated by a second tuner. *See, e.g.*, Ex. 1014, Duhault II at Abstract, 4:63-5:2, FIG. 2, 1:20-24. A person of ordinary skill in the art would understand that information from a second information source is simultaneously updated in accordance with said second refresh rate because Duhault II shows displaying multiple tiles, which are updated at their respective rates, at the same time. *See, e.g.*, Ex. 1014, Duhault II at 3:10-22. Duhault II thus shows “simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.” *See* ¶¶ 181-183.

2. Claim 2

687. Duhault II shows a user interface for resizing the grid of video viewing areas by adding video viewing areas and by changing the display area occupied by the grid. *See, e.g.*, Ex. 1014, Duhault II at 6:52-62. Duhault II thus shows “wherein said partitioning includes partitioning said array of tiles in accordance with a user-defined array size.” *See* ¶¶ 160-162.

3. Claim 3

688. Duhault II shows a collection of non-overlapping video images 141-149 with uniform size and shape. *See, e.g.*, Ex. 1014, Duhault II at FIG. 1 and 2:27-31.

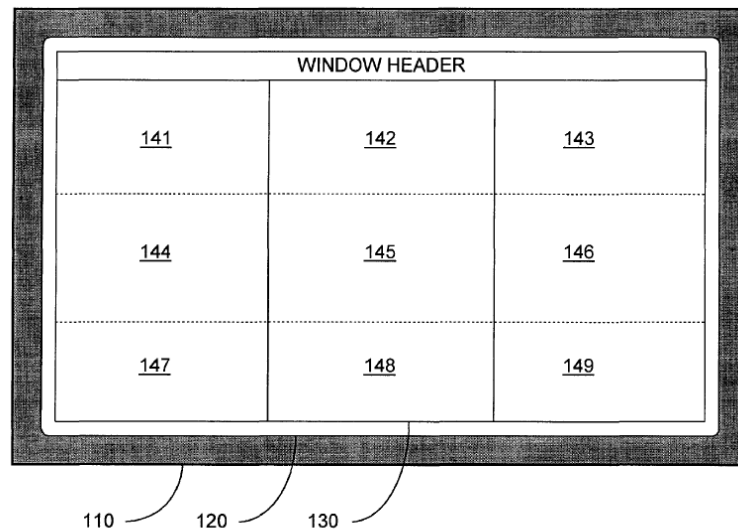


FIGURE 1

Ex. 1014, Duhault II at FIG. 1.

689. Duhault II thus shows “wherein said partitioning includes partitioning said array of tiles in a non-overlapping configuration wherein each tile of said array of tiles is a uniform size and shape.” See ¶¶ 184-185.

4. **Claim 4**

690. Duhault II shows how the refresh rates of video viewing areas depend on whether a user has prioritized that area by selecting it. See, e.g., Ex. 1014, Duhault II at 5:41-45 and 4:56-5:2. In particular, Duhault II shows that the refresh rate of a video image can change when the video image is selected. See, e.g., Ex. 1014, Duhault II at 5:41-45. A person of ordinary skill in the art would understand that a value indicating the state of the image, e.g., whether the image is selected or not, necessarily exists. A full-motion-rate reflects higher priority over a lower rate. Accordingly, the selected viewing area has a higher priority than the other viewing areas that are not selected. As such, the refresh rates of the viewing areas depend on the priority value—the higher-priority viewing area has a higher (full motion) refresh rate, while the refresh rate for the other viewing areas is less. See, e.g., Ex. 1014, Duhault II at 4:56-5:2. Duhault II thus shows “wherein said assigning includes assigning said first refresh rate and said second refresh rate in accordance with a first priority value of a first information source associated with said first tile and a second priority value of a second information source associated with said second tile.” See ¶¶ 186-190.

5. Claim 5

691. Duhault II shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2. Once selected, a higher refresh rate will be assigned to that video viewing area. *Id.* Duhault II thus shows “wherein said assigning includes attributing a selected state or an unselected state to said first tile and said second tile.” *See* ¶ 191.

6. Claim 6

692. Duhault II shows that the refresh rate for a first tile (*e.g.*, image 245) can be a full-motion-video rate while the refresh rate for a second tile (*e.g.*, other images) is a lower rate. *See, e.g.*, Ex. 1014, Duhault II at 4:63-5:2. Duhault II thus shows “wherein said first refresh rate is different from said second refresh rate.”

7. Claim 7

693. Duhault II shows how users can influence the refresh rate of a video viewing area by selecting the viewing area which causes the refresh rate to increase to a full motion rate. *See, e.g.*, Ex. 1014, Duhault II at 4:63-5:2 and claim 10. Duhault II further shows that the refresh rates are user configurable. *See, e.g.*, Ex. 1014, Duhault II at claim 10. Duhault II thus shows “wherein at least one of said first refresh rate and said second refresh rate is specified by a user.”

8. Claim 8

694. Duhault II shows a collection of tiles (*e.g.*, video images 141-149) with three rows and three columns. *See, e.g.*, Ex. 1014, Duhault II at FIG. 1 and 2:27-31.

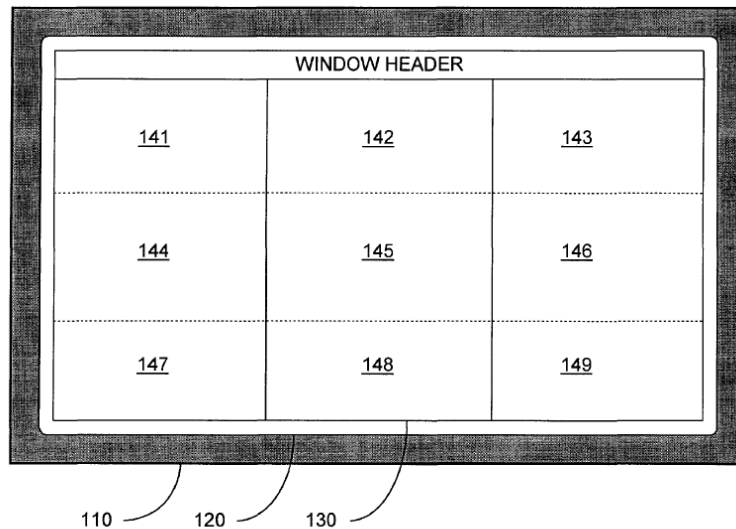


FIGURE 1

Ex. 1014, Duhault II at FIG. 1.

Duhault II thus shows “wherein said array comprises more than one row and more than one column.”

9. Claim 9

695. Duhault II shows how multiple video viewing areas will be assigned the same refresh rate using the same methodology. *See, e.g.*, Ex. 1014, Duhault II at 3:10-41. In particular, Duhault II shows that eight tiles (*e.g.*, video images) are periodically updated using the first tuner. *See, e.g.*, Ex. 1014, Duhault II at 3:10-

41. A person of ordinary skill in the art would understand that the refresh rate of eight tiles can be uniform because they are updated by the same tuner. Duhault II thus shows “wherein at least one attribute of each tile in said array of tiles is assigned uniformly.” See ¶¶ 192-193.

10. Claim 10

696. Duhault II shows how multiple video viewing areas will be assigned the same refresh rate using the same methodology. See, e.g., Ex. 1014, Duhault II at 3:10-41. In particular, Duhault II shows that eight tiles (e.g., video images) are periodically updated using the first tuner. See, e.g., Ex. 1014, Duhault II at 3:10-41. A person of ordinary skill in the art would understand that the refresh rate of eight tiles can be uniform because they are updated by the same tuner. Duhault II thus shows “wherein said attribute is a refresh rate.”

11. Claim 11

697. Duhault II shows how the tile can be refreshed at a “full-motion-video rate.” See, e.g., Ex. 1014, Duhault II at 3:28-32. A person of ordinary skill in the art would understand that the rate can be automatically set by the relevant standards, e.g., 30 frames-per-second, if the rate for the “full-motion-video rate” is not specifically assigned. Duhault II thus shows “wherein said first refresh rate is assigned automatically.” See ¶¶ 194-197.

12. Claim 12

698. Duhault II shows that the tiles (*e.g.*, video images 141-149) occupy a fixed position on a grid with three rows and three columns. *See, e.g.*, Ex. 1014, Duhault II at FIG. 1, 6:52-62, 2:27-31.

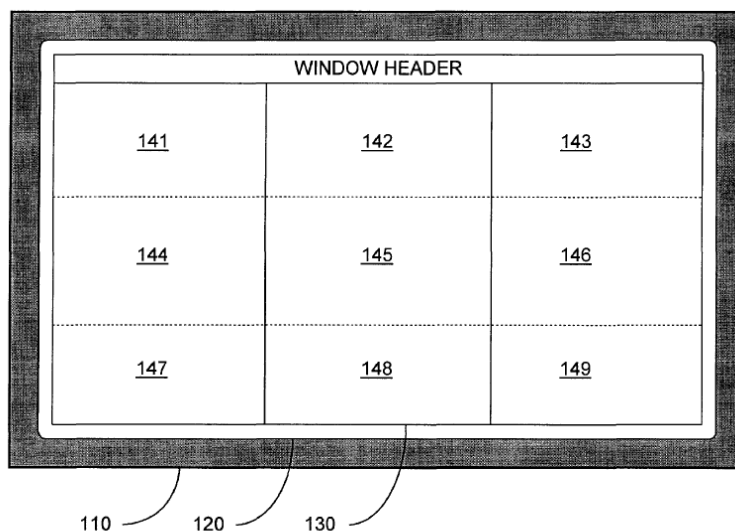


FIGURE 1

Ex. 1014, Duhault II at FIG. 1.

699. The position and layout of the video viewing areas are fixed. *See, e.g.*, Ex. 1014, Duhault II at 6:52-62. Duhault II thus shows “wherein said array comprises a grid wherein each of said tiles occupies a fixed position on said grid.” *See* ¶¶ 198-200 and 201-206.

13. Claim 13

700. Duhault II shows an array of tiles with three rows and three columns wherein the unit tile size, *i.e.*, size of tiles 141, 142, ..., or 149 in FIG. 1, is

dependent upon the maximum number of tiles displayed vertically (*i.e.*, three) and maximum number of tiles displayed horizontally (*i.e.*, three). *See, e.g.*, Ex. 1014, Duhault II at 3:1-6 and FIG. 1. It is implicit in the figure that the different channels are intended to tile the available display space, and hence, the unit tile size will depend upon the number of tiles. Duhault II thus shows “wherein a unit tile size is associated with said array of tiles, dependent upon a maximum number of tiles displayed vertically and a maximum number of tiles displayed horizontally.”

701. Duhault II shows a grid with three rows and three columns wherein each tile therein has a fixed size that is equal to the unit tile size, *i.e.*, size of tiles 141, 142, ..., or 149 in FIG. 1. *See, e.g.*, Ex. 1014, Duhault II at 3:1-6 and FIG. 1. Duhault II thus shows “wherein each tile in said array of tiles has a fixed size that is equal to said unit tile size, or a multiple thereof.”

14. Claim 17

702. Duhault II shows that the display device can be handheld devices or any other device wherein window scalability would generally be found. *See, e.g.*, Ex. 1014, Duhault II at 2:23-27. A person of ordinary skill in the art would understand that handheld devices refer to mobile telephones. *See, e.g.*, Ex. 1078 (April 11, 1997 submission to W3C, organization that standardized HTML, and submitted by a group that included AT&T, Alcatel, Unwired Planet, and Sun,

regarding the Handheld Device Markup language “handheld devices such as cellular phones, pagers, and wireless PDA's.”); Ex. 1079 (May 9, 1997 Handheld Device Markup Language document “handheld devices such as mobile phones and PDAs.”); Ex. 1080 (April 11, 1997 Handheld Device Markup Language document “Examples include mobile phones and two-way pagers.”); Ex. 1081 (May 7, 1997 article on Handheld Device Transport Protocol providing mobile phones and pagers as examples of handheld devices).

703. A person of ordinary skill in the art would have interpreted the disclosures in Duhault II as meaning that its scheme could be implemented on mobile telephones. In fact, the '403 patent itself uses the term “handheld” devices interchangeably with “mobile” device. *See, e.g.*, Ex. 1001, '403 patent at 23:38-45 . Moreover, in October of 1999, a person of ordinary skill in the art would have been familiar with the various form factors of computers, and the ability of each to execute computer programs. That person could have readily implemented a computer program found on a device with one of these form factors onto a device with a different form factor. Duhault II thus shows “wherein said device is a mobile telephone.”

15. Claim 18

704. Duhault II shows that the display device can be a television screen. *See, e.g.*, Ex. 1014, Duhault II at 2:16-18. Duhault II thus shows “wherein said device is a television.”

16. Claim 19

705. Duhault II shows that the display device can be a computer monitor. *See, e.g.*, Ex. 1014, Duhault II at 2:16-18 and 2:23-27. Duhault II thus shows “wherein said device is a computer.”

17. Claim 20

706. Duhault II shows that the display device can be handheld devices or any other device wherein window scalability would generally be found. *See, e.g.*, Ex. 1014, Duhault II at 2:23-27. A person of ordinary skill in the art would understand that a handheld device includes personal digital assistants. *See, e.g.*, Ex. 1078 (April 11, 1997 submission to W3C, organization that standardized HTML, and submitted by a group that included AT&T, Alcatel, Unwired Planet, and Sun, regarding the Handheld Device Markup language “handheld devices such as cellular phones, pagers, and wireless PDA's.”); Ex. 1079 (May 9, 1997 Handheld Device Markup Language document “handheld devices such as mobile phones and PDAs.”)

707. A person of ordinary skill in the art reading that disclosure would have interpreted the disclosures in Duhault II as meaning that its scheme could be implemented on personal digital assistant. Moreover, in October of 1999, a person of ordinary skill in the art was familiar with the various form factors of computers, and the ability of each to execute computer programs. Implementing a computer program existing on one of these form factors on a different form factor was within a person of ordinary skill in the art. Duhault II thus shows “wherein said device is a personal digital assistant.”

18. Claim 21

708. Duhault II shows that the information to be displayed can include various video and audio contents. *See, e.g.*, Ex. 1014, Duhault II at 4:33-46. As such, Duhault II shows how its information sources can be an analog signal, a video signal, an audio signal, streaming video, and streaming audio. Duhault II thus shows “wherein said plurality of information sources comprises at least two information sources selected from the group consisting of: analog signal; video signal; audio signal; text; an e-mail program; a world-wide-web page; streaming video; streaming audio; and graphics.”

19. Claim 22

709. Duhault II shows a memory including RAM and ROM that stores the program implementing the functionality disclosed in Duhault II. *See, e.g.*, Ex.

1014, Duhault II at 7:42-50. Duhault II thus shows “[a]n electronic readable memory to direct an electronic device to function in a specified manner.”

710. Duhault II describes a computer-based implementation for performing these various functions. It therefore necessarily shows computer instructions stored in a memory for implementing such functions.

711. Duhault II shows that multiple channels (digital or analog) can be displayed. *See, e.g.*, Ex. 1014, Duhault II at 1:29-32 and 3:1-6. The television channels are the plurality of information sources and each channel is a video information source. Duhault II thus shows “a first set of instructions to control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

712. Duhault II shows arranging a visual display into a collection of “video images.” *See, e.g.*, Ex. 1014, Duhault II at 3:1-6, FIGs. 1 and 2. Each “video image” is the “tile” as claimed. *See* ¶¶ 128-143.

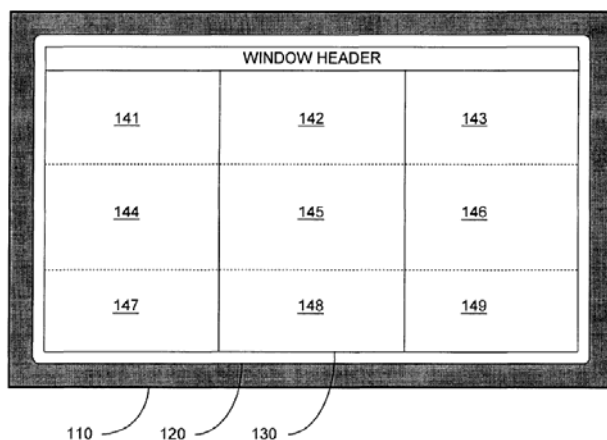


FIGURE 1

Ex. 1014, Duhault II at FIG. 1.

713. In particular, Duhault II shows arranging a computer display or television screen into a grid of rectangular video viewing areas. *Id.* The grid of video viewing areas is an array of tiles. Each video viewing area is associated with one of the television sources. Duhault II thus shows “a second set of instructions to arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

714. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Duhault II shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2. By selecting the video viewing areas, underlying video information can be accessed. *Id.* Duhault II thus shows that a tile is “selectable to provide access to underlying information of the associated information source.”

715. Duhault II shows that each “video image” is associated with its unique channel of video. *See, e.g.*, Ex. 1014, Duhault II at 3:1-6, 2:27-43 and FIGs. 1 and 2. Duhault II thus shows “a third set of instructions to associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

716. Duhault II shows that a first portion of the plurality of video images is periodically refreshed using a first tuner and that a second portion of the plurality of video images are periodically refreshed using a second tuner wherein the first and second tuners have different sampling rates. *See, e.g.*, Ex. 1014, Duhault II at Abstract, 3:10-41, 4:56-62, 4:63-5:2 and FIGs. 1 and 2. Duhault II thus shows “a fourth set of instructions to retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” *See* ¶¶ 168-172 and 176-180.

717. Duhault II shows that a first portion of the plurality of video images is periodically refreshed using a first tuner and that a second portion of the plurality of video images are periodically refreshed using a second tuner. *See, e.g.*, Ex. 1014, Duhault II at Abstract and 3:10-41. A person of ordinary skill in the art would understand that the information would be presented as it is refreshed. Duhault II thus shows “a fifth set of instructions to present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” *See* ¶¶ 168-172.

20. Claim 23

718. Duhault II shows that the video images can represent signals received across the Internet. *See, e.g.*, Ex. 1014, Duhault II at 3:6-9 and 7:58-64. Duhault

II thus shows “a set of instructions to process a network datastream from a network data source.”

21. Claim 24

719. Duhault II shows using tuners in association with a processing device. *See, e.g.*, Ex. 1014, Duhault II at 8:6-8, 7:49-58 and 3:42-46. Duhault II thus shows “a set of instructions to process a tuner signal from a tuner device.”

22. Claim 25

720. Duhault II shows the elements of claim 25 for the same reasons I provided above for claim 17.

23. Claim 26

721. Duhault II shows the elements of claim 26 for the same reasons I provided above for claim 18.

24. Claim 27

722. Duhault II shows the elements of claim 27 for the same reasons I provided above for claim 19.

25. Claim 28

723. Duhault II shows the elements of claim 28 for the same reasons I provided above for claim 20.

26. Claim 30

724. Duhault II shows the elements of claim 30 for the same reasons I provided above for claim 3.

27. Claim 31

725. Duhault II shows the elements of claim 31 for the same reasons I provided above for claim 4. For example, the sampling rate of Duhault II is also a retrieval rate as required by claim 31. Similarly, the scheme in Duhault II in which selection of a tile causes a higher retrieval rate is a priority scheme.

28. Claim 32

726. Duhault II shows the elements of claim 32 for the same reasons I provided above for claim 5.

29. Claim 33

727. Duhault II shows that the other tiles (unselected tiles) will remain “stale” when a tile is selected. *See, e.g.*, Ex. 1014, Duhault II at 5:12-16 and 4:63-5:2. In other words, when a particular channel is selected, the selected channel will be updated at a full-motion-video rate. *See, e.g.*, Ex. 1014, Duhault II at 5:12-16 and 4:63-5:2. The remaining channels that are unselected will no longer be updated and will display stale information. Duhault II thus shows “a set of instructions to interrupt said first retrieval rate and present said first tile with static information from said first information source.” *See* ¶¶ 211-212.

30. Claim 35

728. Duhault II shows that the information to be displayed can include video contents. *See, e.g.*, Ex. 1014, Duhault II at 4:33-46. Duhault II thus shows “a set of instructions to deliver a video signal to a selected tile of said array of tiles.”

31. Claim 36

729. Duhault II shows that television channels are displayed. *See, e.g.*, Ex. 1014, Duhault II at 3:1-6. Duhault II thus shows “a set of instructions to deliver a frame of a broadcast TV signal to a selected tile of said array of tiles.”

32. Claim 37

730. Duhault II shows that the video images can represent signals received across the Internet. *See, e.g.*, Ex. 1014, Duhault II at 3:6-9 and 7:58-64. Duhault II thus shows “a set of instructions to deliver information from a network document to a selected tile of said array of tiles.” *See* ¶¶ 213-215.

33. Claim 39

731. Duhault II shows the elements of claim 39 for the same reasons I provided above for claim 6. For example, the sampling rate of Duhault II is also a retrieval rate as required by claim 39.

34. Claim 40

732. Duhault II shows the elements of claim 40 for the same reasons I provided above for claim 8.

35. Claim 41

733. Duhault II shows the elements of claim 41 for the same reasons I provided above for claim 9.

36. Claim 42

734. Duhault II shows the elements of claim 42 for the same reasons I provided above for claim 10. For example, the sampling rate of Duhault II is also a retrieval rate as required by claim 42.

37. Claim 43

735. Duhault II shows the elements of claim 43 for the same reasons I provided above for claim 11. For example, the sampling rate of Duhault II is also a retrieval rate as required by claim 43.

38. Claim 46

736. Duhault II shows a system of displaying information from multiple data sources simultaneously. *See, e.g.*, Ex. 1014, Duhault II at 1:20-24 and 1:29-32. Duhault II thus shows “[a] system for facilitating the organization and management of multiple data sources.”

737. Duhault II describes a computer-based implementation for performing these various functions. It therefore necessarily shows computer instructions stored in a memory for implementing such functions.

738. Duhault II shows a central processing unit 1110, RAM 1112, ROM 1114, user interface adapter 1120, and input devices including a mouse 1140 and a keyboard 1141. *See, e.g.*, Ex. 1014, Duhault II at FIG. 11 and 7:42-50. Duhault II thus shows “a device that includes a processor configured to execute instructions, a memory connected to said processor to store at least one program that includes a graphical user interface, and an input device.”

739. Duhault II shows that multiple channels (digital or analog) can be displayed. *See, e.g.*, Ex. 1014, Duhault II at 1:29-32 and 3:1-6. The television channels are the plurality of information sources and each channel is a video information source. Duhault II thus shows “control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

740. Duhault II shows arranging a visual display into a collection of “video images.” *See, e.g.*, Ex. 1014, Duhault II at 3:1-6, FIGs. 1 and 2. Each “video image” is the “tile” as claimed. *See* ¶¶ 128-143.

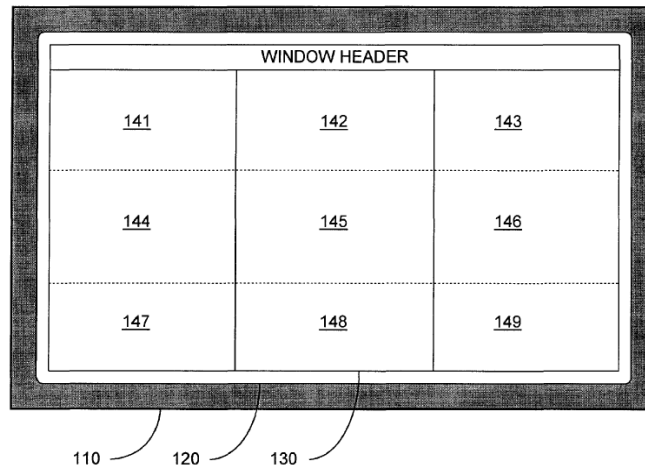


FIGURE 1

Ex. 1014, Duhault II at FIG. 1.

741. In particular, Duhault II shows arranging a computer display or television screen into a grid of rectangular video viewing areas. *See, e.g.*, Ex. 1014, Duhault II at 3:1-6, FIG. 1, 5:41-45 and 4:52-5:2. The grid of video viewing areas is an array of tiles. Each video viewing area is associated with one of the television sources. Duhault II thus shows “arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

742. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Duhault II shows how users may select one of the multiple video viewing areas. *See, e.g.*, Ex. 1014, Duhault II at 5:41-45 and 4:52-5:2. By selecting the video viewing areas, underlying video information can be

accessed. *Id.* Duhault II thus shows that a tile is “selectable to provide access to underlying information of the associated information source.”

743. Duhault II shows that each “video image” is associated with its unique channel of video. *See, e.g.*, Ex. 1014, Duhault II at 3:1-6, FIGs. 1 and 2, 2:27-43. Duhault II thus shows “associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

744. Duhault II shows that a first portion of the plurality of video images is periodically refreshed using a first tuner and that a second portion of the plurality of video images are periodically refreshed using a second tuner wherein the first and second tuners have different sampling rates. *See, e.g.*, Ex. 1014, Duhault II at Abstract, 3:10-41, 4:56-62, 4:63-5:2, FIGs. 1 and 2. Duhault II thus shows “retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” *See* ¶¶ 168-172 and 176-180.

745. Duhault II shows that a first portion of the plurality of video images is periodically refreshed using a first tuner and that a second portion of the plurality of video images are periodically refreshed using a second tuner. *See, e.g.*, Ex. 1014, Duhault II at Abstract, 3:10-41, 4:56-62. A person of ordinary skill in the art

would understand that the information would be presented as it is refreshed.

Duhault II thus shows “present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” See ¶¶ 168-172.

39. Claim 47

746. Duhault II shows the elements of claim 47 for the same reasons I provided above for claim 8.

40. Claim 48

747. Duhault II shows the elements of claim 48 for the same reasons I provided above for claim 9.

41. Claim 49

748. Duhault II shows the elements of claim 49 for the same reasons I provided above for claims 10 and 42.

42. Claim 50

749. Duhault II shows the elements of claim 50 for the same reasons I provided above for claims 11 and 43.

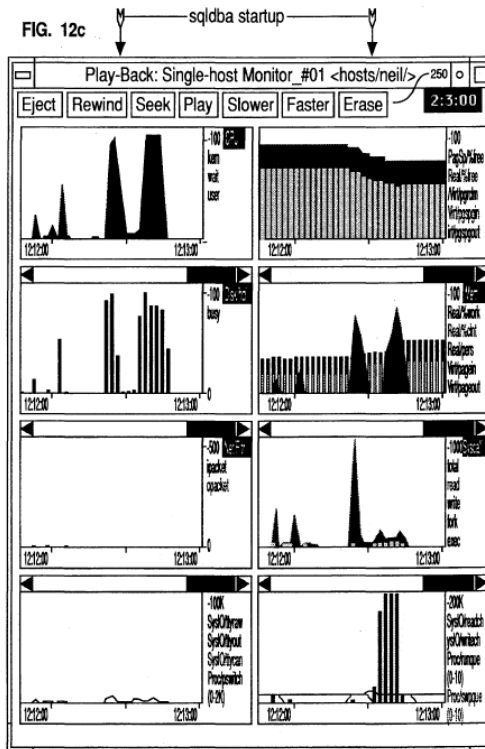
F. U.S. Patent Number 5,432,932 (“Chen”)

750. Chen issued on July 11, 1995 from an application filed October 23, 1992.

751. I understand Chen is prior art under at least §§ 102 (a), 102(b) and 102(e) because it was filed and issued more than one year before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

752. Chen describes, among other things, a scheme for monitoring remote computers and displaying information about each monitored computer in a grid of tiles. *See e.g.*, Ex. 1015, Chen at 2:56 – 3:14.

753. Chen describes components called “data supplier daemons” on remote computers that facilitate the exchange of monitor data to a computer that displays the monitor data. *See generally*, Ex. 1015, Chen at 4:11-24. Chen describes the computer that displays the monitor data (*i.e.*, a device that includes a “data consumer” component that retrieves and records monitor data from the remote monitored computers), and another component that displays monitored data. *See generally*, Ex. 1015, Chen at 4:24-36. In Chen, the data consumer program displays a “console” partitioned into a grid of rectangular areas called “instruments.” *See*, Ex. 1015, Chen at 23:5-6. Chen shows that the console can be “maximize[d],” and occupy the entire display. *See*, Ex. 1015, Chen at 29:17-23. The display of a Chen console having multiple instruments is shown below.



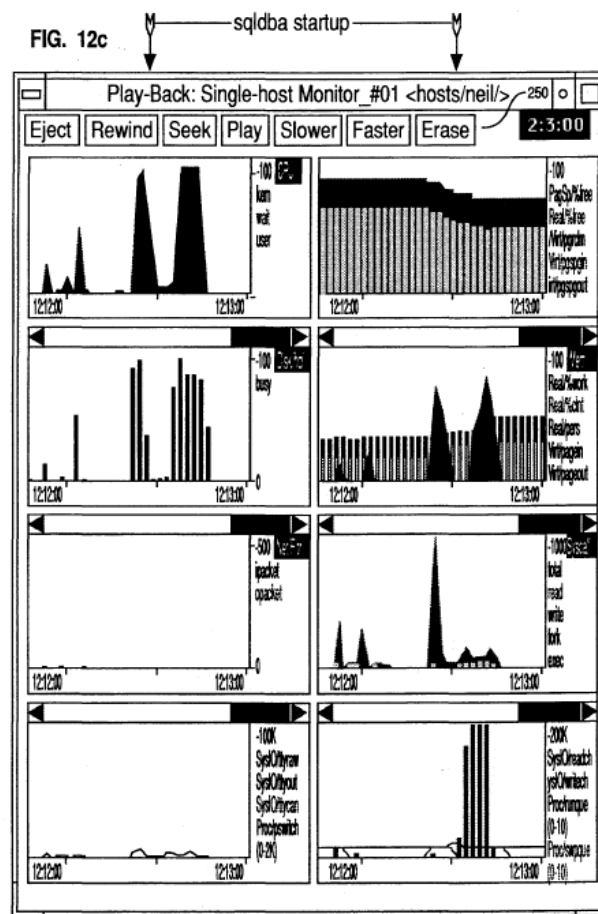
754. Each instrument in Chen displays performance information from a monitored remote computer. *See*, Ex. 1015, Chen at 23:9-13. The frequency at which performance information is sampled is user configurable. *See*, Ex. 1015, Chen at 8:38-40.

1. **Claim 1**

755. Chen shows random access and read only memory for storing programs that can control a device. *See, e.g.*, Ex. 1015, Chen at 101:31-36. Chen thus shows “[a] method executed by a device under the control of a program, said device including a memory for storing said program.”

756. Chen describes that his software may be used with multiple remote hosts or data suppliers. *See, e.g.*, Ex. 1015, Chen at 23:14-34, 5:14-23, 37:6-9.

The data supplier daemons running on remote computers are information sources as that term is used by the '403 patent. Chen thus shows “selecting a plurality of information sources.” See ¶¶ 125-127.



758. In particular, Chen shows that data consumer program places a “console” on the display of the host computer executing the program. *See, e.g.,*

Ex. 1015, Chen at 23:5-13, FIGs. 12c-e, FIG. 11. The data consumer program partitions the console (which can be occupy the entire display of the host computer) into multiple rectangular instruments. *Id.* For example, FIG. 12c (reproduced above) shows an array of instruments, which includes two columns of instruments, each column having four rows of instruments. Each instrument is associated with a corresponding remote host or data supplier. *See, e.g.*, Ex. 1015, Chen at 23:5-13. I understand that the broadest reasonable construction of this term does not require that all portions of the display be occupied by tiles. Even assuming this is not the case, the consoles in Chen occupy the entire display if maximized. The instruments of Chen are the tiles of the claims of the '403 patent. *See* ¶¶ 128-143. Accordingly, this partitioning into instruments corresponds to “partitioning the display into an array of tiles.” Chen thus shows “partitioning a visual display of the device into an array of tiles, wherein each tile in said array of tiles is associated with an information source in said plurality of information sources.” *See* ¶¶ 144-151 and 155-159.

759. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Chen shows that instruments may be selected. *See, e.g.*, Ex. 1015, Chen at FIG. 11 and 14:67-15:2.

760. Chen shows that when an instrument is added, a “start data feed” request is sent to the associated data supplier daemon. *See, e.g.*, Ex. 1015, Chen at 33:6-9. This request specifies the rate at which the information source is sampled and displayed. *See, e.g.*, Ex. 1015, Chen at 41:57-60 and 13:15-22. This rate can be changed after adding the instrument and users can assign the intervals (SiShInterval) between requests for data values from the servers. *See, e.g.*, Ex. 1015, Chen at 42:3-8. Chen further shows that the update frequency for each instrument is to be adjusted to match the request frequency. *See, e.g.*, Ex. 1015, Chen at 82:13-22.

761. In view of dependent claims, *e.g.*, claims 6 and 10, and the doctrine of claim differentiation, it is my opinion that the first and second refresh rates of claim 1 need not be different.

762. Chen thus shows “assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles.” *See* ¶¶ 163-167.

763. Chen shows that the update frequency for each instrument is to be adjusted to match the request frequency. *See, e.g.*, Ex. 1015, Chen at 82:13-22 and 82:1-9. As such, the instruments of Chen update statistics from the remote monitored computers according to the configured sampling rate. Chen thus shows “updating information from a first information source in said plurality of

information sources presented to said first tile in accordance with said first refresh rate.” See ¶¶ 173-175.

764. Chen shows that the update frequency for each instrument is to be adjusted to match the request frequency as given in SiShInterval. *See, e.g.*, Ex. 1015, Chen at 82:13-22 and 82:1-9. A person of ordinary skill in the art would understand that information from a second information source is simultaneously updated in accordance with said second refresh rate because Chen shows displaying multiple tiles, which are updated at their respective rates, at the same time. Chen thus shows “simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.” *See* ¶¶ 181-183.

2. Claim 2

765. Chen shows how a user of the data consumer program can add instruments to a console, and can resize and reposition each instrument in the console. *See, e.g.*, Ex. 1015, Chen at 26:65-27:6. For example, Chen shows partitioning an array of instruments in accordance with a user-defined height, wherein the height of the instruments are determined based on the number of tiles displayed vertically. *See, e.g.*, Ex. 1015, Chen at 26:65-27:6.

766. Further, a person of ordinary skill in the art would find it obvious to partitioning an array of instruments in accordance with a user-defined width,

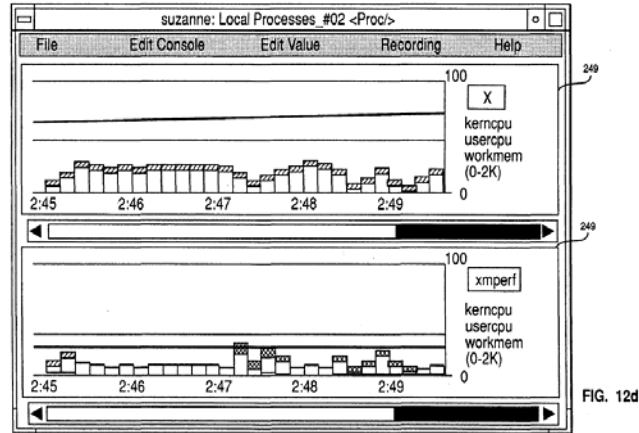
wherein the width of the instruments are determined based on the number of tiles displayed horizontally. Thus, the user can configure the number of rows and columns of instruments within each console, thus configuring the size of the console. Indeed, Chen shows consoles that have been configured to different sizes. *See, e.g.*, Ex. 1015, Chen at FIGs. 12c and 12d.

767. Chen thus shows “wherein said partitioning includes partitioning said array of tiles in accordance with a user-defined array size.” *See* ¶¶ 160-162.

3. Claim 3

768. Chen shows that the instruments do not overlap with other instruments. *See, e.g.*, Ex. 1015, Chen at 32:1-3 and FIG. 12d. FIG. 12d of Chen further shows exemplary embodiments where all instruments are of uniform size and shape. *See, e.g.*, Ex. 1015, Chen at FIG. 12d.

769. If it is found that the instruments 249 in FIG. 12d do not have uniform size and shape in the strictest sense, Chen’s disclosures infer that each tile having a uniform size and shape is perfectly sensible. *See, e.g.*, Ex. 1015, Chen at FIG. 12d.



Ex. 1015, Chen at FIG. 12d.

770. Chen thus shows “wherein said partitioning includes partitioning said array of tiles in a non-overlapping configuration wherein each tile of said array of tiles is a uniform size and shape.” See ¶¶ 184-185.

4. Claim 4

771. If it is found that Chen does not explicitly describe the element, “wherein said assigning includes assigning said first refresh rate and said second refresh rate in accordance with a first priority value of a first information source associated with said first tile and a second priority value of a second information source associated with said second tile,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen. A person of ordinary skill would have considered “wherein said assigning includes assigning said first refresh rate and said second refresh rate in accordance with a first priority value of a first information source associated with

said first tile and a second priority value of a second information source associated with said second tile” to be an obvious design choice or a routine modification to an existing system.

772. For example, a person of ordinary skill in the art would have found it obvious to combine Chen with Haddock because they are analogous art directed towards solving the same problem. In particular, Chen is directed to a system for retrieving information from multiple sources using a network. Similar to Chen, Haddock is directed towards improving use of a network that needs to carry multiple streams of information, *e.g.*, Ex. 1024, Haddock at 1:17-2:30. A person of skill in the art implementing the Chen system would have been motivated to try the improvements described in Haddock.

773. Haddock shows that a “flexible, policy-based, mechanism for managing, monitoring, and prioritizing traffic within a network....” Ex. 1024, Haddock at Abstract. Haddock describes, among other things, that it is desirable to manage network traffic such that high priority traffic is usually sent first but low priority traffic is still guaranteed an acceptable minimum transfer rate. Ex. 1024, Haddock at 3:19-30. To that end, Haddock describes a scheme in which network communications may be classified by attributes that include the network addresses of the devices performing the communication. *See*, Ex. 1024, Haddock at 5:16-49. Classified network communications are then assigned relative priority values. *See*,

Ex. 1024, Haddock at 8:36-55 and 9:11-15. Similar to what is described in the '403 patent at 21:37-49, Haddock teaches that lower priority communications may be delayed or canceled. *See*, Ex. 1024, Haddock at 9:43-57.

774. Following the teachings of Haddock, priority values would be associated with each desktop component, and the refresh of the network information associated with the component would be modified, depending on its priority, in the same way as is disclosed in the '403 patent - if bandwidth is limited lower priority communications will be postponed or stalled in favor of higher priority communications.

775. As such, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of Haddock. *See* ¶¶ 186-190.

5. Claim 6

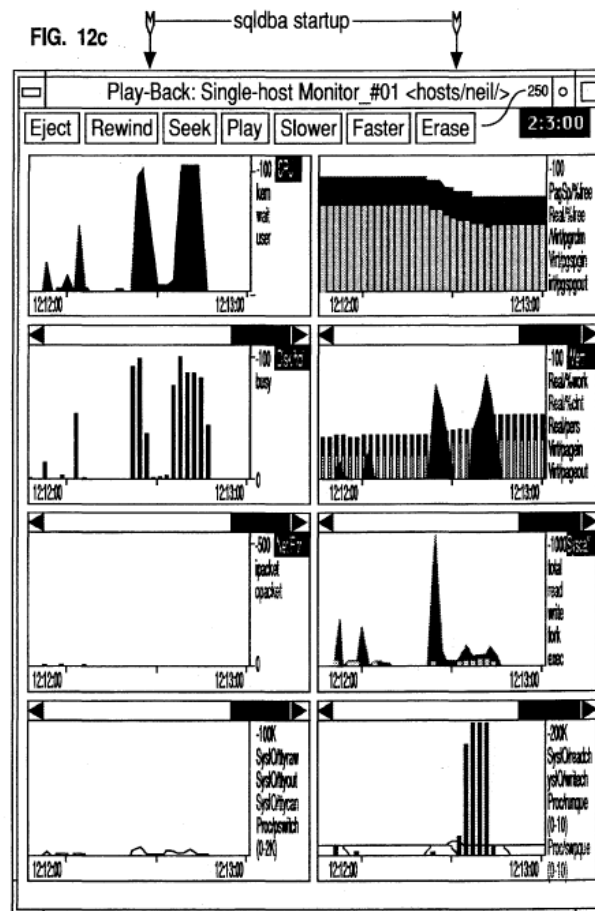
776. Chen shows that different requestors may set the intervals, at which data is delivered from servers, to be different. *See, e.g.*, Ex. 1015, Chen at 82:1-9. Chen thus shows “wherein said first refresh rate is different from said second refresh rate.”

6. Claim 7

777. Chen shows that users can change the interval property of an instrument. *See, e.g.*, Ex. 1015, Chen at 42:3-8. Chen thus shows “wherein at least one of said first refresh rate and said second refresh rate is specified by a user.”

7. Claim 8

778. Chen shows an exemplary array of instruments with four rows and two columns. *See, e.g.*, Ex. 1015, Chen at FIG. 12C and 26:58-60. In particular, FIG. 12c shows an array of instruments, which includes two columns of instruments, each column having four rows of instruments.



Ex. 1015, Chen at FIG. 12C. Chen thus shows “wherein said array comprises more than one row and more than one column.”

8. Claim 9

779. Chen shows that the refresh rates of the instruments are assigned using one of two specific application programming interface function calls (RSiStartFeed or RSICChangeFeed). *See, e.g.*, Ex. 1015, Chen at 24:3-12, 65:21-27 and 66:45-49. The refresh rates of Chen are assigned uniformly because they are assigned in the same manner using the same programming interface function call. *Id.* Alternatively, Chen shows that a default refresh rate exists. *See, e.g.*, Ex. 1015, Chen at 24:3-12. If the end-user does not act to override the default refresh rate, the default refresh rate will be for all instruments. *Id.* Chen thus shows “wherein at least one attribute of each tile in said array of tiles is assigned uniformly.” *See* ¶¶ 192-193.

9. Claim 10

780. Chen shows that the refresh rates of the instruments are assigned using one of two specific application programming interface function calls (RSiStartFeed or RSICChangeFeed). *See, e.g.*, Ex. 1015, Chen at 24:3-12, 65:21-27 and 66:45-49. The refresh rates are assigned uniformly because they are assigned in the same manner using the same programming interface function call. *Id.* Alternatively, Chen shows that a default refresh rate exists. *See, e.g.*, Ex. 1015, Chen at 24:3-12. If the end-user does not act to override the default refresh rate,

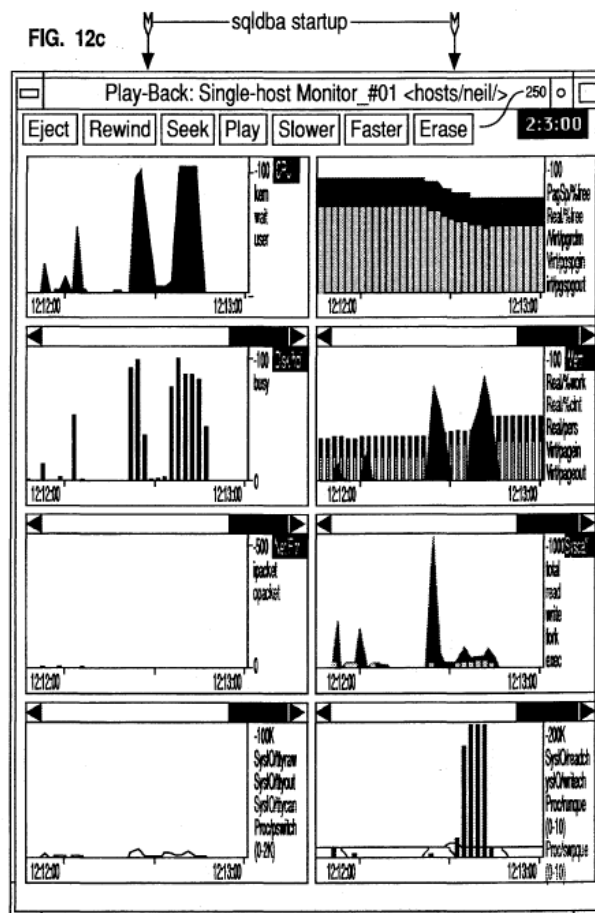
the default refresh rate will be for all instruments. *Id.* Chen thus shows “wherein said attribute is a refresh rate.”

10. Claim 11

781. Chen shows that a default refresh rate exists. *See, e.g.*, Ex. 1015, Chen at 24:3-12. If the end-user does not specify his own refresh rate, the default refresh rate will be automatically assigned. *Id.* Chen thus shows “wherein said first refresh rate is assigned automatically.” *See* ¶¶ 194-197.

11. Claim 12

782. Chen shows how its instruments are laid out in a grid and that the position and layout of the instruments change only when users reconfigure the grid. *See, e.g.*, Ex. 1015, Chen at 26:58-60 and FIG. 12C.



Chen at FIG. 12C. Chen thus shows “wherein said array comprises a grid wherein each of said tiles occupies a fixed position on said grid.” See ¶¶ 198-200 and 201-206.

12. Claim 13

783. Chen shows that the height of the instruments within the array is determined by the total height divided by the number of instruments. See, e.g., Ex. 1015, Chen at 26:65-27:6. Chen thus shows the height of the tiles is determined based on the number of tiles displayed vertically. Chen thus shows “wherein a unit tile size is associated with said array of tiles, dependent upon a maximum number

of tiles displayed vertically and a maximum number of tiles displayed horizontally.”

13. Claim 15

784. If it is found that Chen does not explicitly describe the element, “additionally comprising storing said array of tiles on a second device,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen. Chen shows configuration files that store the array of tiles. *See, e.g.*, Ex. 1015, Chen at 34:3-7. A person of ordinary skill in the art would understand that storing the configuration file in a second device is an obvious design choice or a routine modification to an existing system.

785. For example, a person of ordinary skill in the art would have found it obvious to combine Chen with Crawford because they are analogous art directed towards related fields. Chen describes partitioning a display into tiles that display information updated from information sources, and storing the files implementing that functionality. *See, e.g.*, Ex. 1015, Chen at 34:3-7. Chen further shows that its scheme is be implemented in a networked environment. *See, e.g.*, Ex. 1015, Chen at 23:14-34. Similar to Chen, Crawford describes a scheme for using networked storage in place of physically attached storage, and a scheme for executing applications on networked computers. Crawford explains why one would be

motivated to make such modifications. *See, e.g.*, Ex. 1029, Crawford at 2:39-63, 13:31-51, 14:24-15:62, 18:29-39.

786. Crawford shows the elements of this claim in two ways. First, Crawford describes prior art techniques and its own techniques for supplying network storage on a file server that appears, to applications running on a computer, to be a physically attached hard disk. *See, e.g.*, Ex. 1029, Crawford at 5:30-56, 8:20-23, 18:7-34. The networked nature of the storage is transparent such that applications do not need to be modified to use the described network storage instead of hard disks physically attached to the computers that the applications execute on. *See, e.g.*, Ex. 1029, Crawford at 5:30-56, 8:20-23, 18:7-34. Second, Crawford describes a commercial product that allows a user to execute a program on one computer but use a second networked computer for input (keyboard, mouse, etc) and output (display). *See, e.g.*, Ex. 1029, Crawford at 2:39-63.

787. With respect to the first set of Crawford teachings, Chen shows that the array of tiles will be stored. Using the network storage of Crawford would thus mean that the array of tiles, *e.g.*, configuration file thereof, will be stored on a “second device.” The second device is the networked file server. With respect to the second set of Crawford teachings, a person of skill in the art could readily use the commercial product described to partition the display of one computer while a

second computer would execute the composite desktop program and thus store the array of tiles.

788. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of Crawford.

789. As another example, a person of ordinary skill in the art would have found it obvious to combine Chen with MSIE Kit because they are analogous art directed towards solving the same problem. Both Chen and MSIE Kit shows schemes to display tiles linked to various information sources which are periodically updated over a network, and one of ordinary skill in the art would have considered the combination of Chen and MSIE Kit obvious.

790. MSIE Kit shows how Active Desktop can store users' information, including their desktop items and the items' configuration, in "roaming profiles" on a network server. Using the network storage of MSIE Kit would thus mean that the array of tiles will be stored on a "second device." In particular, MSIE Kit shows that Internet Explorer can store users' array of desktop items on a network server. *See, e.g.*, Ex. 1007, MSIE Kit at 50, 52. As such, the second device is the networked file server. Internet Explorer uses roaming profiles to store users' configuration of desktop items and the retrieved tile content from the information sources associated with the tiles. *See, e.g.*, Ex. 1007, MSIE Kit at 50, 52. MSIE Kit also explains why one would be motivated to make such modifications,

including permitting a user to roam among multiple computers while still keeping the same profile and allowing administrators control over individual user settings. *See, e.g.*, Ex. 1007, MSIE Kit at 50.

791. Applying the teachings of MSIE Kit to Chen yields claim 15. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of MSIE Kit. *See* ¶¶ 207-208.

14. Claim 16

792. If it is found that Chen does not explicitly describe the element, “wherein said array of tiles is retrieved from a second device,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen. Chen shows configuration files that store the array of tiles. *See, e.g.*, Ex. 1015, Chen at 34:3-7. A person of ordinary skill in the art would understand that storing the configuration file in a second device is an obvious design choice or a routine modification to an existing system.

793. For example, a person of ordinary skill in the art would have found it obvious to combine Chen with Crawford because they are analogous art directed towards related field. Chen describes partitioning a display into desktop components that display information updated from information sources, and storing the files implementing that functionality. *See, e.g.*, Ex. 1015, Chen at 34:3-7. Chen further shows that its scheme is be implemented in a networked

environment. *See, e.g.*, Ex. 1015, Chen at 23:14-34. Similar to Chen, Crawford describes a scheme for using networked storage in place of physically attached storage, and a scheme for executing applications on networked computers. Crawford explains why one would be motivated to make such modifications. *See, e.g.*, Ex. 1029, Crawford at 2:39-63, 13:31-51, 14:24-15:62, 18:29-39.

794. Crawford shows the elements of this claim in two ways. First, Crawford describes prior art techniques and its own techniques for supplying a network storage on a file server that appears, to applications running on a computer, to be a physically attached hard disk. *See, e.g.*, Ex. 1029, Crawford at 5:30-56, 8:20-23, 18:7-34. The networked nature of the storage is transparent such that applications do not need to be modified to use the described network storage instead of hard disks physically attached to the computers that the applications execute on. *See, e.g.*, Ex. 1029, Crawford at 5:30-56, 8:20-23, 18:7-34. Second, Crawford describes a commercial product that allows a user to execute a program on one computer but use a second networked computer for input (keyboard, mouse, etc) and output (display). *See, e.g.*, Ex. 1029, Crawford at 2:39-63. Once stored, it would have been obvious to retrieve those stored tiles from the second device.

795. With respect to the first set of Crawford teachings, Chen shows that the array of tiles will be stored. Using the network storage of Crawford would thus

mean that the array of tiles, *e.g.*, configuration file thereof, will be stored on a “second device.” The second device is the networked file server. With respect to the second set of Crawford teachings, a person of skill in the art could readily use the commercial product described to partition the display of one computer while a second computer would execute the composite desktop program and thus store the array of tiles.

796. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of Crawford.

797. As another example, a person of ordinary skill in the art would have found it obvious to combine Chen with MSIE Kit because they are analogous art directed towards solving the same problem. Both Chen and MSIE Kit show schemes to display tiles linked to various information sources which are periodically updated over a network, and one of ordinary skill in the art would have considered the combination of Chen and MSIE Kit obvious.

798. MSIE Kit shows how Active Desktop can store users’ information, including their desktop items and the items’ configuration, in “roaming profiles” on a network server. In particular, MSIE Kit shows that Internet Explorer can store users’ array of desktop items on a network server. *See, e.g.*, Ex. 1007, MSIE Kit at 50, 52. Internet Explorer uses roaming profiles to store users’ configuration

of desktop items and the retrieved tile content from the information sources associated with the tiles. *Id.*.

799. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of MSIE Kit. *See* ¶¶ 209-210.

15. Claim 18

800. If it is found that Chen does not explicitly describe the element, “wherein said device is a television,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen. A person of ordinary skill would have considered “wherein said device is a television” to be an obvious design choice or a routine modification to an existing system. Moreover, one skilled in the art would have found it obvious to try using a television as a display.

801. For example, a person would have considered Chen in conjunction with DorEl, and would have concluded from those combined teachings that this claim would have been obvious because a person of ordinary skill in the art would have known that computers can use televisions as a display. *See, e.g.*, Ex. 1025, DorEl at 2:5-12. A computer outputs its display to a display device. In particular, DorEl shows that well before 1999, it was known that a television could advantageously be used as the display of a computer in order “to view and interact

with multimedia software in the same relaxed comfort and manner in which they enjoy television, videos, and music, e.g., relaxing on a comfortable couch in the living room and watching images on a large screen television placed at a comfortable distance.” *See, e.g.*, Ex. 1025, DorEl at 1:48-53. A television is one of a small number of display devices (i.e., computer monitor, projector, television) that can be used to display the video output of a computer. It would have been straightforward for a person of ordinary skill in the art to implement the scheme on a computer using a television as a display.

802. Accordingly, a person of ordinary skill would have considered this claim to be obvious over Chen in view of DorEl.

16. Claim 19

803. Chen shows that the device can be a computer console. *See, e.g.*, Ex. 1015, Chen at 22:16-19. Chen thus shows “wherein said device is a computer.”

17. Claim 21

804. If it is found that Chen does not explicitly show processes involving any of the types of “information sources” listed in claim 21, *i.e.*, “analog signal; video signal; audio signal; text; an e-mail program; a world-wide-web page; streaming video; streaming audio; and graphics ,” I believe a process that involves those types of information sources (*e.g.*, a “text”) would have been an obvious variation of the Chen systems. Chen plainly shows a scheme that provides a

display of distinct information sources in an array of updating tiles corresponding to two or more different information sources. *See, e.g.*, Ex. 1015, Chen at FIGS 12c-12e. The form or type of the data being sent from the remote source to the display computer in Chen is immaterial to the usefulness of Chen's design. A person of ordinary skill in the art would have immediately recognized the value of the Chen design for displaying updating data from a remote system. Chen also illustrates its system by presenting data on the display in a variety of formats, including a "graphical" format (which is one of the types of data listed in claim 21). *See, e.g.*, Ex. 1015, Chen at 91:16-22, 5:22-32, 10:38-49, FIGS. 12c-12e. Thus, a person of ordinary skill in the art would have considered an implementation of the Chen scheme that uses remote web pages or other types of information listed in claim 21 to have been obvious in October of 1999.

18. Claim 22

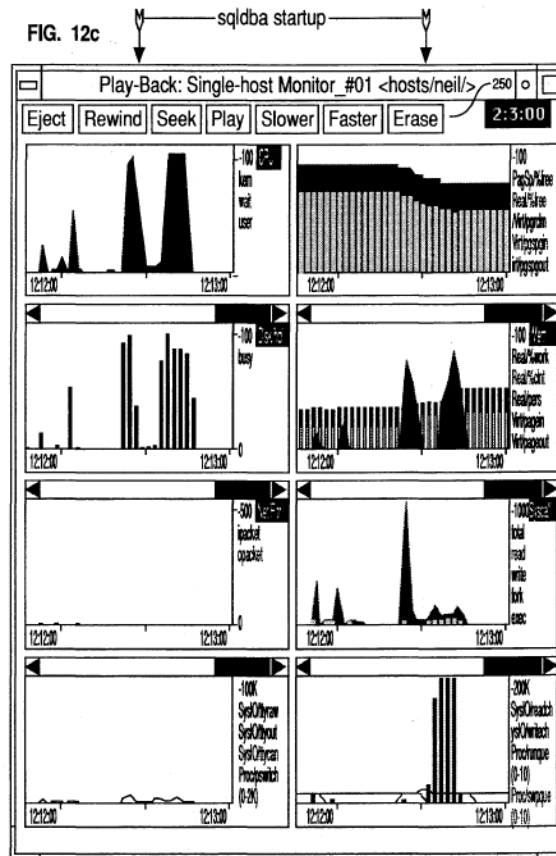
805. Chen shows random access and read only memory for storing instructions that can direct a device. *See, e.g.*, Ex. 1015, Chen at 101:31-36. Chen thus shows "[a]n electronic readable memory to direct an electronic device to function in a specified manner."

806. Computer workstations include electronic readable memory which store instructions that direct the computer to perform specific actions. When a computer is configured with software to perform specified functions, it executes

instructions stored in the computer's memory. This means that a description of a computer running software and performing certain functions is describing to a person of ordinary skill "a memory" that contains "instructions" that direct the computer to perform specified functions.

807. Chen shows simultaneous communication with multiple remote hosts or data suppliers. *See, e.g.*, Ex. 1015, Chen at 23:14-34, 5:14-23, 7:40-47, 27:56-58, 37:6-9, 53:23-26. The data supplier daemons running on remote computers are information sources as that term is used by the '403 patent. Chen thus shows "a first set of instructions to control simultaneous communication with a plurality of information sources." *See* ¶¶ 125-127.

808. Chen shows that a display can be arranged into a collection of instruments, each of which occupies a rectangular area within the console. *See, e.g.*, Ex. 1015, Chen at 23:5-13, FIGs. 12c-e.



Ex. 1015, Chen at FIG. 12C.

809. In particular, Chen shows that its data consumer program places a “console” on the display of the host computer executing the program. *Id.* The data consumer program arranges the console (which can be occupy the entire display of the host computer) into multiple rectangular instruments. *Id.* For example, FIG. 12c shows an array of instruments, which includes two columns of instruments, each column having four rows of instruments. Each instrument is associated with a corresponding remote host or data supplier. *See, e.g.*, Ex. 1015, Chen at 23:5-13.. Also, the consoles in Chen occupy the entire display if maximized. The

instruments shown in the displays in Chen are “tiles” according to the claims of the Declaration Of David Karger
Regarding U.S. Patent No. 6,724,403

'403 patent. *See* ¶¶ 128-143. Chen thus shows “a second set of instructions to arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.

810. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Chen shows that instruments may be selected. *See, e.g.*, Ex. 1015, Chen at FIG. 11 and 14:67-15:2.

811. Chen shows that each instrument is associated with a corresponding remote host or data supplier. *See, e.g.*, Ex. 1015, Chen at 23:5-13, 7:40-47. Chen thus shows “a third set of instructions to associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See* ¶¶ 152-154.

812. Chen shows that the update frequency for each instrument is to be adjusted to match the request frequency as given in *SiShInterval*. *See, e.g.*, Ex. 1015, Chen at 82:13-22, 82:1-9, 42:3-8, 41:57-60, 7:40-47. As such, the instruments of Chen update statistics from the remote monitored computers according to the configured sampling rate.

813. Chen thus shows “a fourth set of instructions to retrieve information from said first information source in accordance with a first retrieval rate and

retrieve information from said second information source in accordance with a second retrieval rate.” See ¶¶ 168-172 and 176-180.

814. Chen shows that instructions for displaying the updated information exists separately from the instructions to retrieve the updated information. See, *e.g.*, Ex. 1015, Chen at 36:58-62 and 23:29-32. Chen also shows that the display views are updated in real time as the updated data is received. See, *e.g.*, Ex. 1015, Chen at 23:29-32. Chen thus shows “a fifth set of instructions to present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” See ¶¶ 168-172.

19. Claim 23

815. Chen shows that the datastream to be displayed is received over the network. See, *e.g.*, Ex. 1015, Chen at 4:3-36, 5:14-23, 23:14-34, 37:6-9. Chen thus shows “a set of instructions to process a network datastream from a network data source.”

20. Claim 24

816. If it is found that Chen does not explicitly describe the element, “a set of instructions to process a tuner signal from a tuner device,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen. A person of ordinary skill would have considered

“a set of instructions to process a tuner signal from a tuner device” to be an obvious design choice or a routine modification to an existing system.

817. For example, a person of ordinary skill in the art would have found it obvious to combine Chen with Duhault I because they are analogous art directed towards solving the same problem. In particular, similar to Chen, Duhault I is directed towards displaying tiles linked to various information sources which are periodically updated over a network. Moreover, one of skill would have been motivated to combine the two schemes in order to use the flexibility of the technology in Chen with the extensive television content provided through the use of a tuner device.

818. Duhault I shows using tuners 12 in association with a processing circuit 16. *See, e.g.*, Ex. 1013, Duhault I at 2:34-42. Therefore, Duhault I shows a set of instructions to “process a tuner signal from a tuner device.”

819. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of Duhault I.

21. Claim 26

820. Claim 26 would have been obvious over Chen in view of DorEl for the same reasons I provided above for claim 18.

22. Claim 27

821. Chen shows the elements of claim 27 for the same reasons I provided above for claim 19.

23. Claim 29

822. If it is found that Chen does not explicitly describe the element, “a set of instructions to assign a password to a selected tile of said array of tiles,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen.

823. A person of ordinary skill would have considered “a set of instructions to assign a password to a selected tile of said array of tiles” to be an obvious design choice or a routine modification to an existing system.

824. For example, one skilled in the art would have found it obvious to combine Chen with MSIE Kit because they are analogous art in related fields. Chen also points out the importance of access control for its systems. See Chen at 44:50. Both Chen and MSIE Kit show schemes to display tiles linked to various information sources which are periodically updated over a network.

825. MSIE Kit shows instructions to assign a password to authenticate site logins for the website associated with the tile. Ex. 1007, MSIE Kit at 196. Accordingly, one skilled in the art would have considered this claimed element to be obvious over Chen in view of MSIE Kit.

826. As another example, a person of ordinary skill in the art would have found it obvious to combine Chen with Miller because they are analogous art in related fields. In particular, similar to Chen, Miller is directed towards graphical user interfaces. Moreover, Miller explains the motivations for adding its password system to objects in graphical user interfaces.

827. Miller shows a scheme for assigning passwords to individual objects of a graphical user interface. *See, e.g.*, Ex. 1027, Miller at 1:41-2:48.

828. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of Miller.

24. Claim 30

829. Chen shows the elements of claim 30 for the same reasons I provided above for claim 3.

25. Claim 31

830. Claim 31 would have been obvious over Chen in view of Haddock for the same reasons I provided above for claim 4. For example, the instrument update frequency of Chen is also a retrieval rate as required by claim 31.

Similarly, the scheme in Haddock in network communications for tiles is a priority scheme as required by claim 31.

26. Claim 33

831. If it is found that Chen does not explicitly describe the element, “a set of instructions to interrupt said first retrieval rate and present said first tile with static information from said first information source,” I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Chen. A person of ordinary skill would have considered “a set of instructions to interrupt said first retrieval rate and present said first tile with static information from said first information source” to be an obvious design choice or a routine modification to an existing system. For example, a user might wish to pause the updating of a display in order to examine it.

832. For example, a person of ordinary skill in the art would have found it obvious to combine Chen with Duhault I because they are analogous art directed towards solving the same problem. In particular, similar to Chen, Duhault I is directed towards displaying tiles linked to various information sources which are periodically updated over a network.

833. Duhault I shows that the first retrieval rate (*i.e.*, periodic rate) is interrupted when a channel is selected. *See, e.g.*, Ex. 1013, Duhault I at 3:44-46 and 4:26-38. When a particular channel is selected, the unselected channels will no longer be updated at the “periodic rate” and will display static information

because the embodiment disclosed in Duhault I only uses one tuner. *See, e.g.*, Ex. 1013, Duhault I at 4:26-38, 3:30-34, and FIG. 2.

834. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Chen in view of Duhault I. *See* ¶¶ 211-212.

27. Claim 34

835. If it is found that Chen does not explicitly show “a set of instructions to deliver selected textual content from said first information source to said first tile,” I believe this would have been an obvious variation of the Chen systems. Chen plainly shows a scheme that provides a display of distinct information sources using an array of updating tiles corresponding to these different sources of information. The type in which the data is sent from the remote source in Chen is immaterial to the usefulness of this scheme. A person of ordinary skill in the art would have immediately recognized the value of the Chen systems for sending other types of data from a remote information source to a display computer. Chen also illustrates its system by presenting data on the display in a variety of formats, including ones having “textual” content. *See, e.g.*, Ex. 1015, Chen at FIGS. 12c-12e and 26; Thus, a person of ordinary skill in the art would have considered delivery of textual content using the Chen scheme to have been an obvious variation of the Chen examples in October of 1999.

28. Claim 38

836. If it is found that Chen does not explicitly show “a set of instructions to deliver a web page to a selected tile of said array of tiles,” I believe a person of ordinary skill in the art would have considered this to have been an obvious variation of the schemes disclosed in Chen. A person of ordinary skill would have recognized from Chen the value of presenting frequently updated data in the form of individual tiles linked to different instruments. This would have led that person to use that model for displaying this type of “modular” information in other contexts.

837. For example, a person of ordinary skill in the art would have found it obvious to combine Chen with Brown because they are analogous art directed towards solving the same problem. In particular, similar to Chen, Brown is directed towards displaying tiles linked to various information sources which are periodically updated over a network.

838. Brown shows how information is delivered from web pages to desktop components. *See, e.g.*, Ex. 1030, Brown at 7:36-39, 2:13-28, 5:45-6:8.

839. Accordingly, a person of ordinary skill in the art would have considered delivering a web page to a selected tile in an array of tiles to be obvious based on Chen in view of Brown in October of 1999.

29. Claim 39

840. Chen shows the elements of claim 39 for the same reasons I provided above for claim 6. For example, the instrument update frequency of Chen is also a retrieval rate as required by claim 39.

30. Claim 40

841. Chen shows the elements of claim 40 for the same reasons I provided above for claim 8.

31. Claim 41

842. Chen shows the elements of claim 41 for the same reasons I provided above for claim 9.

32. Claim 42

843. Chen shows the elements of claim 42 for the same reasons I provided above for claim 10. For example, the instrument update frequency of Chen is also a retrieval rate as required by claim 42.

33. Claim 43

844. Chen shows the elements of claim 43 for the same reasons I provided above for claim 11. For example, the instrument update frequency of Chen is also a retrieval rate as required by claim 43.

34. Claim 44

845. Claim 44 would have been obvious over Chen in view of Crawford or Chen in view of MSIE Kit for the same reasons I provided above for claim 15.

35. Claim 45

846. Claim 45 would have been obvious over Chen in view of Crawford or Chen in view of MSIE Kit for the same reasons I provided above for claim 16.

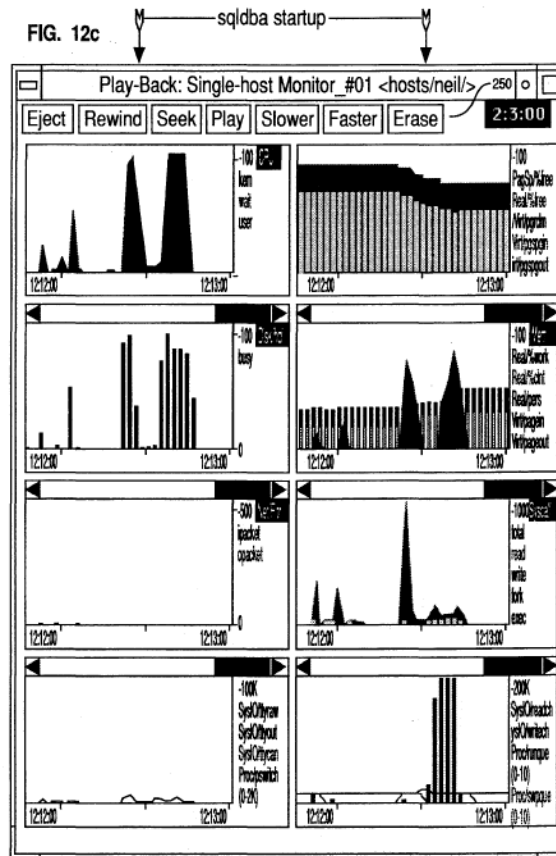
36. Claim 46

847. Chen shows a system for monitoring data from multiple remote hosts. *See, e.g.*, Ex. 1015, Chen at 23:14-34. Chen thus shows “[a] system for facilitating the organization and management of multiple data sources.”

848. Chen shows a CPU, random access and read only memory, and a user interface receiving user input. *See, e.g.*, Ex. 1015, Chen at 36:2 and 101:31-36. Chen thus shows “a device that includes a processor configured to execute instructions, a memory connected to said processor to store at least one program that includes a graphical user interface, and an input device.”

849. Chen shows multiple remote hosts or data suppliers. *See, e.g.*, Ex. 1015, Chen at 23:14-34, 5:14-23, 7:40-47, 27:56-58, 37:6-9, 53:23-26. The data supplier daemons running on remote computers are information sources as that term is used by the ’403 patent. Chen thus shows a “control simultaneous communication with a plurality of information sources.” *See* ¶¶ 125-127.

850. Chen by disclosing that a display can be arranged into a collection of instruments, each of which occupies a rectangular area within the console. *See, e.g.*, Ex. 1015, Chen at 23:5-13, FIGs. 12c-e (reproduced below). In particular, Chen shows that data consumer program places a “console” on the display of the host computer executing the program. *See, e.g.*, Ex. 1015, Chen at 23:5-13, FIGs. 12c-e, FIG. 11 and 14:67-15:2. The data consumer program arranges the console (which can be occupy the entire display of the host computer) into multiple rectangular instruments. *Id.* For example, FIG. 12c shows an array of instruments, which includes two columns of instruments, each column having four rows of instruments. Each instrument is associated with a corresponding remote host or data supplier. *See, e.g.*, Ex. 1015, Chen at 23:5-13. I understand that the broadest reasonable construction of this term does not require that all portions of the display be occupied by tiles. Even assuming this is not the case, Chen shows “arrange a display into an array of tiles” because the consoles in Chen occupy the entire display if maximized. The instruments of Chen are the tiles of the claims of the ’403 patent. *See* ¶¶ 128-143. Chen thus shows “arrange a display into an array of tiles.” *See* ¶¶ 144-151 and 155-159.



Ex. 1015, Chen at FIG. 12C.

851. If it is found that a tile must be “selectable to provide access to underlying information of the associated information source” as I understand Patent Owner has asserted, Chen shows that instruments may be selected. *See, e.g.*, Ex. 1015, Chen at FIG. 11 and 14:67-15:2.

852. Chen shows that each instrument is associated with a corresponding remote host or data supplier. *See, e.g.*, Ex. 1015, Chen at 23:5-13. Chen thus shows “associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” *See ¶¶ 152-154.*

853. Chen shows that the update frequency for each instrument is to be adjusted to match the request frequency as given in SiShInterval. *See, e.g.*, Ex. 1015, Chen at 82:13-22, 82:1-9, 42:3-8, 41:57-60.

854. As such, the instruments of Chen update statistics from the remote monitored computers according to the configured sampling rate. Chen thus shows “retrieve information from said first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” *See* ¶¶ 168-172 and 176-180.

855. Chen shows that an instruction for displaying the updated information exists separately in addition to the instruction to retrieve the updated information. *See, e.g.*, Ex. 1015, Chen at 36:58-62 and 23:29-32. Chen further shows that the display views are updated in real time as the updated data is received. *See, e.g.*, Ex. 1015, Chen at 23:29-32. A person of ordinary skill in the art would understand that information from a second information source is simultaneously updated in accordance with said second refresh rate because Chen shows displaying multiple tiles, which are updated at their respective rates, at the same time. Chen thus shows “present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” *See* ¶¶ 168-172.

37. Claim 47

856. Chen shows the elements of claim 47 for the same reasons I provided above for claim 8.

38. Claim 48

857. Chen shows the elements of claim 48 for the same reasons I provided above for claim 9.

39. Claim 49

858. Chen shows the elements of claim 49 for the same reasons I provided above for claims 10 and 42.

40. Claim 50

859. Chen shows the elements of claim 50 for the same reasons I provided above for claims 11 and 43.

41. Claim 51

860. Claim 51 would have been obvious over Chen in view of Crawford or Chen in view of MSIE Kit for the same reasons I provided above for claim 15.

42. Claim 52

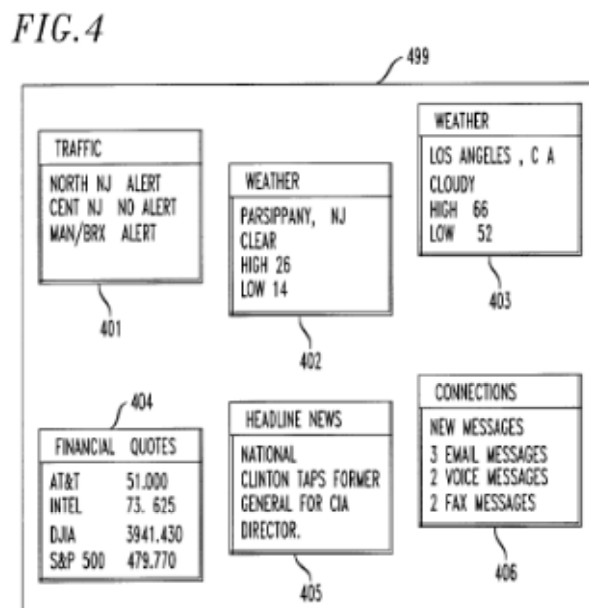
861. Claim 52 would have been obvious over Chen in view of Crawford or Chen in view of MSIE Kit for the same reasons I provided above for claim 16.

G. U.S. Patent Number 5,819,284 (“Farber”)

862. Farber issued on October 6, 1998 from an application filed March 24, 1995.

863. I understand Farber is prior art under at least §§ 102(a), 102(b) and 102(e) because it was filed and issued more than one year before the earliest priority date of the '403 patent, *i.e.*, October 29, 1999.

864. Farber shows an “at-a-glance” screen that can display updated information from a variety of information “feeds”, such as weather, traffic, news, and financial information, at the same time. Farber at FIG. 4 and 6:41-65. Information from multiple sources are displayed in an array of rectangular display “areas,” which correspond to the “tiles” of the '403 patent, as shown in Figure 4 of Farber below:



865. The tiles of Farber are periodically updated such that the displayed information is always “current.” Ex. 1016, Farber at 1:59-64. Farber also shows that users can specify the time intervals between the scheduled updates. Ex. 1016, Farber at Abstract, 1:59-64, 6:41-63 and FIG. 4.

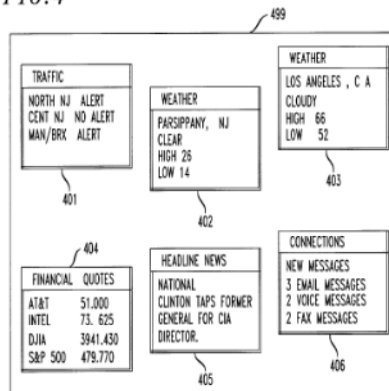
1. Claim 1

866. Farber shows a method for displaying up-to-date information from multiple information sources using a personal computer, which necessarily has a memory. *See, e.g.*, Ex. 1016, Farber at 1:8-14. Farber thus shows “[a] method executed by a device under the control of a program, said device including a memory for storing said program.”

867. Farber shows that users can select information sources (*e.g.*, information providers 150, 152 and 154), from which users desires to receive information, *e.g.*, weather, traffic, news, financial information. *See, e.g.*, Ex. 1016, Farber at 3:60-65, 6:41-65 and Abstract. Farber thus shows “selecting a plurality of information sources.” *See* ¶¶ 125-127.

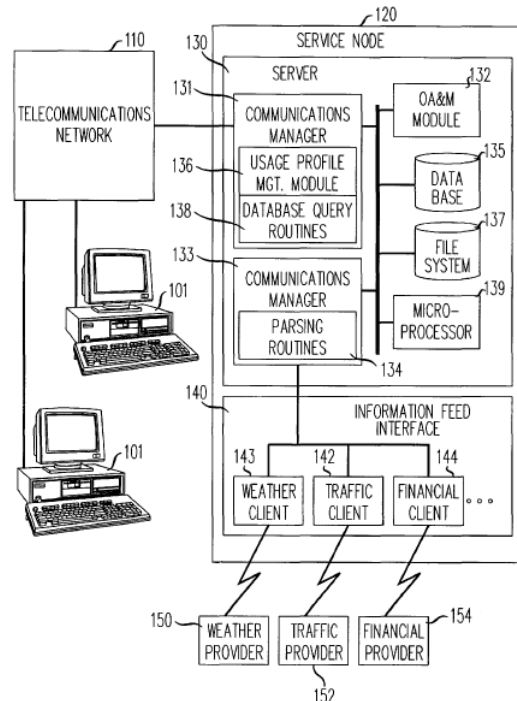
868. Farber shows partitioning the display into a non-overlapping array of rectangular display areas, with each display area being associated with an information source. *See, e.g.*, Ex. 1016, Farber at 6:41-65, FIGs. 1 and 4, 1:18-19 and 2:38-57.

FIG. 4



Ex. 1016, Farber at FIG. 4. In particular, a person of ordinary skill in the art would understand that each tile (403, 401, and 404 of FIG 4) is associated with corresponding information sources (150, 152 and 154 of FIG. 1, respectively). *Id.*; see also ¶¶ 128-143.

FIG. 1



Ex. 1016, Farber at FIG. 1.

869. Under the broadest reasonable construction, an “array of tiles” need not be a grid of tiles in fixed positions, since such an interpretation would make claim 12 of the ’403 patent superfluous. *See* ¶¶ 144-151.

870. Farber thus shows “partitioning a visual display of the device into an array of tiles, wherein each tile in said array of tiles is associated with an information source in said plurality of information sources.” *See* ¶¶ 155-159.

871. To the extent one could conclude that Farber does not show an “array of tiles” or that a grid is required, I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Farber. Tiled user interfaces were well known, *see, e.g.*, ¶ 85, and common sense dictates that a person of ordinary skill in the art could arrange the tiles of Figure 4 of Farber in a regular grid.

872. Accordingly, modifying the display of Farber to show a regular grid would have been well within the ordinary skill of the art and would have produced entirely predictable results.

873. Patent Owner may assert that Farber does not show an array because in at least one embodiment of Farber the tiles are caused to float in a non-overlapping manner. However, that the tiles of Farber can float does not mean that the display is not partitioned or arranged into an array for purposes of the ’403 patent particularly since the tiles of Farber are described as floating in a non-

overlapping manner, nor does that change the disclosure of Figure 4 of Farber, that has no indication of float.

874. Further, common sense dictates that the feature of Farber that causes the tiles to float could have been removed from Farber, making the claims obvious. Even if the APJ disagrees with the above, however, MSIE Kit shows a grid of tiles, and one of ordinary skill in the art would have considered the combination of Farber and MSIE kit obvious.

875. Both Farber and MSIE Kit show schemes to display tiles linked to various information sources which are periodically updated. MSIE Kit shows such a scheme for displaying in a grid on computers generally. Farber shows such a scheme for use on telephones, including “screen phones.” *See, e.g.*, Ex. 1016, Farber at 1:18-19 and 2:38-57. A person of ordinary skill would have reason to combine the grid-based Active Desktop technology of MSIE Kit with the mobile phone of Farber in order to convey useful information from multiple sources, such as stocks, weather and news, to the user of the phone. This would have led a person of ordinary skill in the art to conclude it would have been obvious implement Microsoft’s Active Desktop functionality on a mobile telephone, rendering this claim obvious.

876. In view of dependent claims, *e.g.*, claims 6 and 10, and/or the doctrine of claim differentiation, it is my opinion that the first and second refresh rates need not be different. *See* ¶¶ 163-167.

877. Farber shows that users can specify the time intervals between scheduled updates. *See, e.g.*, Ex. 1016, Farber at Abstract explaining “retrieved information is displayed on the screen without interrupting the screen saver function, and the displayed personalized data is thereafter updated in the same manner, at user-specified time intervals.”). *See also* 5:22-24, 1:59-64, 6:41-63 and FIG. 4. Moreover, Farber shows that the information that is displayed as a screen saver is always “current.” *See, e.g.*, Ex. 1016 at 1:59-64. Claim 1 does not require retrieving information at any particular rate, but instead specifies refreshing the display at an assigned refresh rate. Farber thus shows “assigning a first refresh rate to a first tile of said array of tiles and a second refresh rate to a second tile of said array of tiles.” *See* ¶¶ 163-167.

878. Farber shows that the plurality of rectangular display areas display “up to date” information, “such as traffic, weather and sports,” which are updated at the user-specified rate. *See, e.g.*, Ex. 1016, Farber at 2:38-57, 6:41-63, Abstract, and FIGs. 1 and 4. Farber thus shows “updating information from a first information source in said plurality of information sources presented to said first tile in accordance with said first refresh rate.” *See* ¶¶ 173-175.

879. A person of ordinary skill in the art would understand that information from a second information source is simultaneously updated in accordance with said second refresh rate because Farber shows displaying multiple tiles, which are updated at their respective rates, at the same time. Farber thus shows “simultaneously updating information from a second information source in said plurality of information sources presented to said second tile in accordance with said second refresh rate.” *See* ¶¶ 181-183.

2. Claim 17

880. Farber shows that the method for displaying up-to-date information from multiple information sources can be implemented in other visual display devices, such as a “screen telephone” and a “screen phone.” *See, e.g.*, Ex. 1016, Farber at 1:18-19 and 2:38-57; *see also* Ex. 1035, US 5,635,980 at 1:13-22 (referring to “screen phone type customer premises equipments” as “smart phones”); Ex. 1036, US 6,061,576 at 2:41-42 and FIG. 1 (showing that a “screen-phone” is a mobile phone); Ex. 1060, Nokia 9110 (showing that a screen phone is a mobile phone); Ex. 1061, Motorola Envoy (showing that a screen phone is a mobile phone); Ex. 1062, Simon (showing that a screen phone is a mobile phone).

881. One of ordinary skill in the art would understand that disclosure to refer to a mobile phone. *See, e.g.*, Ex. 1035, US 5,635,980 at 1:13-22 (referring to “screen phone type customer premises equipments” as “smart phones”); Ex. 1036,

US 6,061,576 at 2:41-42 and FIG. 1 (showing that a “screen-phone” is a mobile phone); Ex. 1060, Nokia 9110 (showing that a screen phone is a mobile phone); Ex. 1061, Motorola Envoy (showing that a screen phone is a mobile phone); Ex. 1062, Simon (showing that a screen phone is a mobile phone). Farber thus shows “wherein said device is a mobile telephone.”

882. If it is found that Farber does not explicitly describe a mobile phone, I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Farber. A person of ordinary skill would have considered this claim element to be an obvious design choice or a routine modification to an existing system.

883. For example, a person of ordinary skill in the art would have found it obvious to combine Farber with Jambhekar because they are analogous art directed towards solving the same problem. In particular, similar to Farber, Jambhekar is directed towards simultaneously displaying information from multiple information sources, *e.g.*, radiotelephone, facsimile and electronic mail services, to provide a more efficient user interface. *See, e.g.*, Ex. 1031, Jambhekar at Abstract. Moreover, tiled user interfaces were well known in the mobile phone arts. *See, e.g.*, Ex. 1032, US 6,430,405 (disclosing a mobile phone with a tiled user interface in FIG. 6C) , Ex. 1033, US 6,047,197 (disclosing a cellular phone with a tiled user interface in FIG. 2), Ex. 1034, US 6,418,309 (disclosing a handheld device with a

tiled user interface in FIG. 4), and Ex. 1050, EP 0651544 (disclosing a cellular phone with a tiled user interface in FIG. 4). One of ordinary skill in the art would have been motivated to combine these references because, for example, of the “increasing pressure in the marketplace to provide multi-functional radio communication devices that offer more than one of the typical radio communication services mentioned above,” *see, e.g.*, Ex. 1031, Jambhekar at 1:21-24, and also to provide a more efficient user interface.

884. Jambhekar shows that a radio communication device having a touch screen display, *i.e.*, a mobile phone, can display information from multiple information sources such as telephone, e-mail, fax, short messaging service or other services. *See, e.g.*, Ex. 1031, Jambhekar at 1:11-24 and 2:19-24. In particular, FIG. 6C of Jambhekar shows an example of how information from multiple information sources, *e.g.*, mail server and fax, can be simultaneously displayed in tiles. *See, e.g.*, Ex. 1031, Jambhekar at FIG. 6C. In this example, information regarding incoming/outgoing emails and incoming/outgoing fax are displayed in an array of tiles. *Id.* Each tile shows how many incoming/outgoing emails or faxes the mobile phone received/transmitted. A person of ordinary skill in the art would understand that these tiles are periodically updated in order for the phone to show the correct number of incoming/outgoing emails and faxes to the user. Combining the tiled interface of Farber with the mobile phone of Jambhekar

would have taken only ordinary skill, produced only predictable results and would have resulted in this claim.

885. Accordingly, a person of ordinary skill in the art would have considered this claim to be obvious over Farber in view of Jambhekar.

3. Claim 20

886. Farber shows that the method for displaying up-to-date information from multiple information sources can be implemented in other visual display devices, such as personal digital assistants. *See, e.g.*, Ex. 1016, Farber at 1:8-11 and 2:38-57. Farber thus shows “wherein said device is a personal digital assistant.”

4. Claim 22

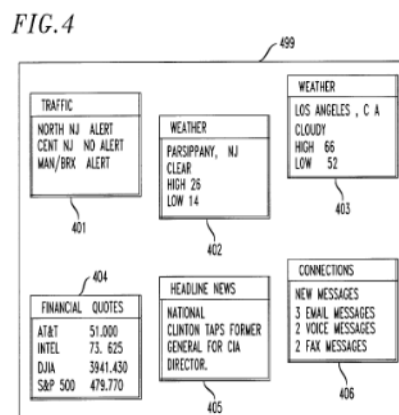
887. Farber shows a method for displaying up-to-date information from multiple information sources using a personal computer, which necessarily has a memory. *See, e.g.*, Ex. 1016, Farber at 1:8-14. Farber thus shows “[a]n electronic readable memory to direct an electronic device to function in a specified manner.”

888. Farber describes a computer-based implementation for performing these various functions. It therefore necessarily shows computer instructions stored in a memory for implementing such functions.

889. Farber shows simultaneous communications with multiple information sources, *e.g.*, weather, traffic, news, and financial information, when

the screen saver is activated. See Ex. 1016, Farber 5:18-25. The communication at that point is through an information server, which fetches information from the multiple sources before sending it to mobile device running the screen saver. See, e.g., Ex. 1016, Farber at Abstract, 3:61-4:1, and 6:41-65. I note the ‘403 patent uses the same scheme of having an intermediary server collect information from multiple information sources, create a “grid” using information from those different information sources, and then sending the grid to the client device. See Ex. 1001, ‘403 Patent at Fig. 24. Farber thus shows “a first set of instructions to control simultaneous communication with a plurality of information sources.” See ¶¶ 125-127.

890. Farber shows arranging the display into an array or rectangular display areas, each display area being associated with an information source. See, e.g., Ex. 1016, Farber at 6:41-63, FIGs. 1 and 4, 1:18-19 and 2:38-57; see also ¶¶ 128-143.



Farber at FIG. 4.

Declaration Of David Karger
Regarding U.S. Patent No. 6,724,403

Petitioner Microsoft – Ex. 1003

891. Under its broadest reasonable construction, an “array of tiles” can be a set of tiles not arrayed in a grid. Because it shows presenting a set of tiles in an ordered fashion, Farber shows “a second set of instructions to arrange a display into an array of tiles.” See ¶¶ 144-151 and 155-159.

892. To the extent one could conclude that Farber does not show an “array of tiles” or that a grid is required, I believe a person of ordinary skill in the art would have considered this to be an obvious variation of the schemes disclosed in Farber. Tiled user interfaces were well known, *see, e.g.*, ¶ 85, and common sense dictates that a person of ordinary skill in the art could arrange the tiles of Figure 4 of the ‘284 patent in a regular grid.

893. Accordingly, modifying the display of Farber to show a regular grid would have been well within the ordinary skill of the art and would have produced entirely predictable results.

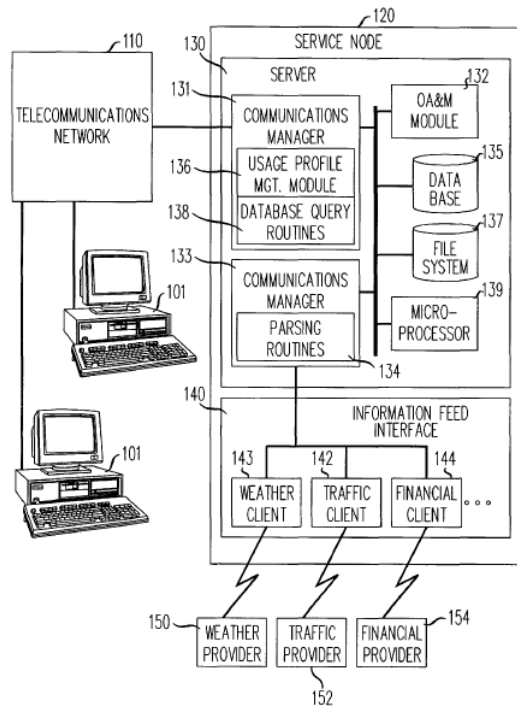
894. Patent Owner may assert that Farber does not show an array because in at least one embodiment of Farber the tiles are caused to float in a non-overlapping manner. However, that the tiles of Farber can float does not mean that the display is not partitioned or arranged into an array for purposes of the ‘403 patent particularly since the tiles of Farber are described as floating in a non-overlapping manner, nor does that change the disclosure of Figure 4 of Farber, that has no indication of float.

895. Further, common sense dictates that the feature of Farber that causes the tiles to float could have been removed from Farber, making the claims obvious. Even if the APJ disagrees with the above, however, MSIE Kit shows a grid of tiles, and one of ordinary skill in the art would have considered the combination of Farber and MSIE kit obvious.

896. Both Farber and MSIE Kit show schemes to display tiles linked to various information sources which are periodically updated. MSIE Kit shows such a scheme for displaying in a grid on computers generally. Farber shows such a scheme for use on telephones, including “screen phones.” *See, e.g.*, Ex. 1016 Farber at 1:18-19 and 2:38-56. A person of ordinary skill would have reason to combine the grid-based Active Desktop technology of MSIE Kit with the mobile phone of Farber in order to convey useful information from multiple sources, such as stocks, weather and news, to the user of the phone. This would have led a person of ordinary skill in the art to conclude it would have been obvious to implement Microsoft’s Active Desktop functionality on a mobile telephone, rendering this claim obvious.

897. Farber shows that each tile (403, 401, and 404 of FIG 4) is associated with corresponding information sources (150, 152 and 154 of FIG. 1, respectively). *See, e.g.*, Ex. 1016, Farber at 6:41-63 and FIGs. 1 and 4.

FIG. 1



Ex. 1016, Farber at FIG. 1.

898. In view of dependent claims, *e.g.*, claims 39 and 42, and/or the doctrine of claim differentiation, it is my opinion that the first and second retrieval rates need not be different.

899. Farber thus shows “a third set of instructions to associate a first information source of said plurality of information sources to a first tile of said array of tiles and a second information source of said plurality of information sources to a second tile of said array of tiles.” See ¶¶ 152-154.

900. Farber shows that the information for each tile is updated at a defined rate. *See, e.g.*, Ex. 1016, Farber at 2:38-56, 6:41-63, Abstract, and FIGs. 1 and 4.

Farber thus shows “a fourth set of instructions to retrieve information from said

first information source in accordance with a first retrieval rate and retrieve information from said second information source in accordance with a second retrieval rate.” See ¶¶ 168-172 and 176-180.

901. Farber shows that the plurality of rectangular display areas display “up to date” information, “such as traffic, weather and sports,” which are updated periodically. See, e.g., Ex. 1016, Farber at 2:38-56, 6:41-63, 1:59-64, Abstract, and FIGs. 1 and 4. Farber further shows that the information that is displayed is always current. See, e.g., Ex. 1016, Farber at 1:59-64. Farber thus shows “a fifth set of instructions to present information to said first tile in accordance with said first retrieval rate and present information to said second tile in accordance with said second retrieval rate.” See ¶¶ 168-172.

5. Claim 25

902. Farber shows the elements of claim 25 for the same reasons I provided above for claim 17. Further, claim 25 would have been obvious over Farber in view of Jambhekar for the same reasons I provided above for claim 17.

6. Claim 28

903. Farber shows the elements of claim 28 for the same reasons I provided above for claim 20.

V. CONCLUSION

904. For the reasons set forth above, it is my opinion that the *subject matter* recited in claims 1-52 of the '403 patent was not novel as of the filing date of the '403 patent and/or would have been obvious to person of ordinary skill in the art at the time.

ATTACHMENT A

LIST OF MATERIALS CONSIDERED

Exhibit #	Description
1001	U.S. Patent 6,724,403
1002	File History of U.S. Patent 6,724,403
1005	U.S. Provisional Application 60/162,522
1006	Declaration by Utah State Library (5/1/2013)
1007	Utah State University Library copy of Microsoft Internet Explorer Resource Kit ("MSIE Kit") (Microsoft Press 1998) (Exhibit 1 to Declaration by Associate Dean for Public Services of Utah State University Library)
1008	Excerpts of North Carolina State University copy of Microsoft Internet Explorer Resource Kit (Microsoft Press 1998)
1009	Excerpts of Library of Congress copy of Microsoft Internet Explorer Resource Kit (Microsoft Press 1998)
1010	Excerpts of Harvard copy of Microsoft Internet Explorer Resource Kit (Microsoft Press 1998)
1011	U.S. Patent 6,832,355
1012	File History of U.S. Patent 6,832,355
1013	U.S. Patent 6,118,493
1014	U.S. Patent 6,456,334
1015	U.S. Patent 5,432,932
1016	U.S. Patent 5,819,284
1017	U.S. Patent 6,807,558
1018	U.S. Patent 5,959,621
1019	U.S. Patent 5,479,602
1020	U.S. Patent 5,321,750
1021	U.S. Patent 5,712,995
1022	U.S. Patent 5,473,745
1023	U.S. Patent 5,140,678
1024	U.S. Patent 6,104,700
1025	U.S. Patent 5,721,951
1026	U.S. Patent 5,321,808
1027	U.S. Patent 5,550,968
1028	U.S. Patent 4,905,171
1029	U.S. Patent 5,901,228
1030	U.S. Patent 6,278,448
1031	U.S. Patent 5,848,356
1032	U.S. Patent 6,430,405
1033	U.S. Patent 6,047,197
1034	U.S. Patent 6,418,309

Exhibit #	Description
1035	U.S. Patent 5,635,980
1036	U.S. Patent 6,061,576
1037	U.S. Patent 5,371,847
1038	U.S. Patent 5,764,972
1039	U.S. Patent 6,363,445
1040	U.S. Patent 5,812,123
1041	U.S. Patent 6,411,275
1042	U.S. Patent 4,831,556
1043	U.S. Patent 5,757,371
1044	U.S. Patent 5,831,664
1045	U.S. Patent 5,838,326
1046	U.S. Patent 5,929,854
1047	U.S. Patent 6,160,553
1048	U.S. Patent 6,166,738
1049	U.S. Patent 6,188,405
1050	EP 0651544
1051	PCT Application WO9926127
1052	Surfcast's Responses to Microsoft's First Set of Interrogatories (includes SurfCast's Infringement Contentions (Exhibits A and B) (2/14/2013))
1053	SurfCast Proposed Claim Construction (4/12/2013)
1054	SurfCast Rebuttal Proposed Claim Construction (4/26/2013)
1055	Microsoft's Initial Proposed Terms and Constructions (4/12/2013)
1056	SurfCast's Amended Complaint from 2:12-CV-00333-DBH [19]
1057	Amended Scheduling Order, Maine District Court, Case No. 2:12-CV-333-DBH [41]
1058	Excerpts of Dictionary of Computer and Internet Terms (Sixth Ed., 1998)
1059	Excerpts of Microsoft Computer Dictionary (Fourth Ed., 1999)
1060	Nokia 9110 User Guide ("Nokia 9110")
1061	Motorola Envoy Wireless Communicator User's Guide ("Motorola Envoy")
1062	Simon User's Manual ("Simon")
1063	Readings in Human-Computer Interaction: Toward the Year 2000 (1995 2d ed.)
1064	Schneiderman, B., Designing the User Interface (3d ed. 1998)
1065	Cerani, Delivering Push, 1998
1066	Myers, B.A., "The User Interface for Sapphire," CG&A, Vol. 4, No.

Exhibit #	Description
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1068	<i>Teitelman</i> , A Tour Through Cedar (1984)
1069	OpenStep User Interface Guidelines (1996)
1070	Lane, J.C., <i>et al.</i> , User Interfaces for a Complex Robotic Task: A Comparison of Tiled vs. Overlapped Windows (January 1997)
1071	Bly, <i>et al.</i> , A Comparison of Tiled and Overlapping Windows Proc. SIGCHI, Human Factors in Computing Systems, ACM, New York, 1986, pp. 101-106
1072	<i>Inside Dynamic HTML</i> (Microsoft Press 1997)
1073	E. S. Cohen, E. T. Smith, and L. A. Iverson, "Constraint-Based Tiled Windows," Proc. 1 st Int'l Conf. on Computer Workstations, CS Press, Los Alamitos, Calif., Nov. 1984, pp. 2-11.
1074	M. Gancarz, "Uwm: A User Interface for X Windows," Conf. Proc. Summer Tech. Conf., Usenix, Denver, Jan. 1986, pp/429-440.
1075	Matthews, M. S., <i>et al.</i> , FrontPage 2000: The Complete Reference (1999) (Excerpts of pages referenced in prosecution history)
1076	Ross, J., ABCs of Internet Explorer 4 (1997) (Excerpts of pages referenced in prosecution history)
1077	McFedries, P., The Complete Idiot's Guide to Windows 95 (Mar. 1997, 2d Ed.) (Excerpts of pages referenced in prosecution history)
1078	http://www.w3.org/submission/1997/5/ (4/11/97)
1079	http://www.w3.org/TR/NOTE-Submission-HDML (5/9/97)
1080	http://www.w3.org/TR/NOTE-Submission-HDML-FAQ.html (4/11/97)
1081	http://www.ncns.com/news/2/uwplanet.html (5/7/97)
1082	Microsoft's 2nd Supplemental Responses to SurfCast's First Set of Interrogatories (Confidential) (4/8/2013)