

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAP AMERICA, INC.,
Petitioner,

v.

CYANDIA, INC.,
Patent Owner.

IPR2024-01432
U.S. Patent No. 8,751,948
Issued: June 10, 2014
Application No. 13/086,165
Filed: April 13, 2011

Title: Methods, Apparatus, and Systems for
Providing and Monitoring Secure Information Via Multiple
Authorized Channels and Generating Alerts Relating to Same

DECLARATION OF CHRISTOPHER M. SCHMANDT

SAP AMERICA, INC. EXHIBIT 1003

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I. INTRODUCTION AND ENGAGEMENT

1. I have been retained as an independent expert on behalf of SAP America, Inc. in connection with the above-captioned Petition for *Inter Partes* Review (“IPR”) to provide my analyses and opinions on certain technical issues related to U.S. Patent No. 8,751,948 (hereinafter “the ’948 patent”).

2. Specifically, I have been asked to provide my opinions regarding whether claims 1-7, 10, 11, 13, 18, 19, 23, 29, 35, and 36 (each a “challenged claim” and collectively the “challenged claims”) of the ’948 patent would have been obvious to a person having ordinary skill in the art (“POSITA”) as of May 2008. It is my opinion that each challenged claim would have been obvious to a POSITA in view of the prior art discussed herein.

II. BACKGROUND AND QUALIFICATIONS

3. I have recently retired from my position as a Principal Research Scientist at the Media Laboratory at the Massachusetts Institute of Technology (“M.I.T.”), after 40 years of employment by M.I.T. In that role, I also served as faculty for the M.I.T. Media Arts and Sciences academic program. I have more than 40 years of experience in the field of Media Technology and was a founder of the M.I.T. Media Laboratory.

4. I received my Bachelor of Science degree in Electrical Engineering and Computer Science from M.I.T. in 1978, and my Master of Science degree in

Visual Studies (Computer Graphics), also from M.I.T., in January 1980. I was employed at M.I.T. since 1980, initially at the Architecture Machine Group, which was an early computer graphics research lab. In 1985, I helped found the Media Laboratory and continued to work there until my retirement. I ran a research group most recently titled “Living Mobile.” My research spanned distributed communication and collaborative systems, with an emphasis on multi-media and mobile user interfaces; I have more than 70 published conference and journal papers and one book in these fields. I have received “best paper” awards from both ACM and IEEE conferences, and am a member of the ACM CHI (Computer Human Interaction) Academy, a peer-awarded honor given to a handful of active researchers annually.

5. As reflected in my CV, attached as Appendix A, I was a Principal Research Scientist beginning in 1985, when I founded a group later named the Speech + Mobility Group, and I continued in that capacity until 2018. Appx. A, 118. My work in the Speech + Mobility group involved significant research in the area of message notifications for mobile devices such as cell phones and other types of personal communication devices. I conducted research in the field of Alerting and Mobile Messaging from 1985 to 2018. In my faculty position, I taught courses and directly supervised student research and theses at the Bachelors, Masters, and Ph.D. levels. I oversaw the Master’s and Ph.D. thesis programs for

the entire Media Arts and Sciences academic program. I was the official Departmental coordinator for M.I.T.'s Undergraduate Research Opportunities Program (UROP), through which the Lab employed typically 150 undergrad research assistants, for 35 years. I also served on and at times chaired the Departmental Intellectual Property committee. Based on my experience and qualifications, I have a solid understanding of the knowledge and perspective of a person of ordinary skill in this technical field (wireless communications) since at least 1980.

6. From as early as my undergraduate days, I researched and built software systems to support graphical user interfaces. My Bachelor's thesis in 1978 is one of the earliest examples of an electronic book, complete with touchable user interfaces, page turning animations, and fonts which I engineered for robust display on what was at the time conventional NTSC television/video equipment. Much of my work for the next decade involved graphical user interfaces for novel display of personal information, such as audio recordings, email and voice messages, and calendars, with user interaction via touch screens of various types and computer mice.

7. It was customary for these systems to display information in a two-dimensional grid, such as segments of voice mail recordings in Phone Slave

(1984)¹ and email in Conversational Desktop (1985)². But earlier my World of Windows (1981)³ displayed, on a single screen, streaming video of about 20 channels of live video into a grid of shrunk down active window panes; if a user indicated interest in a particular channel, they would first hear audio only, and subsequently the window would expand to fill the entire screen.

8. As desktop workstations with higher resolution displays became affordable from the mid-1980s, I deployed a number of applications to manage personal or personalized user data, including a version of voice mail, calendar, address book, and stock quotes. These applications would run on a remote server, and appear on the user's desktop as a grid of small windows similar to

¹ Chris Schmandt and Barry Arons, *A Conversational Telephone Messaging System*, IEEE Trans. on Consumer Elec., Vol. 30, No. 3, 21-24 (Aug. 1984), discussing grid layout for interaction with multi-segment voice messages.

² Schmandt et al., *Voice Interaction in an Integrated Office and Telecommunications Environment*, Proc. of AVIOS (American Voice Input/Output Society), 51-57 (Sept. 1985), discussing grid layouts displaying both voice and text messages, and inset windows showing detailed text messages.

³ Richard A. Bolt, *Gaze-Orchestrated Dynamic Windows*, ACM Siggraph, Computer Graphics, Vol. 15, No. 3, 109-119 (Aug. 1981).

conventional icons in operating systems such as Windows. But unlike Windows, these small versions of the applications were “live” and would change appearance in response to application specific information, such as new voice messages or a calendar entry alert⁴. A user could click on the small version of the application from the application grid to open a larger window for more complex interactions. Thus, a user could quickly access a variety of personal information from the grid layout of small versions of each application.

9. These personal information management applications were accessible on a variety of devices, not limited to the high-resolution desktop display, but also including PDAs, pagers, and voice access over the telephone network. As these devices were meant for users on the go and otherwise busy in the world, user agents monitored the various databases and decided when to notify users of a change, such as a calendar entry, a personal news story, or a new email. In doing

⁴ Chris Schmandt, *Multimedia Nomadic Services on Today's Hardware*, IEEE Network, Vol. 8, No. 5, 12-21 (Sept. 1994), discussing an architecture for local applications to interact with remotely stored user-centric data, using various media.

so, a process (CLUES, 1996)⁵ tracked conversations (a series of messages or phone calls with a particular person), a user's coarse geographic location (based on mining travel arrangements in the calendar), and scheduled appointments. In this manner, CLUES attempted to determine which events were relevant to the user *in context*, which was itself updated hourly.

10. Once it was determined that an event merited notification, another process, Active Messenger (1999)⁶ would determine which device(s) should receive notification. This was done in part by observing activity on each device, i.e., when a user most recently accessed his or her account from each device. The type of device recently used also influenced the manner of notification. For example, if the user was on a desktop computer, an important email message may be displayed in its entirety, while if on a pager only, the sender and subject line

⁵ Matthew Marx and Chris Schmandt, *CLUES: Dynamic Personalized Message Filtering*, Proc. of the 1996 ACM Conf. on Computer Supported Cooperative Work (CSCW '96), 113-121 (1996).

⁶ Schmandt et al., *Everywhere messaging*, IBM Sys. J., Vol. 39, Nos. 3-4, 660-677 (2000), with Natalia Marmasse, Stefan Marti, Nitin Sawhney, and Sean Wheeler, discussing Active Messenger's device-based and session oriented cascaded event notifications.

would fit into a single page (the entire message could be retrieved as a series of short pages).

11. In order to maintain privacy, these various applications and device accesses utilized well known authentication techniques, such as passwords evaluated at a centralized credential management server. Additional security was provided based on registered device addresses, such as a mobile phone number or a pager address as used by the POCSAG protocol.

12. My research also included the use of tactile alerts and notifications. As part of a project on autonomous communication intermediaries (2005), we built finger rings which included eccentric motor vibrators and micro switches to silently alert members of a group when one of them was receiving a phone call, and allowed the entire group to vote whether to allow the call to go through.⁷ WatchMe⁸ was a wrist worn watch, which used GPS to determine location and

⁷Stefan Marti and Chris Schmandt, *Giving the Caller the Finger: Collaborative Responsibility for Cellphone Interruptions*, Proc. of ACM (CHI 2005), 1633-1636 (2005), describing construction of a vibration enabled wearable ring used incoming call notifications.

⁸ Schmandt et al., *WatchMe: communication and awareness between members of a closely-knit group*, Sixth Proc. of Ubicomp 2004, 214-231 (Sept. 2004), with

availability of each member of an intimate group. Among other features it allowed one member to communicate with another tactilely by controlling vibration on the other's watch. Additionally, I am an inventor on U.S. Patent No. 7,098,776, titled "Methods and Apparatus for VibroTactile Communication", filed in 2004.

13. In addition to my own work, part of my responsibility as a principal investigator was to track and maintain contacts with industrial researchers and product developers. In addition to government funding (DARPA, ONR, NSF) I relied on industry funding through the Media Lab's two research consortia, Digital Life and Things that Think. Many established international communication companies and mobile phone developers participated in frequent visits and brainstorming sessions with my research group. As a result, during this time period I was made aware of industry trends and emerging standards as well as further looking research agendas.

14. In addition to M.I.T.-centered research, I have also participated in and reviewed for a number of conferences for both the ACM and IEEE. I have had program committee and conference management and conference chairing positions in the ACM CSCW, CHI, UIST, Mobicom, and Ubiquitous Computing

Natalia Marmasse and David Spectre, describing how a person with one watch can send idiosyncratic tactile messages to another.

conferences. I have served on the editorial board of several professional journals as well.

15. Based on the above experience and qualifications, I have a solid understanding of the knowledge and perspective of a person of ordinary skill (“POSITA”) in this technical field (providing information, including alerts, to a user on one or more of the user’s devices/platforms) since at least 1990.

16. My Curriculum Vitae is submitted herewith as Appendix A.

17. I am being compensated at my standard hourly rate for my study and other work in this matter. I am also being reimbursed for reasonable and customary expenses associated with my work in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony. In the last five years, I have provided deposition or trial testimony in the following matters:

- *Blackberry v. Facebook Inc.*, 2019
- *Bumble Trading Inc. v. Match Group LLC*, 2019
- *Tile Inc. v. Cellwitch, Inc.*, 2019
- *Snap Inc. v SRK Technology LLC*, 2019
- *Microsoft v. Speakware*, IPR 2019
- *Microsoft Corp. v. Uniloc 2017 LLC*, 2019
- *Express Mobile v. Shopify*, 2020

- *Walmart v. Sound View Innovations*, 2020
- *Express Mobile v. Wix Ltd.* 2020
- *Motorola Mobility LLC v. Ironworks Patents LLC* 2021
- *Express Mobile v. GoDaddy Inc.* 2021
- *Bumble Trading LLC v. Kinectus LLC* 2021
- *Tile, Inc. v. Linquet Technologies Inc.* 2021
- *Unified Patents, LLC v. Gesture Technology Partners, LLC* 2021
- *Quantum Metric, Inc, Decibel Insight, Ltd., and Decibel Insight, Inc. v. Content Square Israel Ltd.* 2021
- *Facebook, Inc. v. Palo Alto Research Center, Inc.* 2021
- *Meta Platforms Inc. v. AlmondNet Inc.* 2022
- *Apple Inc. v. Zentian Limited* 2022
- *Google LLC v. Mira Advanced Technology Systems Inc* 2022
- *Google LLC v. Robocast* 2023
- *Google LLC v. Buffalo Patents LLC* 2023
- *Samsung Electronics Co., Ltd v. Stanton Techiya, LLC* 2024
- *Roku, Inc. v. AlmondNet, Inc.* 2024
- *LinkedIn v. AlmondNet, Inc,* 2024
- *Google, LLC v. Dialect, LLC* 2024

III. UNDERSTANDING OF PATENT LAW

18. I am not an attorney. For the purposes of this declaration, I have been informed about certain aspects of the law that are relevant to my opinions. My understanding of the law was provided to me by the Petitioner's attorneys.

19. I understand that when considering the scope of the claims of a patent that the patent claim terms should generally be given the ordinary meaning that the terms would have to a person of ordinary skill in the art in question after reading the patent as of the earliest claimed priority date. As discussed below, it is my opinion that the challenged claims are not entitled to the earliest priority date asserted by the '948 patent. However, in my opinion, the meaning of the claim terms would not have materially differed to a person of ordinary skill in the art ("POSITA") whether the claims were evaluated at the time of the earliest claimed priority date (2008) or at the time the application that led to the '948 patent was filed (2011).

20. I understand that the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the term appears, but in the context of the entire patent, including the other claims and the specification of the application as filed. I further understand that the principal considerations regarding the scope and meaning of the claims are the plain language of the claim (including the surrounding claim language and context), the

patent specification, and the prosecution history. I understand that while a claim is to be read in light of the specification, one must generally avoid importing limitations into the claim from the specification. I am also informed that the prosecution history can often inform the meaning of the claim by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be. I applied these understandings when considering the scope and meaning of the claims of the '948 patent.

21. I understand that a prior art reference anticipates an asserted claim, and thus renders the claim unpatentable, if all elements of the claim are disclosed in that prior art reference, either explicitly or inherently (i.e., necessarily present or implied).

22. I further understand that a claim is unpatentable if it would have been obvious. Obviousness of a claim requires that the claim would have been obvious from the perspective of a POSITA at the time the alleged invention was made. I understand that a claim could have been obvious from a single prior art reference or from a combination of two or more prior art references. I understand that an obviousness analysis requires an understanding of the scope and content of the prior art, any differences between the alleged invention and the prior art, and the level of ordinary skill in evaluating the pertinent art.

23. I further understand that a claim would have been obvious if it unites old elements with no change to their respective functions, or merely substitutes one element for another known in the field, and that combination yields predictable results. While it may be helpful to identify a reason for this combination, I understand that there is no strict requirement of finding an express teaching, suggestion, or motivation to combine within the references. When a product is available, design incentives and other market forces can prompt variations of it, either in the same field or different one. If a POSITA can implement a predictable variation, obviousness likely bars its patentability. For the same reason, if a technique has been used to improve one device and a POSITA would recognize that it would improve similar devices in the same way, using the technique would have been obvious. I understand that a claim would have been obvious if common sense directs one of ordinary skill, without hindsight bias caused by knowledge of the challenged claims, to combine multiple prior art references or add missing features to reproduce the alleged invention recited in the claims.

24. I further understand that certain factors may support or rebut the obviousness of a claim. I understand that such secondary considerations include, among other things, commercial success of the patented invention, skepticism of those having ordinary skill in the art at the time of invention, unexpected results of the invention, any long-felt but unsolved need in the art that was satisfied by the

alleged invention, the failure of others to make the alleged invention, praise of the alleged invention by those having ordinary skill or expertise in the art, and copying of the alleged invention by others in the field. I understand that there must be a nexus—a connection—between any such secondary considerations and the alleged invention. I also understand that contemporaneous and independent invention by others is a secondary consideration tending to show obviousness.

25. I understand that in considering obviousness, it is important not to determine obviousness using the benefit of hindsight derived from the descriptions found in the patent being considered.

26. I understand that Petitioner has the burden of proving unpatentability by a preponderance of evidence, which means that the claims are more likely than not unpatentable.

27. I understand that other challenges to the patentability of a patent, including patent ineligibility, enablement, written description, and definiteness or clarity of claim language, cannot be raised in IPR proceedings before the Board.

28. The analysis in this declaration is in accordance with the above-stated legal principles.

**III. MATERIALS CONSIDERED AND
INFORMATION RELIED UPON REGARDING THE '948 PATENT**

29. My opinions are based on my years of education, research, and experience, as well as my investigation and study of relevant materials.

30. As part of my work in connection with this matter, I have studied the '948 Patent and the U.S. Patent and Trademark Office file history of the application that led to the '948 Patent (U.S. Patent Application No. 13/086,165), the prior art reference cited herein, as well as additional background references.

31. In preparing this declaration, I have reviewed the following materials bearing Exhibit Nos. that I understand are being referenced in the IPR to which my declaration accompanies:

LIST OF EXHIBITS

No.	Description
1001	U.S. Patent No. 8,751,948 (“ ’948 Patent ”)
1002	File History of U.S. Patent No. 8,751,948
1004	<i>IBM Rational Application Developer V6 Portlet Application Development and Portal Tools</i> (August 2005) (“ WebSphere-Portal ”)
1005	Ron Ben-Natan et al., <i>Mastering IBM WebSphere Portal</i> (2004) (“ Ben-Natan ”)
1006	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration</i> (May 2005) (“ WebSphere-Everyplace-1 ”)

No.	Description
1007	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume II: Application Development</i> (March 2005) (“ WebSphere-Everyplace-2 ”)
1008	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume III: E-Mail and Database Synchronization</i> (April 2005) (“ WebSphere-Everyplace-3 ”)
1009	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume IV: Advanced Topics</i> (March 2005) (“ WebSphere-Everyplace-4 ”)
1010	U.S. Patent Application Publication No. 2004/0044736 to Austin-Lane et al. (“ Austin-Lane ”)
1015	U.S. Patent No. 7,376,907 (“ Santoro ”)
1017	<i>Microsoft Computer Dictionary</i> (5th Ed.) (excerpts) (2002)
1018	U.S. Patent No. 5,548,692 (“ Cok ”)
1019	<i>Microsoft Internet Explorer ResourceKit</i> , Microsoft (1998)
1020	U.S. Patent Application Pub. No. 2007/0174782 (“ Russo ”)
1021	David Pogue, <i>iPhone The Missing Manual</i> (excerpts) (2007)
1022	David Pogue, <i>Mac OS X Leopard The Missing Manual</i> (excerpts) (2007)
1023	Harry Newton, <i>Newton’s Telecom Dictionary</i> (20th Ed.) (2004)
1037	U.S. Patent Application Publication No. 2007/0283020 to Chowdary et al.
1038	U.S. Patent Application Publication No. 2007/0033251 to Mandalia et al.
1039	Claims Listing
1040	WSRP standard 1.0 specification
1041	WSRP standard 2.0 specification

No.	Description
1042	U.S. Patent Application Publication No. 2005/0159823

IV. LEVEL OF SKILL IN THE ART AND STATE OF THE ART

A. Person Of Ordinary Skill In The Art

32. I understand that several factors are relevant to determining the level of ordinary skill in the art at the time of the claimed invention. I understand that those factors include: (1) the educational level of the inventor(s); (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) sophistication of the technology; and (6) the educational level of active workers in the field.

33. Having reviewed and considered the '948 patent, its prosecution history, the state of the art at the time of the invention, including the level of skill of the persons with whom I worked, and the above-listed factors, it is my opinion that a person of ordinary skill in the art for purposes of the '948 patent in May 2008 ("POSITA") would have had a bachelor's degree in electrical engineering, computer science, or equivalent, with two or more years of experience developing and implementing graphical user interfaces for controlling server-based applications, including handling asynchronous notifications generated by those applications and web services, such as portal systems, or an equivalent amount of relevant work or research experience. A POSITA would have been familiar with

common approaches for presenting information on a graphical user interface, including various layouts for presenting multiple elements, such as icons, widgets, windows, etc. *E.g.*, EX1004, 2-4; EX1006, 34, 390; EX1015, 7:31-31-43, FIG. 1; EX1018, 1:15-19, 3:35-40, FIG. 1; EX1019, xxx, 183; EX1021, 5, EX1022, 22.

34. Further, a POSITA would have been familiar with communication protocols and markup languages commonly used for transmitting information (including notification data) between a server and a user's device(s), such as HTTP, SMS, SMTP, HTML, XML, and RFC822 email headers. Similarly, a POSITA would have understood and/or used Java technologies, XML applications, and Web publishing, along with protocols and techniques for managing and interfacing to remote web objects, such as Web Services for Remote Portlets (WSRP). EX1004, xix, 12, 899; EX1010, [0004-5], [0031], [0033], [0048]; EX1023, 402, 702, 760, 933-934; EX1040 (WSRP 1.0), EX1041 (WSRP 2.0).

35. POSITAs commonly used SSO and/or other authentication processes to verify the identity of the user and their device, to protect the user's privacy. EX1004, 5, 11, 15-16, 630, 638-639, 899-900; EX1005, 15, 365-401; EX1006, 5; EX1007, 182-183; EX1009, 327-360; EX1017, 42-43, 299, 310, 483, 495, 580; EX1023, 752. POSITAs would have understood how to implement a server with an authentication directory (e.g., LDAP) including a plurality of user, device, and application accounts. *Id.* A POSITA also would have been familiar with techniques

to manage users' sessions, for example, to track the lifetime of a given sign-on. EX1004, 134-139, 285; EX1005, 18-19, 164, 228, 233-234, 264, 480-482; EX1006, 28-29, 381-384; EX1010, [0035]. It also was common practice to encrypt communications between a server and a user's device(s) to prevent unauthorized entities from gaining access to the information, thus protecting the user's privacy. EX1004, 11, 630, 899-900; EX1005, 5, 380-383; EX1006, 315-337; EX1017, 495; EX1023, 777. A POSITA also would have been familiar with protocols commonly used to authenticate users (e.g., single sign-on or SSO) and encrypt communications (e.g., SSL). *Id.*

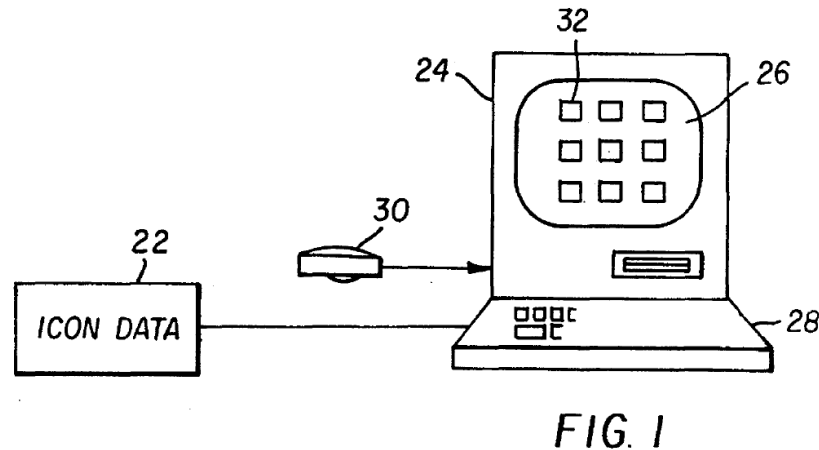
B. State Of The Art

36. The knowledge and skill of a POSITA encompassed the following claim-recited features, as reflected in both background references and the references that form the ground of unpatentability presented in Section VI.

1. Displaying Secure User-Centric Information Channels (e.g., Icons Representing Computer Applications) In A Grid

37. It was well known in the art to display icons, or other graphical representations of user-centric information (e.g., applications, files, etc. that provide users with access to information), in a grid. For example, in 1996, more than ten years before the earliest possible effective filing date of the '948 patent, Cok (EX1018) disclosed a grid-based display of an ordered set of icons (32)

representing files or application programs. *E.g.*, EX1018, 1:15-19, 3:35-40, FIG. 1; *see also, e.g.*, EX1020, Abstract, FIGS. 4A-4B.



EX1018, FIG. 1.

38. As another example, Santoro (EX1015, published in 2004) disclosed displaying tiles representing sources of user-centric information (e.g., stock information, folders, news, website information, etc.) in a grid. EX1015, 7:31-43, FIG. 1. *See also* EX1019, xxx (showing tiles displayed by Active Desktop), 183.

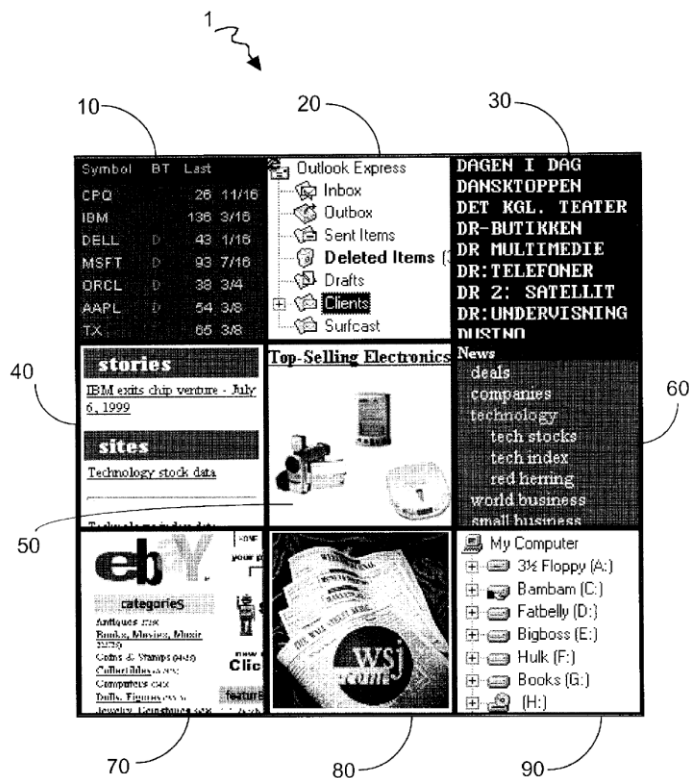


Fig. 1

EX1015, FIG. 1.

39. Some further examples follow that show displaying icons, which include user-centric information such as messages, address books, calendars, photos, etc.:



Figure 11-4 Running the tool

EX1006, 390.

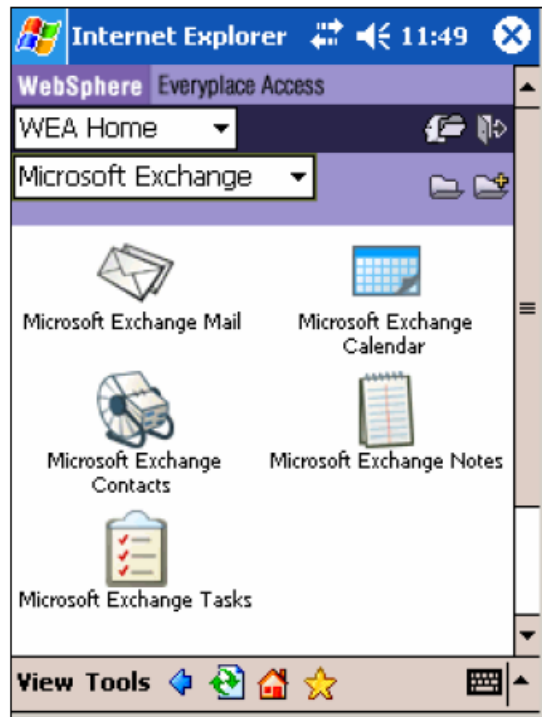
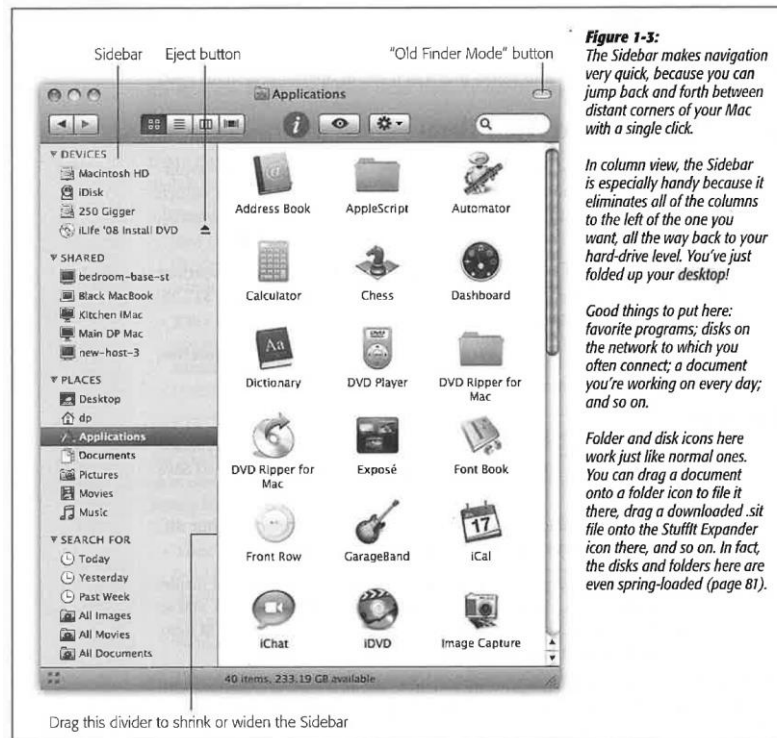


Figure 2-7 Microsoft Exchange PIM portlets

EX1006, 34.



EX1021, 5.



EX1022, 22.

40. Moreover, it was well known to use security protocols such as secure socket layer (SSL) and Simple Authentication and Security Layer (SASL) to securely provide information to users (e.g., via encryption). EX1004, 11, 630, 899-900; EX1005, 5, 380-383; EX1006, 315-337; EX1017, 495; EX1023, 777.

2. Authenticating A User And/Or A Platform Associated With A User

41. Long prior to the challenged claims' earliest possible effective filing date, it was common practice to authenticate users (e.g., via username and password) and/or platforms/devices associated with users to prevent unauthorized

access of private or sensitive information. *E.g.*, EX1004, 5, 7, 11, 14-16, 27, 33, 119, 380, 630-631, 899-900; EX1005, xvii, xxix, 17, 21, 242, 256, 270, 365-401, 483-486; EX1006, 5, 182-183, 250-254, 340-341; EX1007, 240, 320-322; EX1008, 144; EX1009, 3, 9-10, 19-20, 302; EX1024, [0032], [0041].

42. Moreover, it was well known to authenticate users, user's devices, and/or applications, including as part of a single sign-on (SSO) process, using lightweight directory access protocol (LDAP), tokens (e.g., LTPA tokens), and/or certificates. EX1004, 5, 11, 15-16, 630, 639, 900; EX1005, 15, 365-401; EX1006, 5; EX1007, 182-183; EX1009, 327-360; EX1017, 42-43, 299, 310, 483, 495, 580; EX1023, 752, 932.

3. Communication Protocols And Markup Languages

43. Communication protocols and markup languages such as HTTP, SMS, SMTP, HTML, XML, and RFC822, were well known before the alleged priority date of the '948 patent. EX1004, xix; EX1010, [0004-5], [0031], [0033], [0048]; EX1023, 402, 702, 760, 933-934. For example, in 2002, Austin-Lane described XML and HTML as "standard" (EX1010, [0031]), and described how existing systems used, *inter alia*, email, SMS, and TCP/IP communication protocols to deliver electronic content and messages (EX1010, [0004]).

V. CLAIM CONSTRUCTION

44. I understand that, in *inter partes* review (IPR), claim terms should be given the ordinary meaning that the terms would have to a person of ordinary skill in the art on the earliest effective filing date, in view of the specification and file history.

45. Unless otherwise noted, I apply the plain and ordinary meaning of all claim terms below. I reserve the right to offer my opinion on any constructions or construction issues present by Patent Owner Cyandia, Inc.

A. Proposed Constructions

1. “Channel”

46. For this declaration, I apply the following constructions:

“**Channel**” should be construed at least in part as: “*a mechanism for providing the user access to and interaction with the user-centric information, comprising a visual component presented on the at least one user platform and an information delivery component on a server.*”

47. The '948 patent states that the channel is a “mechanism ... for providing the user access to and interaction with ... information” and that it comprises “two pieces (1) a visualization piece that is presented on the client device (e.g., user devices 118) and (2) the integration piece residing at the server

(e.g., application server 110).” EX1001, 8:60-9:3. The visual component on the user device may be “formed of a touchlet 212 and a channel application 214.”

EX1001, 9:25-27; *see also id.*, 9:12-20, 9:25-27, 9:30-39, 9:57-61, 11:36-44, 12:1-

4. The touchlet may be, for example, a user-selectable icon that “may serve as an icon to launch its associated channel application 214 to full screen mode.”

EX1001, 12:3-4. The channel application 214 “manage[s] the visual rendering of at least some of the channel-specific information on a GUI of a user device 118.”

EX1001, 9:46-49. The integration piece residing at the server comprises one or more service components that “retrieve the information 122 from the authorized information source(s) 114 and securely provide the retrieved information 122 to any visual components 210 of a channel 200 for display to [a] user.” EX1001, 10:2-5. In addition to visual information, the information may be auditory or tactile. EX1001, 9:39-43.

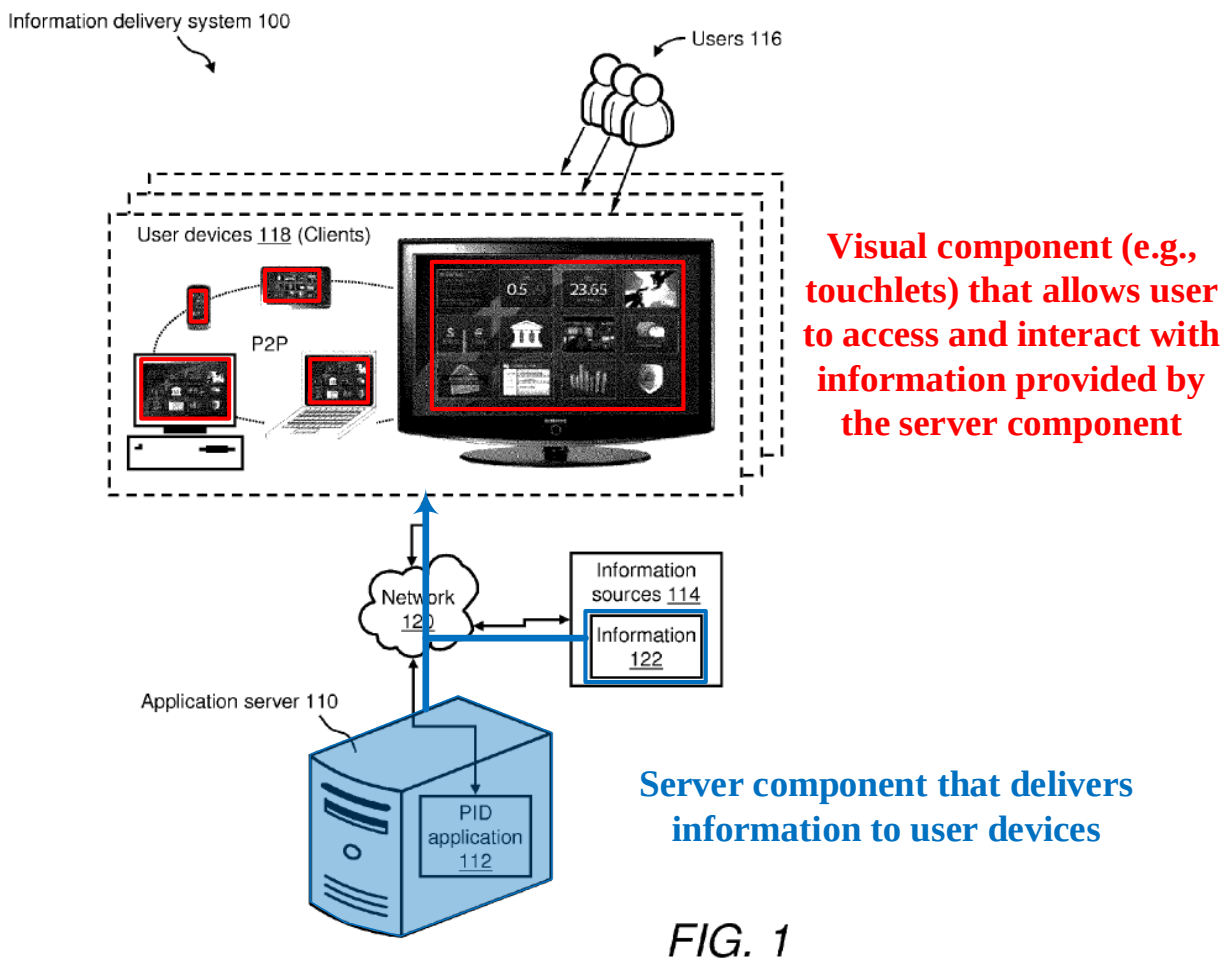


FIG. 1

EX1001, FIG. 1 (red and blue annotations added).

48. Thus, the channel's server-side integration component and user-side visual component together "provid[e] the user access to and interaction with, for example, information 122 and/or any other information." EX1001, 8:60-62.

VI. GROUND 1: THE CHALLENGED CLAIMS ARE OBVIOUS OVER THE WEBSHERE REFERENCES IN VIEW OF AUSTIN-LANE

49. In my opinion, claims 1-7, 10, 11, 13, 18, 19, 23, 29, 35, and 36 are obvious over the WebSphere references (EXS1004-1009) in view of Austin-Lane

(EX1010) (the WebSphere+Austin-Lane combination). The WebSphere references disclose or suggest every element of the challenged claims except the independent claims’ determining a notification method by which to provide at least one alert on the at least one external device based on the current state of the at least one external device indicated by the session data. Austin-Lane, however, discloses or suggests this claim element and explains its benefit: determining to send the alert to the device the user is currently using (as indicated by session data) ensures the user receives the alert promptly. *E.g.*, EX1010, [0006-9], [0019], [0021], [0023-24], [0027], [0029], [0031], [0035], [0039], [0041], [0045-46] [0055], [0079]. Thus, as I explain in greater detail below, a POSITA would have been motivated with a reasonable expectation of success to start with the WebSphere references’ disclosed system (the “WebSphere system”) and incorporate Austin-Lane’s teachings to determine a notification method based on session data to ensure prompt delivery of the alert to the user.

A. The WebSphere References

50. The WebSphere references—WebSphere-Portal (EX1004), Ben-Natan (EX1005), and WebSphere-Everyplace (EXS1006-1009)—are books describing aspects of the same IBM product: WebSphere. *E.g.*, EX1004, (a); EX1005, xxvi, 4; EX1006, (a); EX1007, (a); EX1008, (a); EX1009, (a).

WebSphere-Portal and WebSphere-Everyplace are part of IBM’s Redbooks, which

I was aware of in 2008 through my work in the field. Moreover, it is my opinion that POSITAs in 2008 were aware of and/or used IBM's Redbooks and would have looked to these Redbooks for guidance when developing portal systems.

51. The WebSphere references primarily explain how to design, develop, and implement WebSphere Portal, an aspect of the WebSphere system that allows users to access information from a plurality of sources on a single user interface (a Portal Page). EX1004, xix, 4-51; EX1005, xxvi-xxx, 3-4, 7-12, 276, 473-480; EX1006, xi, 5-6, 25. Ben-Natan and WebSphere-Everyplace also describe another aspect of the WebSphere system, Everyplace Access (aka "WEA"), which "extend[s] [P]ortal functionality to mobile devices," allowing users to leverage Portal functionality from virtually everywhere, hence the name "Everyplace." EX1005, 479; *see also id.*, 473-476, 480; EX1006, 1-5, 25, 27-29.

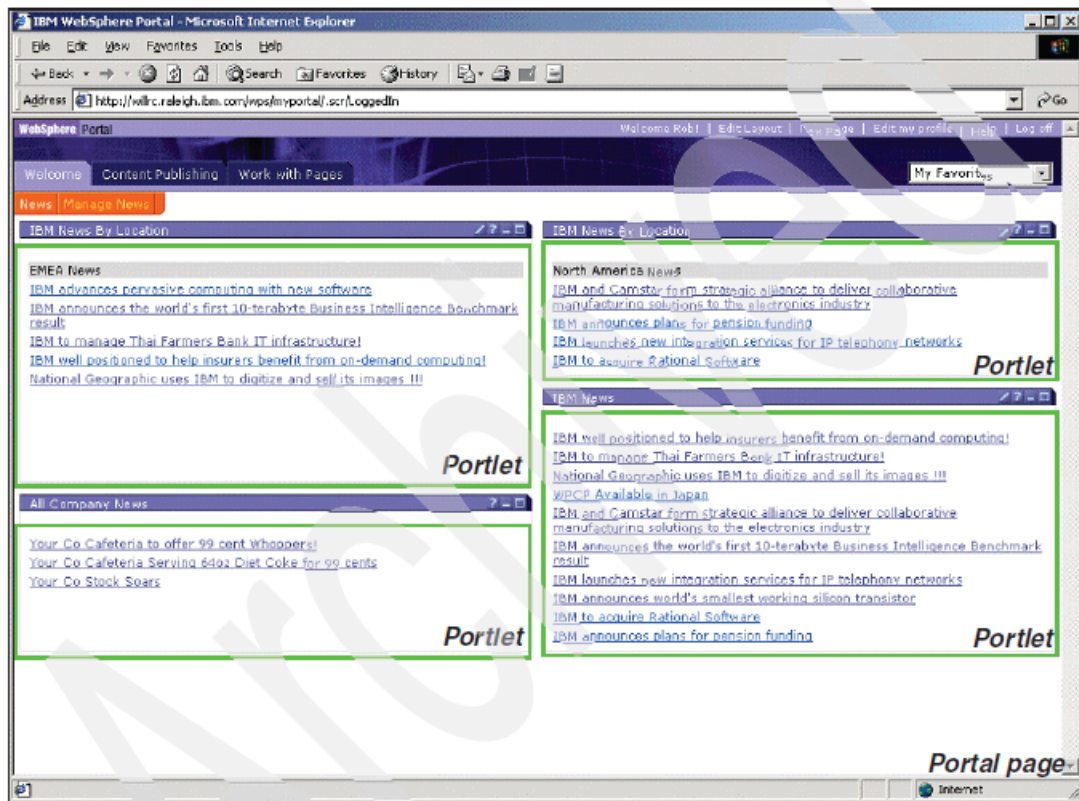


Figure 2-1 Portal page and portlets

EX1004, 49 (showing a Portal Page comprising a plurality of portlets, each of the portlets containing links to additional information).

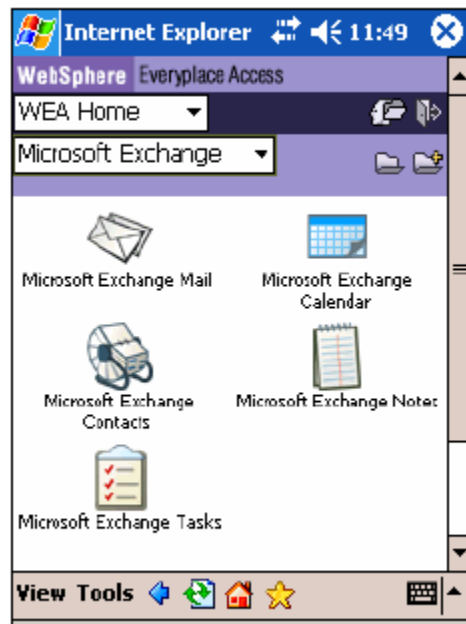


Figure 2-7 Microsoft Exchange PIM portlets

EX1006, 34 (showing a Portal Page displayed on a mobile device comprising portlets for accessing various Microsoft Exchange applications).

52. To access their account from one of their devices, the user first logs in with a username and password, such as using a single sign-on (SSO) process. *E.g.*, EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642; EX1005, 15, 195-196, 225-226, 270, 382-401; EX1006, 5, 30-33, 311, 378; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184; EX1009, 289-290, 314, 324-355.

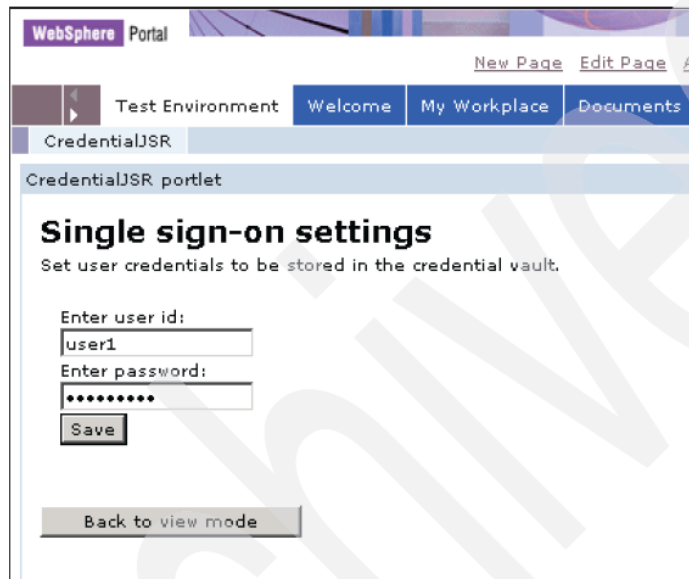


Figure 21-16 Running Edit mode of the portlet

EX1004, 665.

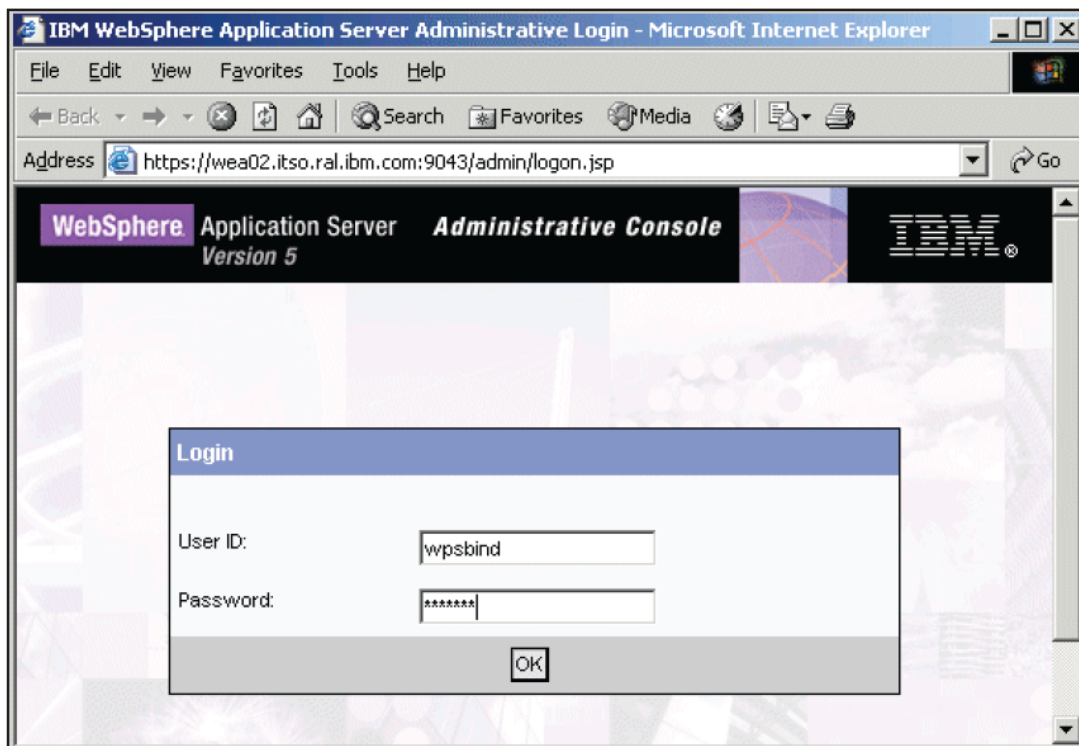


Figure 10-16 WebSphere Everyplace Access Login

EX1009, 347.



Figure 10-19 Login to WebSphere Everyplace Access

EX1007, 321.

53. Once logged in to their account, the user is presented with a grid of portlets. *E.g.*, EX1004, 28-29, 49, 60; EX1006, 30, 34; EX1008, 66-67, 182.

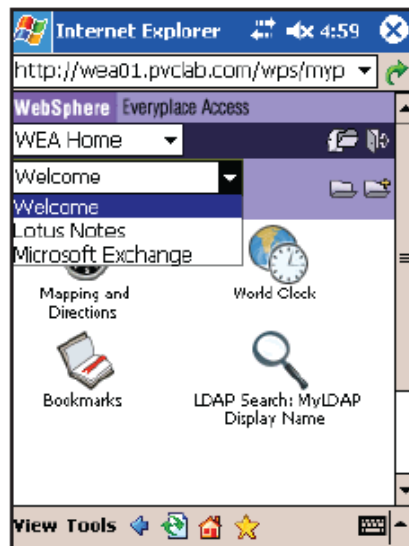


Figure 2-74 Welcome page (after login)

EX1008, 182.

54. The user can customize their profile, including modifying the layout and theme of their Portal Page(s). *E.g.*, EX1004, 18-20, 30, 58-64, 95, 247, 935-989, 1000 (“To rearrange portlets ... click the Show tools icon. This action produces tools that allow you to arrange and remove portlets. Click Edit page to add new portlets or change page layout.”); EX1005, 143-177; EX1006, 41-67.

55. Just like the '948 patent, WebSphere-Everyplace describes how a user can set up custom alerts. EX1006, 9-11; EX1009, 1-50, 80-82. WebSphere-Everyplace even describes the same kind of alert as the '948 patent—a stock price alert. EX1001, 25:20-26:3, FIGS. 14-17; EX1006, 9-11; EX1009, 1-10, 19-25, 29-33, 40-50, 80-82.

Intelligent Notification Stock Subscriptions

OK Cancel Delete subscription

Stock symbol:
CK

Condition:
Less than

Stock price(points):
50

Notification:
☐ Once - Receive notification only the first time a match occurs.
☒ Always - Receive notification every time a match occurs.

In the table below, choose whether you would like to receive notification through the first available delivery channel selected in the list or through all selected delivery channels in the list.
Send notification to:
☐ Each selected delivery channel in order, until delivery is successful.
☒ All of the selected delivery channels.

☒ Default
☐ blackberry
☐ email
 Edit the order of your delivery channels.

OK Cancel Delete subscription

Figure 1-31 Configure the stock subscription

EX1009, 44 (showing a user configuring to be alerted when stock CK drops below a stock price of 50); *see also id.*, 41.

56. The user is alerted via one or more of a plurality of notification methods, including a message within the message center portlet of the WebSphere application, an email, an instant message, and a text message to a mobile device.

EX1009, 2, 7-14, 20-25, 29-44, 48-50.



Figure 1-35 Stock notification received

EX1009, 48 (red annotation added) (showing receipt of an alert/notification within the WebSphere message center portlet).

6. You can select the new message to see the details (as shown in Figure 1-36).

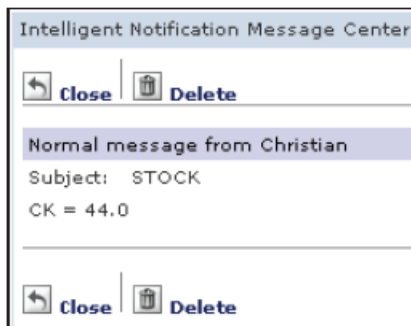


Figure 1-36 Stock notification details

EX1009, 48 (showing details of the alert/notification received in the message center portlet: the stock CK dropped to a price of 44, below the user-set threshold of 50).

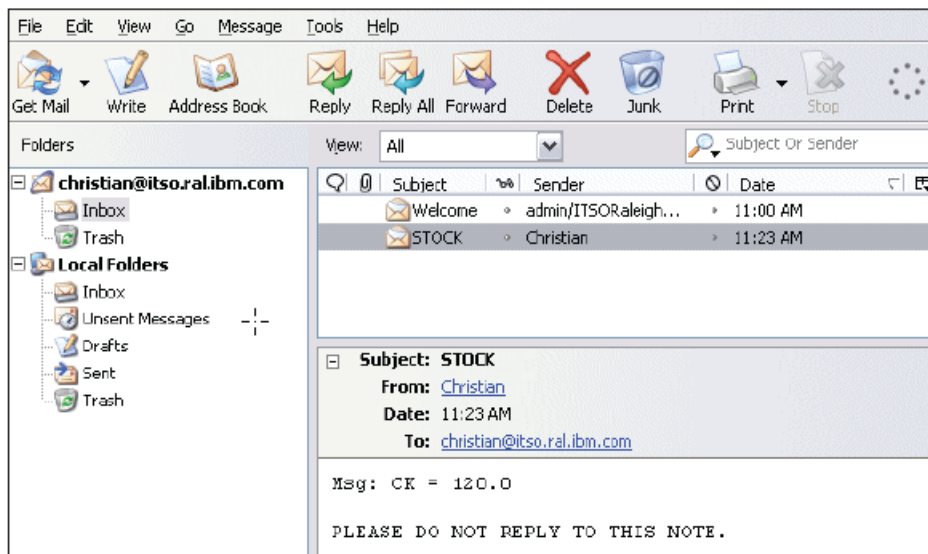


Figure 1-37 Stock notification to e-mail account

EX1009, 49 (showing an alert sent to a user's email).



Figure 1-38 Stock notification in the BlackBerry emulator

EX1009, 50 (showing an alert sent to a user's Blackberry).

57. Information (which includes alerts/notifications) is provided to the user based on their role (e.g., user, privileged user, manager, administrator, etc.) and is secured (e.g., encrypted) using a security protocol such as Secure Socket Layer (SSL). *E.g.*, EX1004, 5, 11, 19-20, 630, 899-900; EX1005, 5, 193, 380-383;

EX1006, 315-337; EX1008, 234; EX1009, 277. A user's session is also tracked, such as by a Portlet Session Listener (*e.g.*, EX1004, 134-139, 285; EX1005, 264), and the user's online status (*e.g.*, on an instant message service) is provided to other users (*e.g.*, EX1005, 18-19, 164, 228, 233-234, 480-482; EX1006, 28-29, 381, 384).

1. WebSphere-Portal (EX1004)

58. WebSphere-Portal is analogous art to the '948 patent because it is from the same field of endeavor: providing secure user-centric information to a user. EX1001, Abstract ("Display of and access to secure user-centric information"), 1:66-4:15; EX1004, 4, 7 ("IBM WebSphere Portal provides a single, secure, interactive point of access to dynamic applications, information, people and processes").

2. Ben-Natan (EX1005)

59. Ben-Natan is analogous art to the '948 patent because it is from the same field of endeavor: providing secure user-centric information to a user. EX1001, Abstract ("Display of and access to secure user-centric information"), 1:66-4:15; EX1005, xxv-xxx, 3-23, 241 ("From a user's perspective, portlets are functional entities represented on a portal page. A portal page typically contains several portlets that are arranged on the portal page in a grid of rectangles of

varying size. Common examples of portlets are portal applications that show the local weather forecast, the stock ticker, or a user's email.”).

3. WebSphere-Everyplace (EXS1006-1009)

60. WebSphere-Everyplace is analogous art to the '948 patent because it is from the same field of endeavor: providing secure user-centric information to a user. EX1001, Abstract (“Display of and access to secure user-centric information”), 1:66-4:15; EX1006, 2, 6 (“Everyplace Access, much like WebSphere Portal, uses portlets as a fundamental building block for applications. Portlets are visual windows that organize content from different sources, such as Web sites, e-mail, and business applications, into a single interface for individual or group access”); EX1007, 4; EX1008, 2; EX1009, 2.

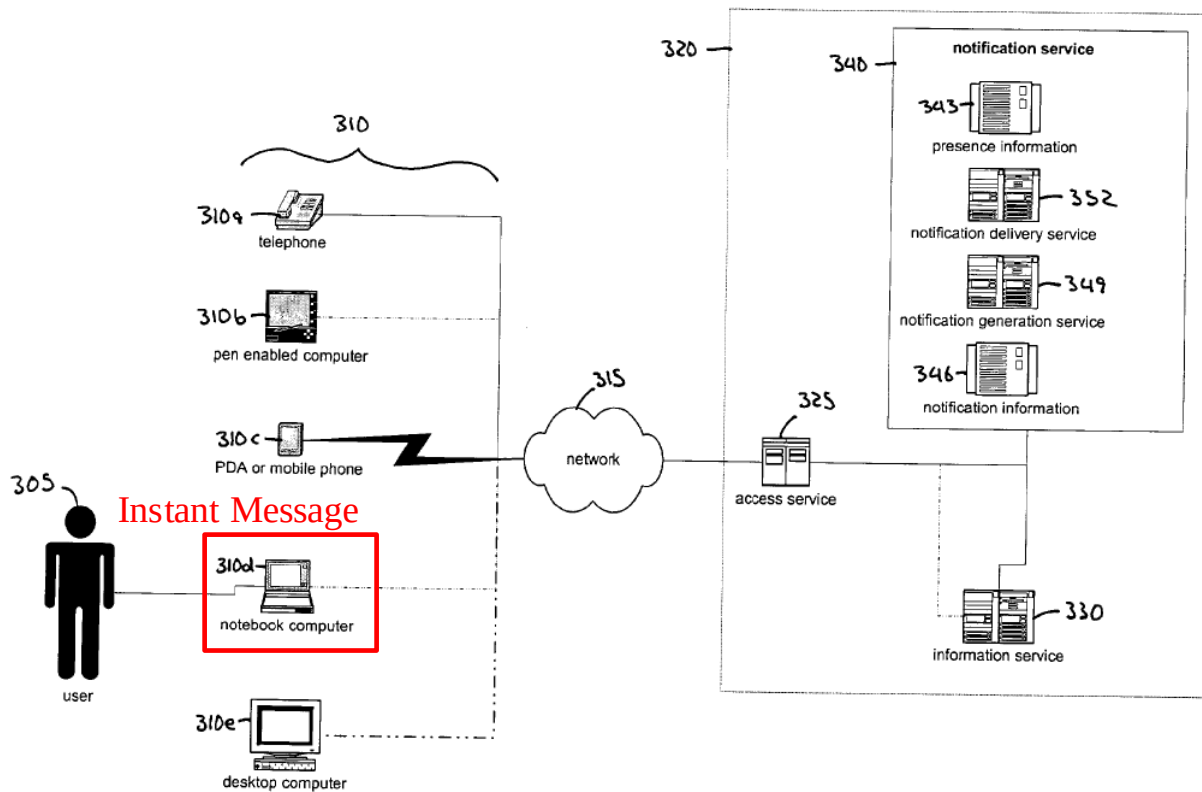
B. Austin-Lane

61. Austin-Lane is analogous art to the '948 patent because it is from the same field of endeavor: providing secure user-centric information to a user. EX1001, Abstract (“Display of and access to secure user-centric information”), 1:66-4:15; EX1010, Title, Abstract, [0002] (“This disclosure generally relates to systems and methods of delivering information”), [0019], claim 1.

62. Not only does Austin-Lane describe permitting a user to set up an alert—just like the '948 patent—it also describes setting up one of the same types of alerts, a stock-price alert. EX1001, 25:20-26:3, FIGS. 14-17; EX1010, [0036-

40], [0057-58]. For example, the user can elect “to receive the stock[-price] alert when a specified stock exceeds a 52-week high.” EX1010, [0040].

63. Austin-Lane also describes determining how to notify the user based at least in part on the user’s presence information (e.g., whether and on which device(s) the user is online) to ensure the user receives the alert “without significant delay” (e.g., [0019], [0023]). EX1010, [0006-9], [0019], [0021], [0023-24], [0027], [0029], [0035], [0039], [0046], [0055]. For example, if “the presence information [] indicate[s] that the user 305 presently is online using notebook computer 310d ... and that the user 305 has an active IM connection ... the notification delivery service 352 may provide the notification to the user 305 using an instant message to the notebook computer 310d.” EX1010, [0046].



EX1010, FIG. 3 (red annotations added).

64. Austin-Lane describes how the presence information is received from an information service (*e.g.*, EX1010, [0035]) and how the alert is generated and formatted according to the determined notification method. EX1010, [0031], [0039], [0041], [0045-46], [0079]. The “notification generation service [] generates notifications based on the ... notification delivery service [] that delivers the notifications to the user [] using one or more of the delivery mechanisms.” EX1010, [0041]. These delivery mechanisms “format the notification using a standard protocol, such as, ... (SGML), ... (XML), ... (HTML), ... (DOM) ...”

(EX1010, [0031]) and deliver the alert using a networking protocol, such as “SMS,” “WAP,” “TCP,” “IP,” (EX1010, [0048]), etc.

C. Combining The WebSphere References And Austin-Lane

65. ***Combining the three WebSphere references:*** In my opinion, a POSITA would have been motivated with a reasonable expectation of success to combine the teachings of the three WebSphere references (WebSphere-Portal, Ben-Natan (entitled “Mastering IBM WebSphere Portal”), and WebSphere-Everyplace) at least because they describe the same IBM system—WebSphere Portal—and explain how to design, develop, and implement Portal functionality on desktop computers and mobile devices. *E.g.*, EX1004, xix; EX1005, xxvi; EX1006, xi, 27-29. Moreover, WebSphere-Portal expressly identifies WebSphere-Everyplace as a related publication (EX1004, 1005) and both are IBM Redbooks that share at least one common author (EX1004, (b)-(c), xix-xx; EX1006, (b)-(c), xi-xiii; EX1007, (b)-(c), xii; EX1008, (c)-(d), ix-x; EX1009, (c)-(d), xii). Ben-Natan, in turn, provides “Expert Guidance” on building and deploying the same Portals described in WebSphere-Portal and WebSphere-Everyplace. EX1005, i; *see also id.*, 1-22, 473-493.

66. Indeed, the WebSphere references have the same or similar descriptions of Portal and its functionality, including that Portal comprises portlets (e.g., windows, icons, etc.) that are assembled into portal pages and provide access

to information of interest to a user. *Compare* EX1004, 8, 23-31, 51 (“Portlets are assembled into portal pages” and “combine Web-based content, application functionality and access to resources”) *with* EX1005, xviii, 7-9, 241 (“[P]ortlets [] are arranged on the portal page in a grid Common examples of portlets are portal applications that show the local weather forecast, the stock ticker, or a user’s email.”), 242 *with* EX1006, 6 (“Portlets are visual windows that organize content from different sources, such as Web sites, e-mail, and business applications, into a single interface for individual or group access. ... They are applications that ... run inside the Portal Container of the Portal”). Thus, when implementing or evaluating WebSphere Portal, a POSITA would have looked to the teachings of all three of these references to obtain a more comprehensive and complete understanding of the WebSphere Portal system, its features, capabilities, and interoperability of its corresponding modules, and how to implement it.

67. A POSITA would have been especially motivated to combine the teachings of WebSphere-Everyplace and Ben-Natan on WebSphere Everyplace Access (WEA) with the teachings of WebSphere-Portal and Ben-Natan on WebSphere Portal because, as explained by Ben-Natan, WebSphere Everyplace Access “extend[s] [P]ortal functionality to mobile devices,” providing the benefit of allowing users to leverage Portal functionality from virtually anywhere. EX1005, 479; *see also id.*, 473-476, 480; EX1006, 1-7, 20, 25, 27 (“Everyplace

Access extends the functionality of the Portal offering by providing specialized portlets for mobile devices.”), 28-29. WebSphere Portal and WEA also use the same application server—WebSphere Application Server—to implement Portal, further confirming Portal and WEA’s interoperability. EX1004, 8, 17-18, 21, 32; EX1005, 5, 442; EX1006, 3-4, 6, 22.

68. A POSITA would have reasonably expected to succeed in combining the teachings of these three references at least because the teachings are compatible with one another and were intended to be combined as part of the same system (WebSphere Portal). EX1004, 1005; EX1005, 473-476, 479-480; EX1006, 1-7, 20, 25, 27-29. For example, the three references disclose the same compatible features, including arranging portlets in a grid on a Portal Page (*e.g.*, EX1004, 28, 49; EX1005, 241; EX1006, 30, 34), enabling a user to sign in to their account with single sign-on (SSO) (*e.g.*, EX1004, 7, 630; EX1005, 382-401; EX1006, 5; EX1007, 182-187), and using Secure Socket Layer (SSL) to encrypt information relayed between the servers and the user devices (*e.g.*, EX1004, 899-900; EX1005, 380-383; EX1006, 315-337). That is, a skilled artisan would not have expected any incompatibilities between the teachings of the three WebSphere references relied on herein. To the extent Patent Owner argues that WebSphere-Everyplace and WebSphere-Portal relate to different version numbers of Portal, a POSITA would have reasonably expected WebSphere Portal to be backwards-compatible with an

earlier version of WebSphere Everyplace, especially since WebSphere-Portal expressly refers to WebSphere-Everyplace (*e.g.*, EX1004, 1005), and since WebSphere was built on Java, which POSITAs understood was backwards-compatible (*e.g.*, EX1004, 49).

69. ***Combining the WebSphere references with Austin-Lane:*** In my opinion, a POSITA would have been motivated with a reasonable expectation of success to combine the WebSphere references' teachings on the WebSphere system, including Portal and Everyplace Access, with Austin-Lane's teachings to determine a notification method for the alert based on the user's presence information.

70. Specifically, a POSITA would have been motivated to modify the WebSphere references' disclosed system to select the notification method based on session data (*e.g.*, the user's online presence), as taught by Austin-Lane, to ensure the user receives the alert promptly. Austin-Lane explains that doing so (*e.g.*, selecting a notification method based on the user's online presence so that the alert is to a device (*e.g.*, notebook computer) and, optionally, an application (*e.g.*, instant messaging) on that device that the user is currently using) ensures the user receives the alert "without significant delay." *E.g.*, EX1010, [0046]; *see also id.*, [0006-9], [0019], [0021], [0023-24], [0027], [0029], [0035], [0039], [0055].

71. A POSITA would have reasonably expected to succeed in incorporating Austin-Lane's teachings in the WebSphere system at least because it requires only minor software changes that were well within the skill of a POSITA. The WebSphere system already includes a notification service that allows the user to set up custom alerts for specific events (e.g., when a stock price crosses a user-set threshold), and incorporation of Austin-Lane's teachings would have required simple adaptation of these existing notifications such that they were based on the session information taught by both WebSphere and Austin-Lane. EX1009, 1-10, 19-25, 29-33, 40-50, 80. The WebSphere system already tracks the user's active sessions, such as their online status on an instant messaging service. *E.g.*, EX1004, 124-125, 134-140, 156-157, 278, 285, 468, 630, 638-640, 643, 665, 726, 899-900; EX1005, 18-19, 164, 228, 233-234, 249-250, 253-254, 263-264, 270, 365-401, 480-482; EX1006, 28-33, 309-311, 381, 384; EX1007, 321; EX1009, 347; *infra* Section VI.C.1.h (element [1.8]); *see also* EX1038, [0017-19] (IBM-assigned patent application describing how a user's availability or presence can be determined using known services and/or agents). And the WebSphere references and Austin-Lane disclose setting the same type of alerts (stock alerts) and disclose providing the alert in the same way (visually). EX1009, 40-50, 80; EX1010, [0036-40], [0057-58]. Thus, given how much the WebSphere references already disclose about its alerts (and how similar and complementary their teachings are to Austin-

Lane's) improving the WebSphere system's alerts to be determined based on session data would have required only minor software changes, thus confirming the reasonable expectation of success.

72. When incorporating Austin-Lane's teachings to determine a notification method based on session data, a POSITA would have implemented the WebSphere system such that the determination was made using the types of session data taught by the WebSphere references and Austin-Lane (*e.g.*, EX1004, 124-125, 134-140, 156-157, 278, 285, 468, 630, 638-640, 643, 665, 726, 899-900; EX1005, 18-19, 164, 228, 233-234, 249-250, 253-254, 263-264, 270, 365-401, 480-482; EX1006, 28-33, 309-311, 381, 384; EX1007, 321; EX1009, 347; EX1010, [0019-21], [0024], [0027-28], [0034-35], [0046], [0062], [0066-67])). *Infra* Section VI.C.1.h. Indeed, session-based notification determination could not be made without first receiving the session data. *Infra* Section VI.C.1.h.

73. Under this obvious implementation, the notification data is generated according to the notification method at least because the WebSphere references and Austin-Lane teach this (*e.g.*, EX1006, 10; EX1009, 2-3, 7-14, 20-25, 32, 40-50, 58, 60, 80-82, 147; EX1010, [0031], [0039], [0041], [0045-46], [0079]), and because a POSITA would have understood that the notification data would need to be generated according to the determined notification method to ensure the notification is successfully delivered and properly provided. *Infra* Section

VI.C.1.k. For example, a POSITA would have understood or at least found it obvious that notification data would depend on the type of alert and the communication protocol used to send the alert. A POSITA would have understood or at least found it obvious that the content and/or format of the notification data for a visual alert is different than for an audible alert, and that even for visual alerts, the notification data is different for text (e.g., instant message) than for graphics (e.g., flashing icon). Further, a POSITA would have understood that the content and/or format of the notification data would depend on the communication protocol being used (e.g., HTTP vs. SMS vs. SMTP) and/or the markup language being used (e.g., HTML vs. XML vs. RFC822 email headers).

1. Claim 1

a) Element [1.1]

[1.1] An apparatus to provide secure user-centric information on at least one user platform operated by a user, and to evaluate at least some of the secure user-centric information, the apparatus comprising:

74. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

75. The WebSphere references disclose an apparatus (one or more “server[s]”) that provide secure user-centric information (encrypted information such as alerts, financial (e.g., stock) information, weather information, email, news, etc., that a user can access only after signing in to their account) on at least

one user platform (“client” or “client device” such as a desktop computer/workstation, notebook/laptop computer, cellular/mobile phone, PDA, etc.) operated by a user. EX1004, 2 (“Personalization enables the portal to deliver user-specific information targeting a user based on their unique information.”), 4-11, 42-43, 48-49, 116, 152-154, 630, 899-900, 956; EX1005, 4-6, 16, 141, 164, 241, 473-479, 495; EX1006, 5, 41-42, 310-311, 316; EX1007, 4; EX1009, 2-3, 30, 58, 80.

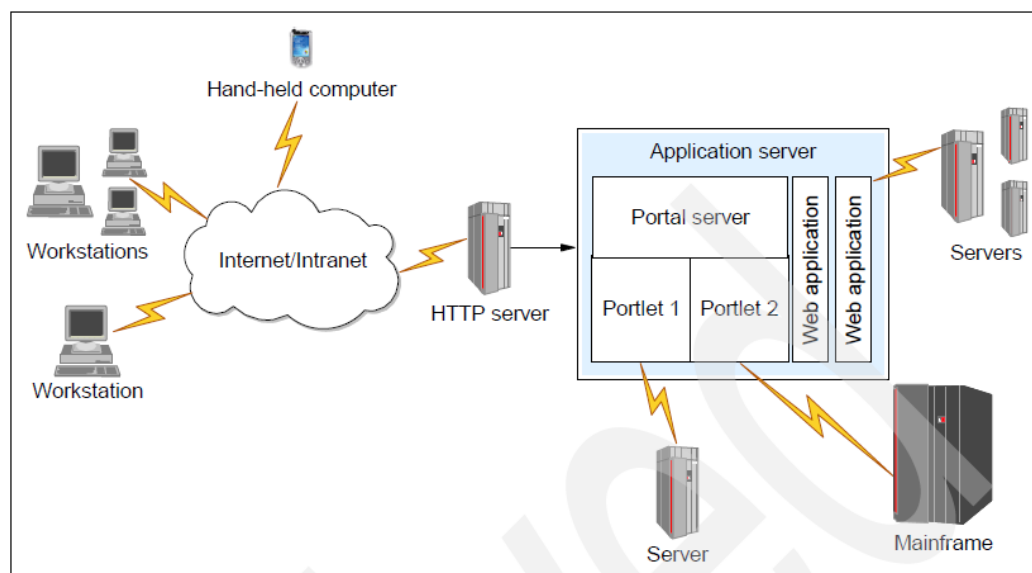


Figure 1-13 Portal Solutions - portlet to remote application

EX1004, 43 (showing one or more servers providing secure user-centric information to one or more user platforms); *see also id.*, 5, 10, 42; EX1005, 16, 26, 43-44; EX1006, 3, 5, 24, 41, 237; EX1009, 3, 359-360.

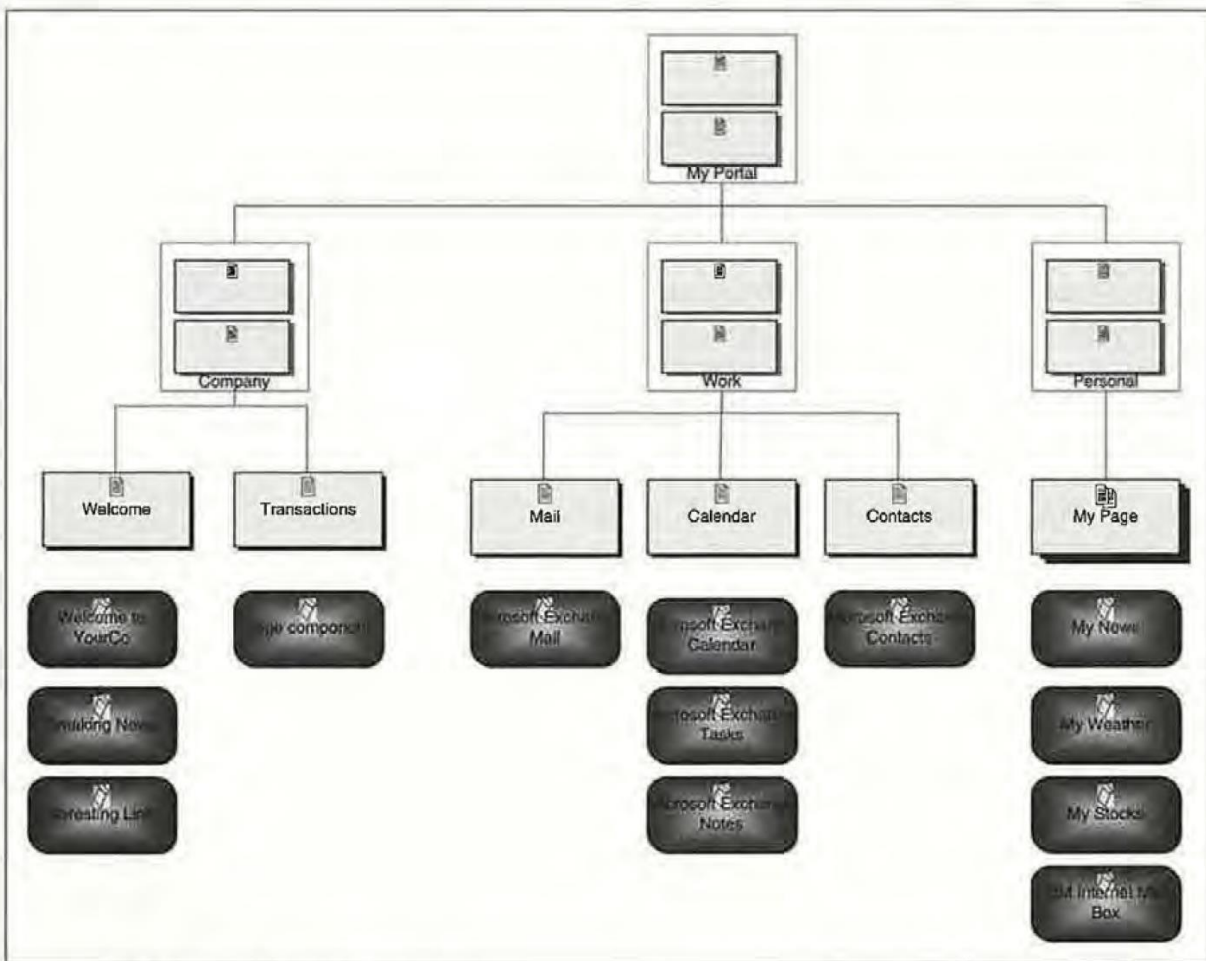


Figure 7-11 New Portal structure.

EX1005, 141 (showing examples of secure user-centric information provided to the at least one user platform, including, “news,” “email,” “contacts,” “notes,” “weather,” “stocks,” etc.); *see also* EX1004, 49; EX1006, 34; EX1008, 182.

76. As I explain below for elements [1.9-10], the apparatus evaluates at least some of the secure user-centric information (e.g., stock price information) by monitoring and comparing this information to a threshold condition (e.g., a user-set

stock price threshold) to determine whether to trigger a notification. *Infra* Sections VI.C.1.i-j.

77. The WebSphere references disclose using, for example, secure socket layer (SSL) to secure (encrypt) communications, including the user-centric information, between the apparatus and the at least one user platform. EX1004, 11, 630, 899-900; EX1005, 380-383; EX1006, 22, 315-337; EX1008, 234; EX1009, 277. This “enables secure message communication between servers and clients over the Internet.” EX1004, 899. The WebSphere references also disclose requiring a user to log in to their account, e.g., using single sign-on (SSO) before they can gain access to the user-centric information. EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642; EX1005, 15, 195-196, 225-226, 270, 382-401; EX1006, 5, 30-33, 310-311, 378; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184; EX1009, 289-290, 314, 324-355. Moreover, it was well known to use security protocols to encrypt communication (*supra* Section IV.B.1) and to require a user to log in to their account (*supra* Section IV.B.2).

b) Element [1.2]

[1.2] at least one communication interface facilitating wired and/or wireless communications with the at least one user platform via one or more transmission media;

78. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

79. Although the WebSphere references do not use the words “communication interface” or “transmission media,” a POSITA would have understood or found it obvious that the apparatus includes at least one communication interface (e.g., wireless transceiver, ethernet port and associated electronics to send and receive appropriate electrical or optical signals on the medium attached to the port) facilitating wired and/or wireless communication with the at least one user platform via one or more transmission media (e.g., ethernet cable, electromagnetic radiation) at least because the WebSphere references disclose that the apparatus communicates with the at least one user platform over the Internet using one or more communication protocols, including TCP/IP, 802.11, and HTTP. EX1004, 10-11, 42-43, 56, 81, 102, 997; EX1005, 13, 16, 26-27, 43-44, 71, 74, 324, 476, 482-483; EX1006, 3, 101, 113-114.

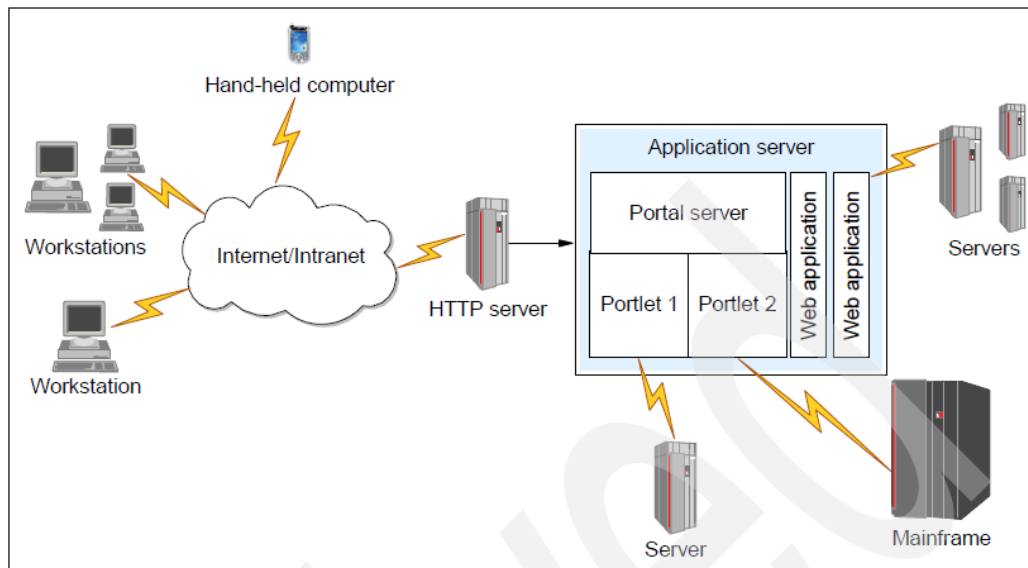


Figure 1-13 Portal Solutions - portlet to remote application

EX1004, 43.

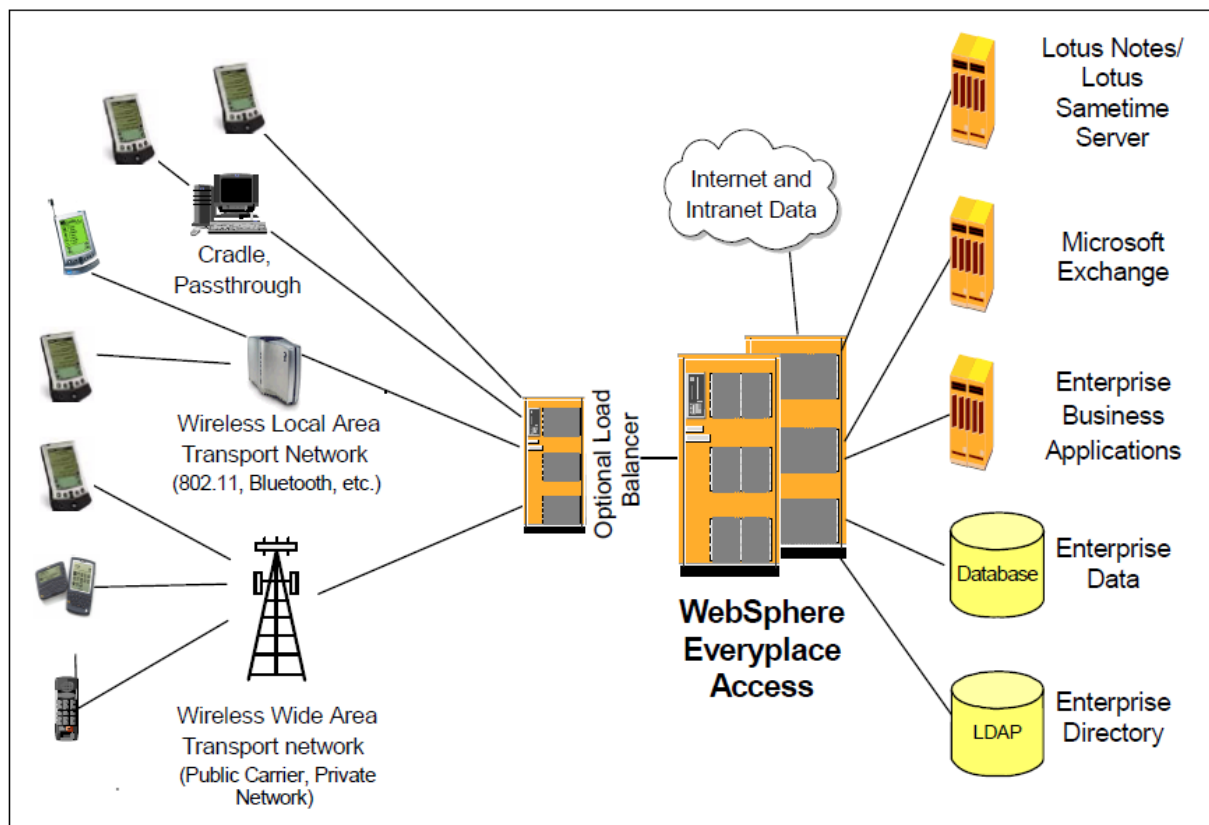


Figure 1-1 Logical view of mobile computing with WebSphere Everyplace Access

EX1006, 3. Indeed, that the WebSphere references teach encrypting communications using SSL—an encryption system used to “ensure privacy when information is sent across the Internet”—confirms that the apparatus and user platforms communicate over the Internet. EX1004, 11.

80. The references also disclose communicating over a wireless network. *E.g.*, EX1006, 3. To perform these communications over a wireless wide area network and/or the Internet, a POSITA would have understood or at least found it obvious that the apparatus includes a communication interface at least because they

understood that a communication interface is needed to communicate over a wide area network and the Internet. For example, a POSITA would have understood that for a wired connection, the apparatus (one or more servers) includes a port (e.g., ethernet port) that connects to the Internet via a cable (e.g., ethernet cable) and associated electronics to send and receive appropriate electrical or optical signals on the medium attached to the port, and for a wireless connection, the apparatus (one or more servers) includes a wireless transceiver that emits electromagnetic radiation. *See, e.g.*, EX1042, [0031-32], FIG. 3.

81. Moreover, a POSITA would have understood or at least found it obvious that the apparatus includes a communication interface to perform at least the other disclosed types of communications, including email over SMTP and texting over SMS, at least because these types of communications also require a communication interface. EX1006, 5, 10, 399.

c) Element [1.3]

[1.3] at least one memory storing processor-executable instructions; and

82. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

83. The WebSphere references disclose that the apparatus (one or more servers) includes at least one memory (“2 GB of memory at a minimum”).

EX1006, 24; *see also id.*, 237; EX1004, 8, 16-18, 102, 502, 1004; EX1005, 20, 26,

44. This memory stores processor-executable instructions (“software”). EX1004, 101-113; EX1005, 43-44; EX1006, 21-25, 236-285. In particular, the WebSphere references disclose installing the WebSphere software on the apparatus, which a POSITA would understand to involve storing the processor-executable instructions on the at least one memory. *Id.*

84. Moreover, a POSITA would have known that computers (including servers) work by fetching processor-executable instructions from memory and that the apparatus (one or more servers) would not be able to perform their intended computing functions without such memory and processor-executable instructions. For at least this additional reason, a POSITA would have understood or found it obvious that the apparatus (one or more servers) includes at least one memory storing processor-executable instructions. *See, e.g.,* EX1042, [0031-32], FIG. 3.

d) Element [1.4]

[1.4] at least one processor communicatively coupled to the at least one communication interface and the at least one memory, retrieving processor-executable [sic] instructions from the at least one memory, and executing the processor-executable instructions to provide and evaluate at least some of the secure user-centric information by:

85. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

86. The WebSphere references disclose that the apparatus (one or more servers) includes at least one processor (“Pentium 4 processor”) (EX1005, 26, 44;

see also EX1004, 102, 107, 1004; EX1006, 24, 237) and that the apparatus (one or more servers) runs the WebSphere software (*e.g.*, EX1004, 155-201; EX1005, 65-103; EX1007, 3-21; EX1009, 79-138). A POSITA would have understood or at least found it obvious that the at least one processor is communicatively coupled to the at least one communication interface and the at least one memory at least because it would need to be to be able to perform the WebSphere references' disclosed functionality.

87. For example, the WebSphere references disclose that the apparatus (one or more servers) evaluates at least some of the secure user-centric information (*e.g.*, stock price information), such as to determine whether the stock price meets a user-defined threshold, and provides that information to the user by sending it to one or more of the user's devices/platforms (*e.g.*, over the Internet). EX1009, 1-10, 19-25, 29-33, 40-50, 80-82; *see also* EX1004, 10-11, 42-43, 56, 81, 102, 997; EX1005, 13, 16, 26-27, 43-44, 71, 74, 324, 476, 482-483; EX1006, 3, 101, 113-114. A POSITA would have understood or at least found it obvious that the processor would need to be communicatively coupled to the at least one memory to retrieve the processor-executable instructions needed to perform this functionality at least because this is how computers (including servers) work; the processor retrieves the instructions from memory and executes the instructions to perform computing tasks (*e.g.*, providing and evaluating secure user-centric information).

Further, a POSITA would have understood or at least found it obvious that the at least one processor would need to be communicatively coupled to the at least one communication interface to be able to instruct the communication interface to send the stock information to the user's device(s). *See, e.g.*, EX1042, [0031-32], FIG. 3.

e) Element [1.5]

[1.5] A) implementing a channel grid framework including a matrix of a plurality of authorized channels through which the user receives and/or interacts with, via the at least one user platform, respective portions of the secure user-centric information based at least in part on information access rights and/or security protocols respectively associated with the plurality of authorized channels, the plurality of authorized channels including at least a first channel through which the user receives and/or interacts with first channel information constituting a first portion of the secure user-centric information;

88. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

89. WebSphere-Portal discloses that the apparatus (one or more servers) is programmed to implement a channel grid framework (a Portal page) including a matrix of channels (portlets) through which the user receives and/or interacts with, via the at least one user platform, respective portions of the secure user-centric information (alerts, financial (e.g., stock) information, weather information, email, news, etc.). EX1004, 6, 8, 18-19, 28-29, 30 (“Portlets provide access to specific services or information, for example, a calendar or news feed.”), 34, 48-49, 60, 116, 152-153, 241, 630, 946-947, 956, 989, 1000; EX1005, 13, 141, 241 (“[a]

portal page typically contains several portlets that are arranged on the portal page in a grid of rectangles of varying size”), 242-247, 277, 493-494; EX1006, 6, 10, 30, 34, 42, 390; EX1007, 290-293, 308-311, 319-321; EX1008, 66-67, 182; EX1009, 1-50.

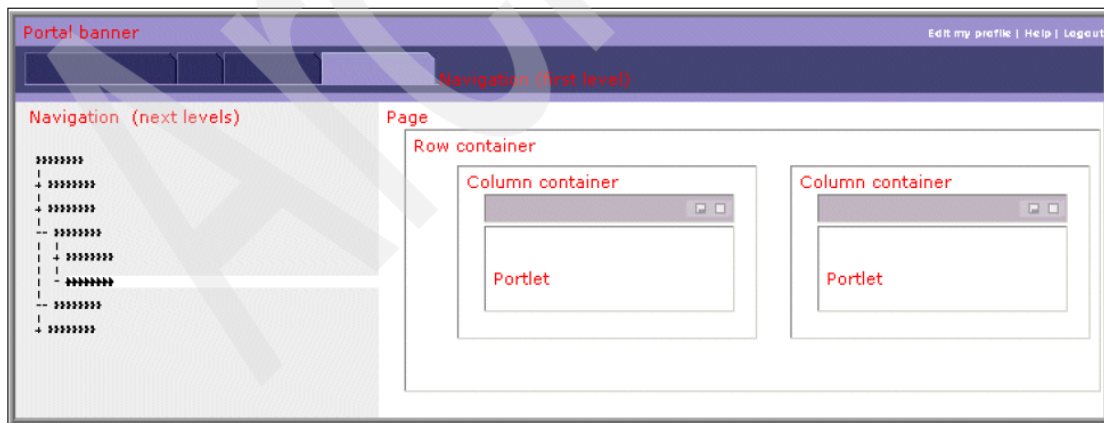


Figure 1-9 Portal page layout

A portal page is made up of the following elements.

EX1004, 28.

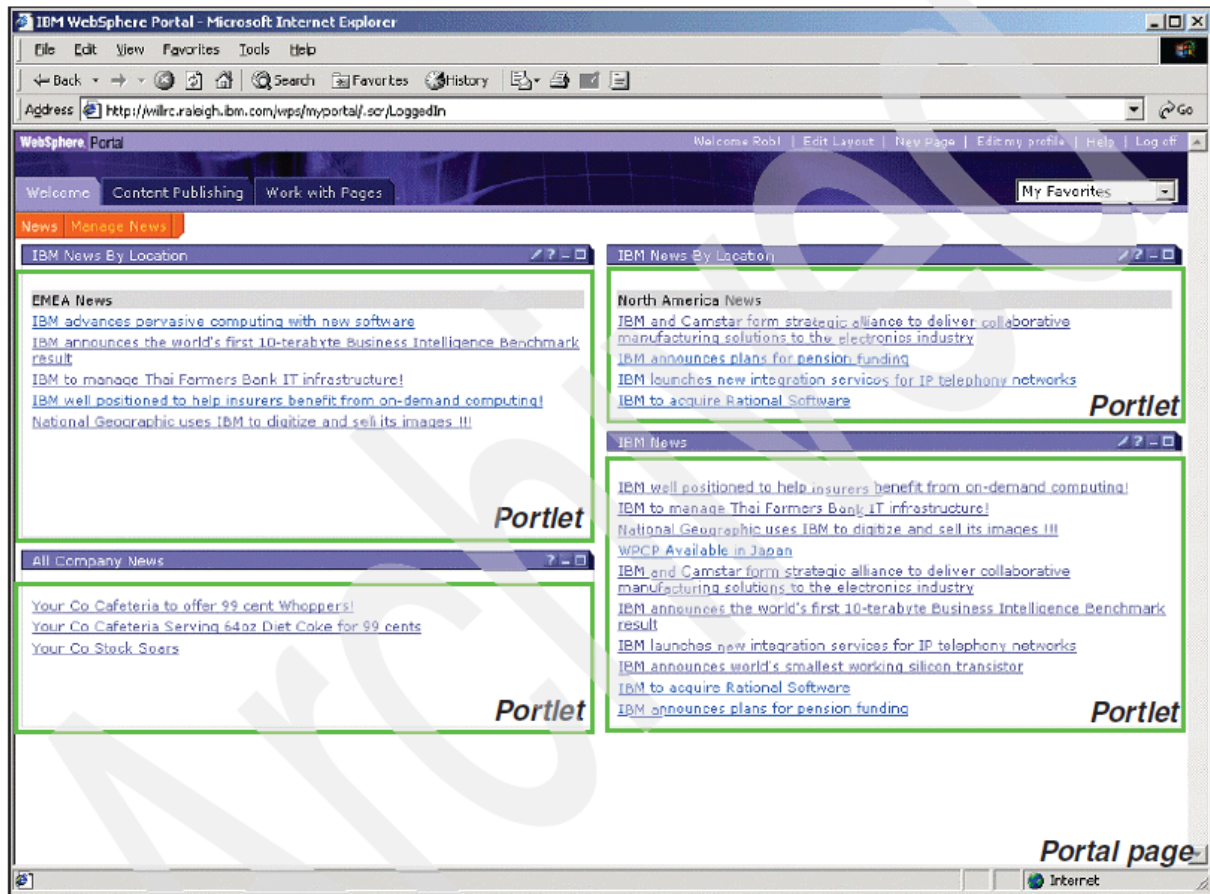


Figure 2-1 Portal page and portlets

EX1004, 49.

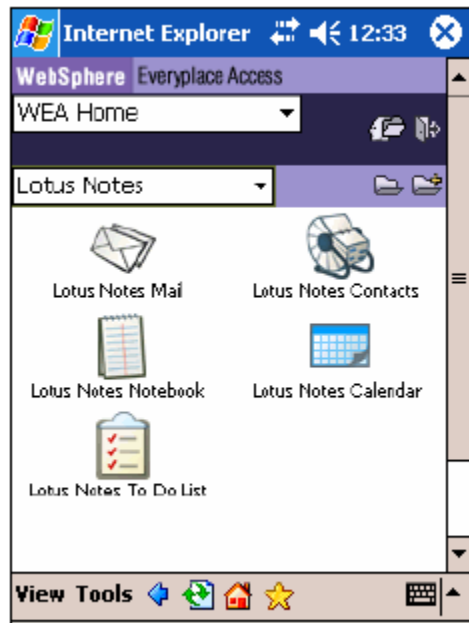


Figure 2-1 Lotus Notes PIM and e-mail portlets

EX1006, 30.

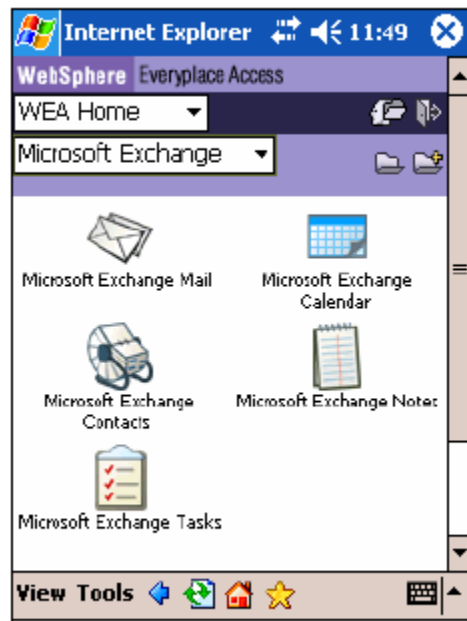


Figure 2-7 Microsoft Exchange PIM portlets

EX1006, 34.

90. Indeed, the Portal page developer can add as many rows and columns of portlets as they desire to the Portal page. EX1004, 247; EX1005, 134-139.

“[Y]ou may customize your layout by adding as many containers as you want. For each column container you may set its width, as well as add row containers within it. You may add column containers within a column container, and of course you may add portlets in both.” EX1005, 139. Moreover, it would have been an obvious design choice to present the portlets in a grid, as this was one of a limited number of well-known ways to display widgets, such as portlets. *Supra* Section IV.B.1.

91. As one example of a first channel through which the user receives and/or interacts with first channel information constituting a first portion of the secure user-centric information, a user receives and/or interacts with stock information from a stock portlet and/or a notification message center portlet. EX1004, 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 10; EX1007, 283-293, 308-324; EX1009, 6, 30, 40-50.



Figure 9-35 Portlet view after applying the annotator

EX1007, 287 (showing stock price information displayed within a stock portlet); *see also* EX1007, 319).

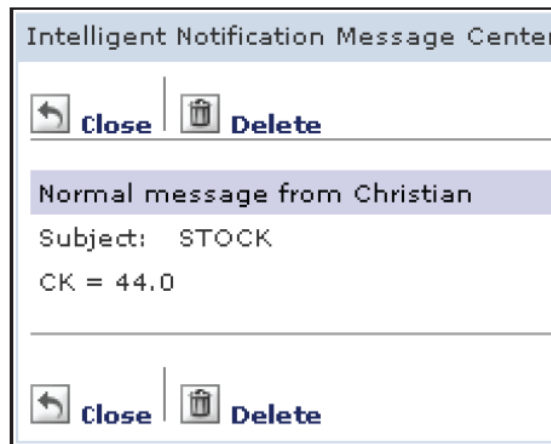


Figure 1-36 Stock notification details

EX1009, 48 (showing stock price information displayed within the notification message center portlet) ; *see also id.*, 7, 9, 12, 28, 58; EX1006, 10.

92. The portlets are channels at least under my applied construction of the term “channel.” See Section V.A.1. As I explained earlier for this element ([1.5]) and element [1.1], each portlet comprises a visual component (e.g., the stock portlet and message center portlet on the Portal Page) on the user’s platforms/devices that provides the user access to and interaction with the user-centric information. *E.g.*, EX1004, 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 10; EX1007, 283-293, 308-324; EX1009, 6, 30, 40-50. Further, each portlet comprises a component on the one or more servers that delivers the information to the user platforms/devices. EX1004, 4-11, 42-43, 48-49, 116, 152-154, 630, 899-900, 956; EX1005, 4-6, 16, 141, 164, 241, 473-479, 495; EX1006, 5, 41-42, 316; EX1007, 4; EX1009, 2-3, 30, 58, 80.

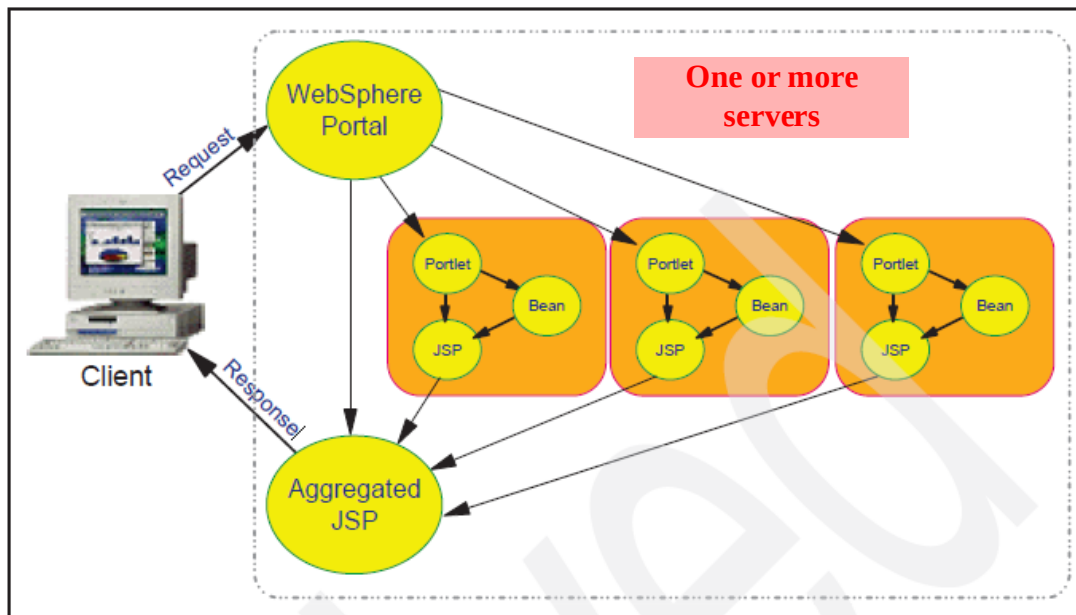


Figure 1-8 Portlet MVC architecture

EX1004, 26 (red annotation added).

93. As just one example, the one or more servers deliver the first channel information (the stock price information) to at least (1) the stock portlet and/or (2) the one or more delivery channels of the Intelligent Notification system, such as the message center portlet. EX1004, 14 (“WebSphere Portal provides an engine whose main responsibility is to aggregate content from different sources and serve the aggregated content to multiple devices”), 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 9-11; EX1007, 283-293, 308-324; EX1009, 1-3, 4 (“The Subscription Manager receives data from different content sources ... matches the content against the subscription criteria ... [and] fires a trigger ... [i]f a match occurs.”), 5-50, 79-141.

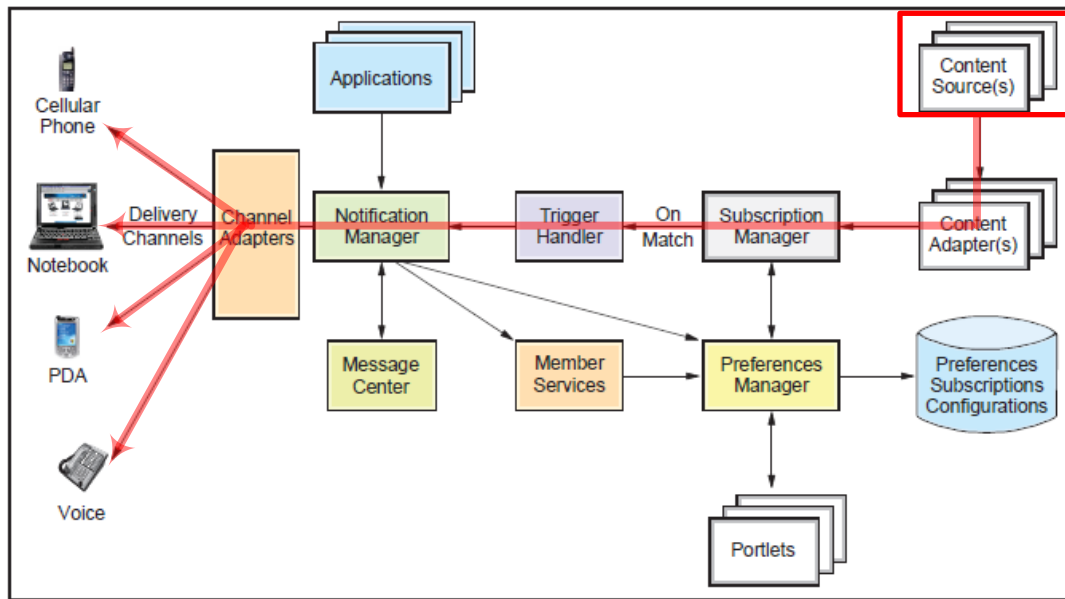


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotations added).

94. The combination further teaches that a user receives and/or interacts with respective portions of the secure user-centric information based at least in part on information access rights (roles/permissions/privileges) (EX1004, 5, 11, 15, 19-20, 39; EX1005, 8, 191-193) and/or security protocols (encryption protocols (e.g., SSL) and/or user authorization protocols (e.g., SSO)) (EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642, 665, 899-900; EX1005, 5, 8, 15, 195-196, 225-226, 270, 380-401; EX1006, 5, 22, 30-33, 310-311, 315-337, 378-383; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184, 234; EX1009, 277, 289-290, 314, 324-355) respectively associated with the plurality of authorized channels.

95. For example, the user must sign in to their account with their username and password to access the secure user-centric information:

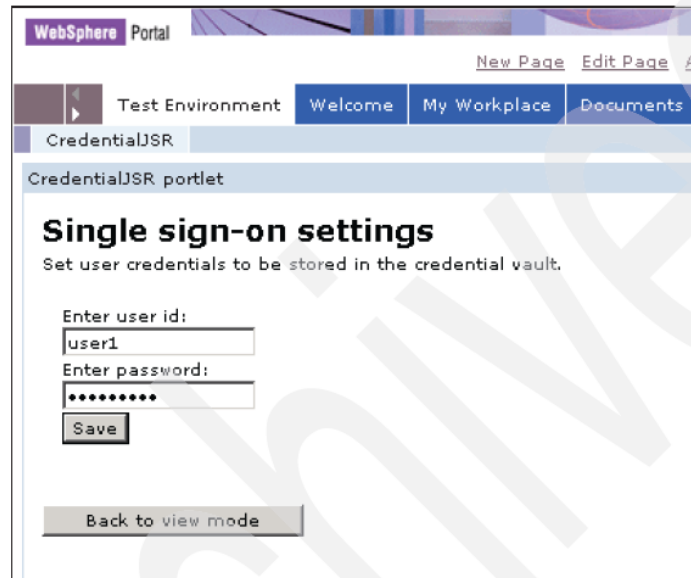
The screenshot shows a WebSphere Portal interface. At the top, there's a 'WebSphere Portal' header with navigation links like 'New Page', 'Edit Page', and 'As'. Below this is a 'Test Environment' section with tabs for 'Welcome', 'My Workplace', and 'Documents'. The main content area is titled 'CredentialJSR' and 'CredentialJSR portlet'. It features a 'Single sign-on settings' section with the instruction 'Set user credentials to be stored in the credential vault.' There are two input fields: 'Enter user id:' with the value 'user1' and 'Enter password:' with masked characters. A 'Save' button is below the password field. At the bottom, there is a 'Back to view mode' button.

Figure 21-16 Running Edit mode of the portlet

EX1004, 665.

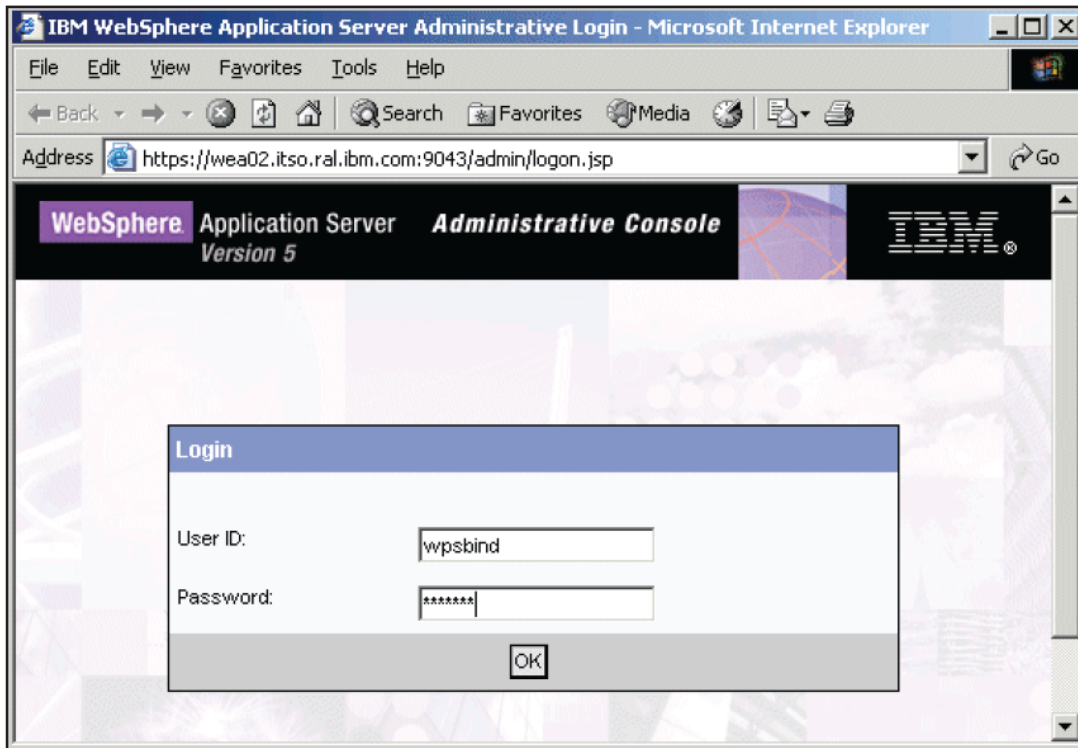


Figure 10-16 WebSphere Everyplace Access Login

EX1009, 347.



Figure 10-19 Login to WebSphere Everyplace Access

EX1007, 321.

96. In at least some instances, the user's access rights are portlet-specific in that at least one portlet (the Sametime messaging portlet) requires the user to sign in with the user's login information for that specific portlet. EX1006, 378-383.

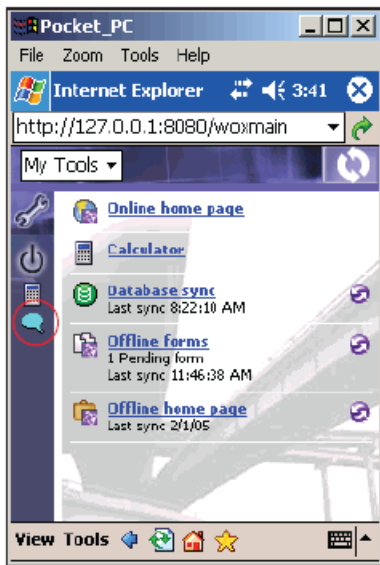


Figure 10-3 Starting Sametime from Everyplace Client on Pocket PC

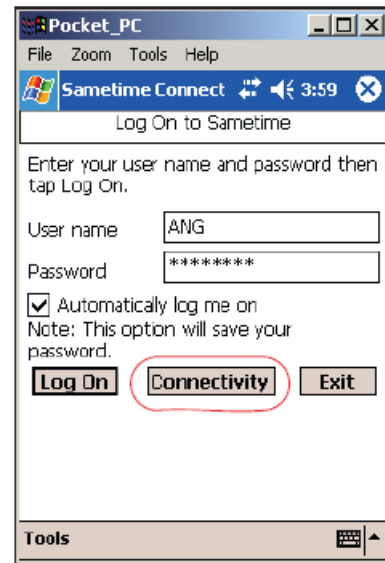


Figure 10-4 Startup window on Pocket PC

EX1006, 378.

97. The user's access to the secure user-centric information is limited by their role and permissions:

Table 10-2 Role Definitions

ROLE	DESCRIPTION
Administrator	Super-user. Can do everything including creating, configuring, and deleting resources. Administrator can also change the access control configuration
Security Administrator	Can create and delete role assignments for roles tied to specific resources
Delegator	Can assign users or user groups to roles
Manager	Creates, configures, and deletes new or existing resources for use by one or more users
Editor	Creates, and configures new or existing resources for use by one or more users
Privileged User	Can create new private pages, view portal content, and personalize portlets/pages
User	Can view portal content
No Access	Can do nothing

EX1005, 193.

98. Moreover, as I explained above for element [1.1], the WebSphere references disclose using, for example, secure socket layer (SSL) to “enable[] secure message communication between servers and clients over the Internet.”

EX1004, 899; *see also id.*, 11, 630, 900; EX1005, 380-383; EX1006, 22, 315-337; EX1008, 234; EX1009, 277.

f) Element [1.6]

[1.6] B) establishing a user profile to identify user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on the at least one user platform;

99. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

100. The WebSphere references disclose that the apparatus (one or more servers) is programmed to establish a user profile, which Ben-Natan defines as “[t]he collection of all the pieces of information relating to one user.” EX1005, 164; *see also* EX1004, 8-9, 401-406, 411, 462, 949; EX1005, 11, 14, 164-165, 267, 342, 365-366; EX1006, 5, 7, 83, 411-412, 418; EX1007, 87, 115-118, 130, 243-245, 267; EX1008, 55, 101, 121-122, 128, 144-145, 157-161; EX1009, 6.

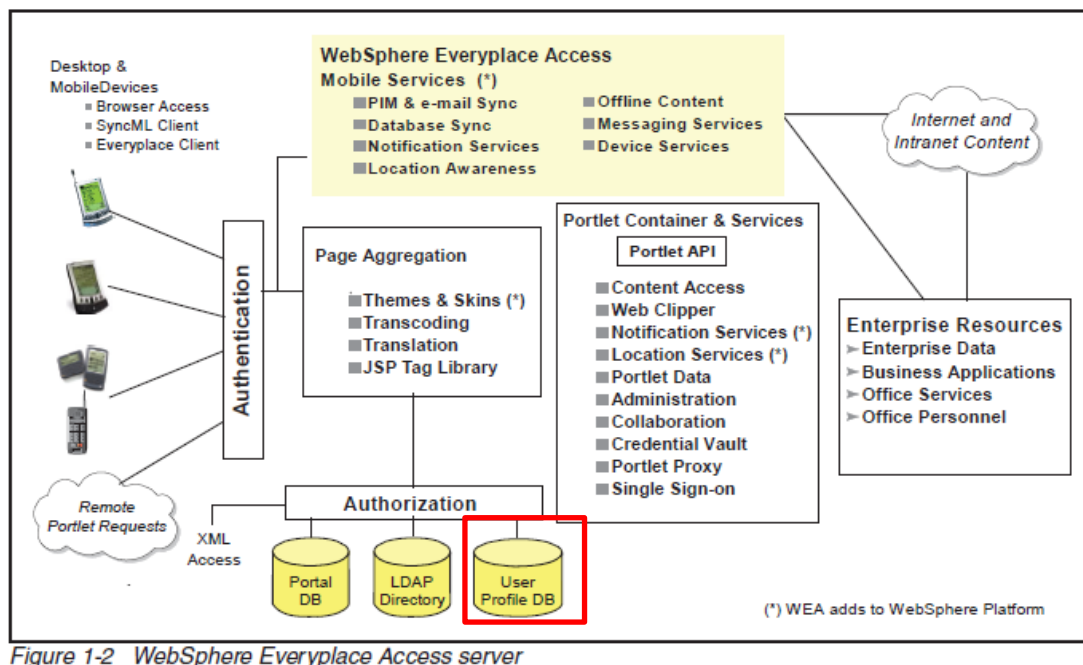


Figure 1-2 WebSphere Everyplace Access server

EX1006, 5 (red annotation added) (showing a user profile database that stores the user profile information); *see also, e.g.*, EX1005, 14 (“User profile information can be supported in an LDAP and/or a database.”).

101. Part of this “information relating to [the] user” includes: (1) “user preferences,” (EX1004, 6, 16, 430, 466; EX1005, 353; EX1006, 5, 10, 13; EX1008, 134, 157; EX1009, 2, 7; *see also* EX1004, 274; EX1005, 177, 246-247, 266, 365; EX1008, 157-162), which include the user’s custom alert settings (EX1006, 9-10; EX1009, 1-50) and the user-selected themes, skins, and behavior of the portlets (EX1004, 20, 27, 50-51, 152, 296; EX1005, 4 143-178; EX1006, 42); and (2) the user’s devices (EX1004, 27, 287, 296-297; EX1005, 484-486; EX1006, 340-341, 354; EX1007, 240; EX1008, 2, 144).

102. As one example of the user preferences, the WebSphere references describe how the user can subscribe to receive an alert/notification when a certain event happens (e.g., when a stock reaches a user-set threshold) and how the apparatus (one or more servers) stores this subscription as part of the user’s preferences. EX1006, 9-10; EX1009, 2, 4, 6, 19, 30, 40-50, 80.

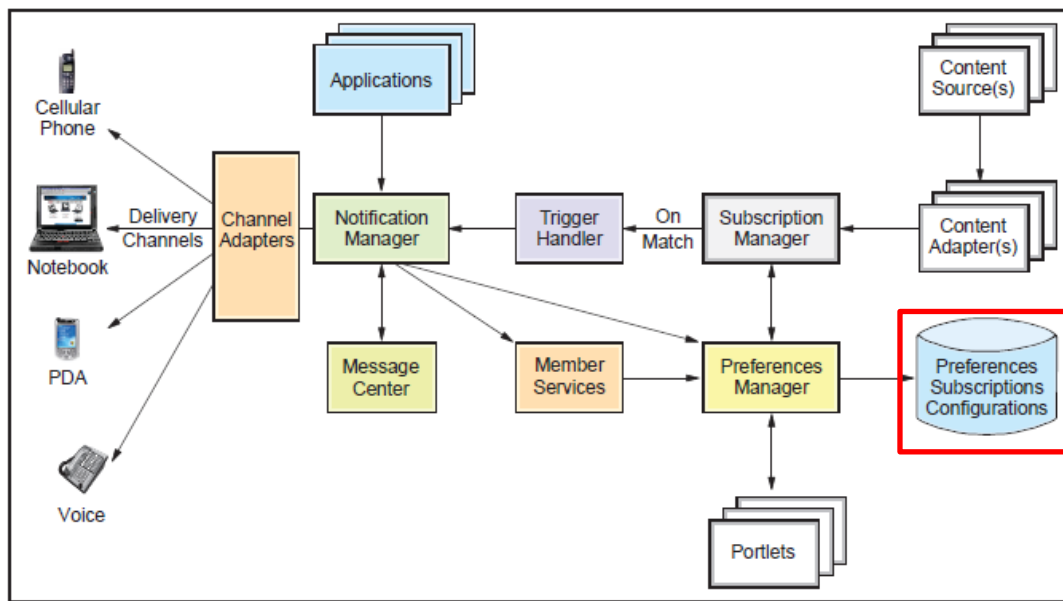


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotation added).

103. As another example of user preferences, the WebSphere references describe how the user can select themes, which dictate “the overall look and feel of the portal,” and skins, which dictate “the look and feel of each portlet.” EX1004, 20, 61; *see also* EX1004, 58-64, 354, 424, 957-986; EX1005, 143-163, 242-243; EX1006, 5, 42, 48, 64-66; EX1009, 302.

104. The user’s device information is collected and stored in at least two instances: during initial device enrollment and/or at the start of a new session. EX1004, 27; EX1005, 484-486; EX1006, 340-341, 354; EX1007, 240; EX1008, 144. “The first time the device connects to the Device Services ... the enrollment server [] enrolls the device with the user.” EX1006, 354. “During the collection of

user information ... [t]he user's device is determined by information contained in the request header" and "is also stored in the session." EX1004, 27.

105. The WebSphere references also teach that the user profile identifies service support instructions that determine how the secure user-centric information behaves on the at least one user platform at least because a POSITA would have understood or found it obvious that such service support instructions are necessary to provide the WebSphere references' disclosed functionality allowing a user to "create a personalized device-independent 'desktop' with a consistent look and feel." EX1005, 4; *see also, e.g.*, EX1004, 30, 48 ("Customization allows the user to organize the look and feel of the portal to suit their individual needs and preferences."), 50, 61, 118, 255, 296, 424, 962; EX1005, 7-8, 143-163, 242-243; EX1006, 42.

106. Indeed, the WebSphere references disclose that "[p]ortlets may need to behave differently based on the user" (EX1004, 296), *e.g.*, based on "user attributes" (EX1004, 16, 133, 287, 296-297), and that the apparatus "takes [] information [about the user's choices and the user's device] and combines it to create a display that is appropriate for the device" (EX1004, 27). When developing Portal pages, "[r]endering of page components is done using JSPs, images, style sheets, and other resources." EX1004, 27; *see also id.*, 512-513. When delivering the Portal pages and their secure user-centric information to the user device(s), the

one or more servers use transcoding technologies and markup languages to ensure the Portal page(s) display properly on the user's device(s). EX1004, 16, 37, 56, 125; EX1005, 475-491; EX1006, 5, 13-14, 91-94; EX1007, 243-244. Thus, the instructions needed to deliver information to the user so that the portlet behavior (e.g., look and feel) conforms to the user's preferences and their device(s), as taught by the WebSphere references, constitute service support instructions that determine how the secure user-centric information behaves on the at least one user platform.

g) Element [1.7]

[1.7] C) receiving configuration data indicating one or more user preferences regarding alerts transmitted via the first channel based on the user profile;

107. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

108. The WebSphere references teach that the apparatus (one or more servers) is programmed to receive configuration data (e.g., subscription information) indicating one or more user preferences regarding alerts (e.g., preference for a stock price alert) transmitted via the first channel (e.g., message center portlet) based on the user profile. EX1006, 9-11; EX1009, 1-50, 80-81.

109. For example, the WebSphere references disclose that the apparatus (one or more servers) receives subscription information indicating that the user

wishes to be alerted/notified when a particular event (i.e., a trigger) occurs, such as when a stock shifts by more than five points or reaches a certain price. EX1006, 9-11; EX1009, 2-10, 20-25, 29-50.

110. Specifically, the Preferences Manager of the one or more servers “receives information from users ... regarding subscriptions (which subscriptions are needed, the way they must be delivered, and all related parameters).” EX1009, 6.

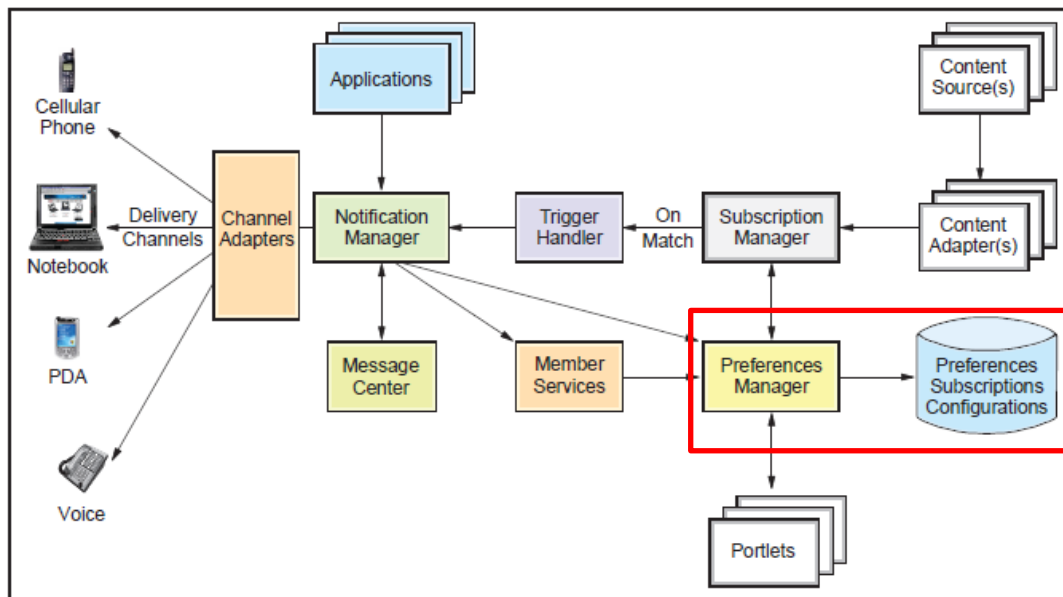


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotation added).

111. As one example, the user can subscribe to receive an alert when a particular stock reaches a certain price, such as when it drops below \$50 and/or increases above \$100. EX1009, 41-50.

Intelligent Notification Stock Subscriptions

OK Cancel Delete subscription

Stock symbol:
CK

Condition:
Less than

Stock price(points):
50

Notification:
☐ Once - Receive notification only the first time a match occurs.
☒ Always - Receive notification every time a match occurs.

In the table below, choose whether you would like to receive notification through the first available delivery channel selected in the list or through all selected delivery channels in the list.
Send notification to:
☐ Each selected delivery channel in order, until delivery is successful.
☒ All of the selected delivery channels.

☒ Default
☐ blackberry
☐ email
 Edit the order of your delivery channels.

OK Cancel Delete subscription

Figure 1-31 Configure the stock subscription

EX1009, 44 (showing how to subscribe to an alert when the stock CK drops below \$50).

Intelligent Notification Stock Subscriptions

☒ OK

Stock symbol:
CK

Condition:
Higher than

Stock price(points):
100

Notification:
☐ Once - Receive notification only the first time a match occurs.
☒ Always - Receive notification every time a match occurs.

In the table below, choose whether you would like to receive notification through the first available delivery channel selected in the list or through all selected delivery channels in the list.
Send notification to:
☐ Each selected delivery channel in order, until delivery is successful.
☒ All of the selected delivery channels.

☒ Default
☒ blackberry
☒ email

☒ OK

Figure 1-32 Configure the subscription

EX1009, 45 (showing how to subscribe to an alert when the stock CK rises above \$100).

112. The subscription manager monitors the stock price information and “fires a trigger” when the stock information “matches ... the subscription criteria.” EX1009, 4. The trigger handle “notifies the appropriate user via the Notification Manager.” EX1009, 8. The Notification Manager “dispatches [the] notification[]” (EX1009, 7) through “the designated delivery channels” (EX1009, 8), such as through the first channel (e.g., the message center portlet) (EX1009, 2-3, 7, 9, 12, 21-22, 25, 41, 47-49).

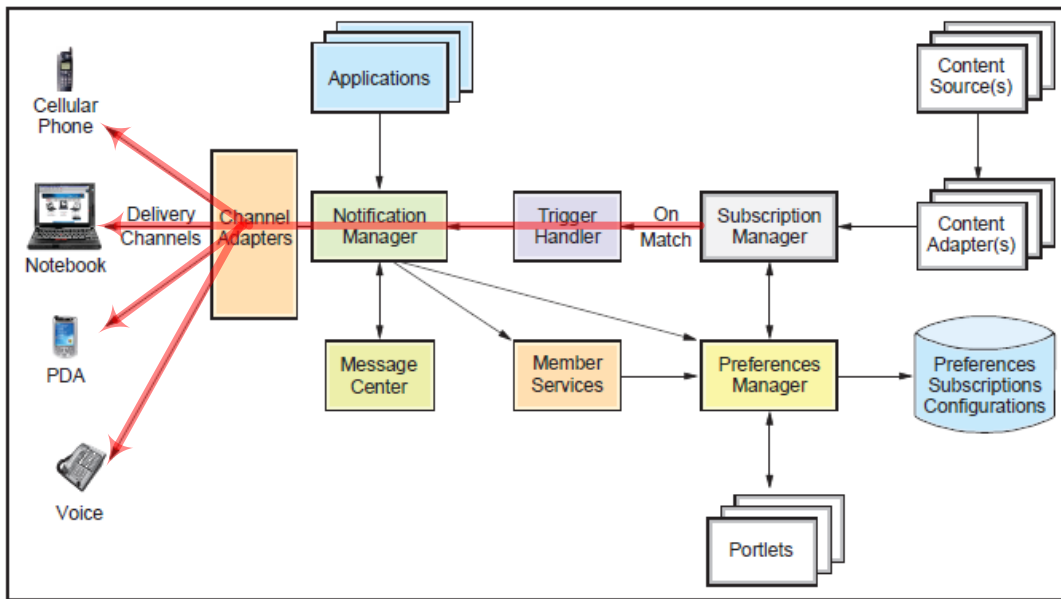


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotations added).



Figure 1-35 Stock notification received

EX1009, 48 (showing a stock notification received in the message center portlet).

h) Element [1.8]

[1.8] D) receiving session data indicating a current state of at least one external device of the user;

113. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references and Austin-Lane disclose or suggest it.

114. The WebSphere references teach that the apparatus (one or more servers) is programmed to receive session data (at least as defined by the '948 patent's specification⁹) indicating a current state of at least one external device¹⁰ of the user at least because they disclose receiving and storing session information indicating whether the user is logged in to their account (online or offline) on their device(s), including indicating when the user starts or ends a portlet session on their device(s).

115. For example, the apparatus (one or more servers) receives an indication of when the user logs in to and out of their account and/or when the user starts and stops their portlet session via a PortletSessionListener. EX1004, 124-

⁹ The '948 patent provides that session data indicates whether the user has an active session (i.e., whether they are online or offline). *See, e.g.*, EX1001, 20:60-21:15, 23:20-43.

¹⁰ The '948 patent refers to user devices, user platforms, and clients synonymously. *See, e.g.*, EX1001, 8:25-26 (“[u]ser devices 118 serve as a user platform operated by a user 116”), 8:40-41 (“user devices or ‘platforms’ (clients)”).

125, 134-137, 139-140, 156-157, 278, 285; EX1005, 249-250, 253-254, 263-264.

A Portlet Container (part of the PortletSessionListener) creates the PortletSession when the user logs in (e.g., enters their username and password) (e.g., EX1004, 468, 643, 665, 726; EX1005, 228; EX1006, 30-33, 309-311; EX1007, 321; EX1009, 347) and ends the session when the user logs out (“selects the Log Off button”) (EX1004, 136). *E.g.*, EX1004, 124, 134-136, 285.

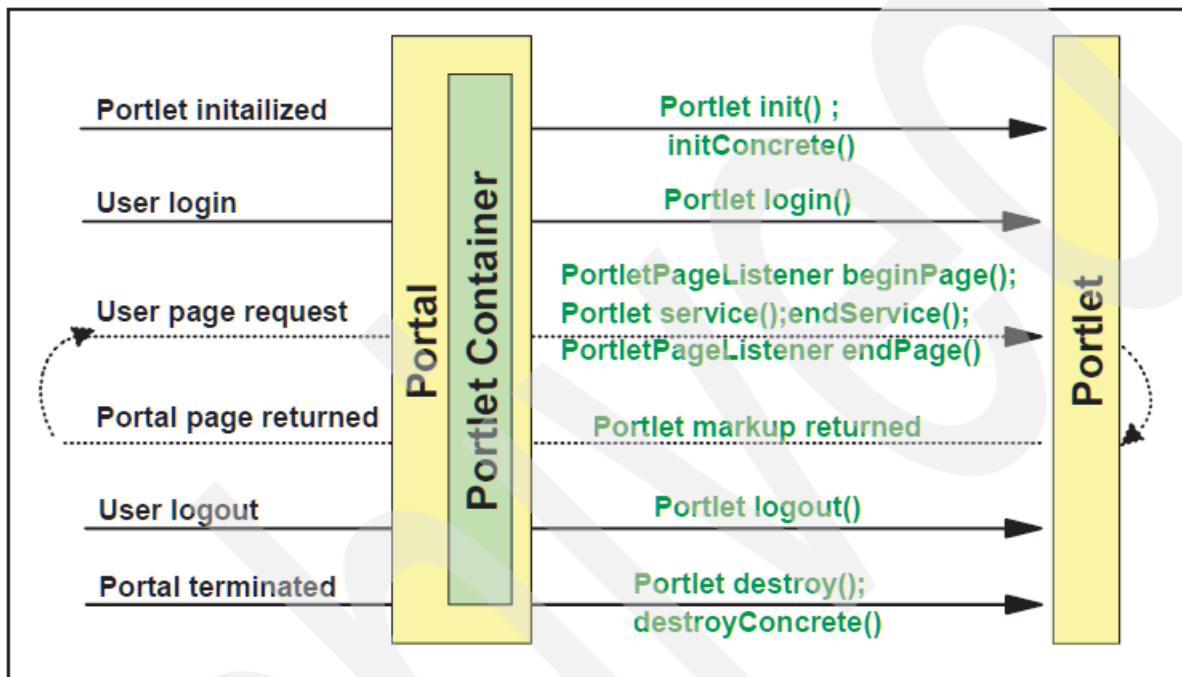


Figure 4-7 Portlet life cycle

EX1004, 135.

116. The apparatus (one or more servers) also has “online awareness” (EX1005, 18-19) of the user’s status on at least an instant messaging portlet, and can “track[] the user’s online activities” (EX1005, 164). The user also can set their status to be online or offline and can see other users’ online/offline status on at

least an instant messaging portlet. EX1005, 228, 233-234, 264; EX1006, 28-29, 382, 384.

117. The apparatus (one or more servers) also receives an indication of when the user logs in to their account via login tickets/tokens/certificates (e.g., LTPA tokens, X.509 certificates). EX1004, 630, 639-640, 899-900; EX1005, 270, 365-401.

118. Austin-Lane also discloses receiving session data (presence information) to determine a notification method based on this session data. EX1010, [0019-21], [0024], [0027-28], [0034-35], [0046], [0062], [0066-67]; *see also id.*, [0006-9], [0023], [0029], [0031], [0039], [0041], [0045], [0048], [0055], [0079]. The presence information may be “an online presence” of a user (e.g., EX1010, [0020], [0027], [0035]) that is based on information received from an online service, as was known in the art. EX1010, [0034-35], [0066]; EX1038, [0017-19], [0028], [0045-46].

119. When incorporating Austin-Lane’s teachings to determine the notification method based on session data (*see* element [1.10] below), a POSITA would have implemented the combination to receive session data, as taught by the WebSphere references’ and Austin-Lane’s complementary disclosures. Receipt of this session data facilitates Austin-Lane’s session-based notification determination

(i.e., a determination based on session data cannot be made without the session data).

i) Element [1.9]

[1.9] E) monitoring at least the first channel information so as to determine one or more events, conditions, logical workflows, discrete information values or signal data, based on at least one threshold condition or parameter relating to the first channel information and determined based on the user preferences indicated by the configuration data; and if the one or more events, conditions, logical workflows, discrete information values or signal data is/are determined in E):

120. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest it.

121. The WebSphere references disclose that the apparatus (one or more servers) is programmed to monitor at least the first channel information (the stock price information) so as to determine one or more events, conditions, logical workflows, discrete information values or signal data based on at least one threshold condition or parameter relating to the first channel information and determined based on the user preferences indicated by the configuration data (e.g., whether the stock price has cross a user-set threshold). EX1006, 9-10; EX1009, 2-4, 7-8, 40-41, 46-50.

122. As I explained above for elements [1.5] and [1.7], the subscription manager receives information of interest to the user (e.g., stock price information) from one or more information sources (e.g., EX1009, 3-5, 79-85), monitors this

information and “determines if that information meets the criteria established by the subscriber(s)” (EX1009, 10), and “fires a trigger” when the information “matches ... the subscription criteria” (EX1009, 4). *See also id.*, 1-50, 79-141; EX1006, 9-11. For example, the “stock price information is stored in an XML file” that is sent “to the Subscription Manager,” which then sends a notification message if the stock price matches the user-set threshold (e.g., “[i]f the stock price is less than \$50” or “is higher than \$100”). EX1009, 41

j) Element [1.10]

[1.10] F) determining a notification method by which to provide at least one alert on the at least one external device based on the current state of the at least one external device indicated by the session data;

123. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because Austin-Lane discloses or suggests it.

124. The WebSphere references disclose several notification methods, “including Lotus Sametime, SMTP e-mail, Short Message Service (SMS), voice, ... the Message Center portlet ... or a custom-defined channel,” but do not expressly disclose determining a notification method based on the current state of the at least one external device indicated by the session data. EX1006, 10; *see also* EX1009, 2, 7-10, 12, 20-25, 32, 40-50, 58, 60, 80.

125. As I explained above in Section VI.C, however, Austin-Lane discloses this concept of determining a notification method based on the current state of the

at least one external device indicated by the session data, and a POSITA would have been motivated with a reasonable expectation of success to combine this teaching from Austin-Lane with the WebSphere references' teachings on the WebSphere system, including Portal and Everyplace Access, to ensure the user receives the alert promptly, as taught by Austin-Lane.

126. Specifically, Austin-Lane teaches determining a notification method (a "delivery mechanism" (EX1010, *passim*), which can include: (1) the user device(s) to send the notification to (e.g., phone, PDA, notebook computer, desktop computer) (*e.g.*, EX1010, [0005], [0029], [0032], [0046], [0061], FIG. 1); (2), the communication protocol to use to send the notification, i.e., how to send the notification (e.g., SMTP (for email), SMS (for texts), HTTP (for web browsers)) (*e.g.*, EX1010, [0004], [0033], [0048]); and (3) the type of alert to provide, i.e., how to present the notification, (e.g., text, an icon, a pop-up window, a video, an email, an audible or tactile alarm) (*e.g.*, EX1010, [0039], [0046], [0079])), based on the current state of the at least one external device indicated by the session data ("presence information" (EX1010, *passim*), which may include whether and on which device(s) the user is online and/or whether and on which applications the user has an active session (*e.g.*, EX1010, [0046], [0066-67], [0074-77])). *See also* EX1010, [0006-9], [0019], [0021], [0023-24], [0026-28], [0031-32], [0035], [0047-48], [0055], [0064-65], [0071-73], FIGS. 2, 7-9. For

example, if “the presence information [] indicate[s] that the user 305 presently is online using notebook computer 310*d* ... and that the user 305 has an active IM connection ... the notification delivery service 352 may provide the notification to the user 305 using an instant message to the notebook computer 310*d*.” EX1010, [0046].

127. Austin-Lane also explains that determining the notification method based on the presence information provides a benefit; it ensures the user receives the alert promptly or “without significant delay.” EX1010, [0009], [0019], [0023], [0039], [0046].

128. As I explained above in Section VI.C, it is my opinion that a POSITA would have been motivated to combine the WebSphere references’ teachings on the WebSphere system, including Portal and Everyplace Access, with Austin-Lane’s teachings to determine a notification method for the alert based on the user’s presence information to provide the alert to the user “without significant delay.” EX1010, [0046]; *supra* Section VI.C.

129. As I also explained above in Section VI.C, it is my opinion that a POSITA would have reasonably expected to succeed in modifying the WebSphere references’ disclosed system to include Austin-Lane’s teachings to determine the notification method based on session information that the WebSphere references’ disclosed system already collects at least because this would have required only

minor software changes that a POSITA would have reasonably expected to succeed in achieving. *Supra* Section VI.C.

k) Element [1.11]

[1.11] G) generating notification data according to the determined notification method, wherein the notification data is configured to cause the at least one external device to provide the at least one alert on the at least one external device; and

130. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references and Austin-Lane disclose or suggest it.

131. The WebSphere references teach that the apparatus (one or more servers) is programmed to generate notification data according to the determined notification method at least because they disclose generating and formatting the notification according to the determined delivery channels (e.g., instant message, e-mail, SMS, voice, message in the Message Center portlet or a custom-defined channel, etc.). EX1006, 10; EX1009, 2-3, 7-14, 20-25, 32, 40-50, 58, 60, 80-82, 147. For example, the WebSphere references disclose that the trigger handler “composes [the] notification” (EX1009, 81; *see also id.*, 8, 82), the Notification Manager determines the delivery channels for the notification (EX1009, 8) and “is responsible for message formatting” (EX1006, 10), and that one or more channel

adapters “transcode those messages into the proper formats for the designated delivery channels” (EX1009, 8; *see also id.*, 3, 7, 9-14, 147).

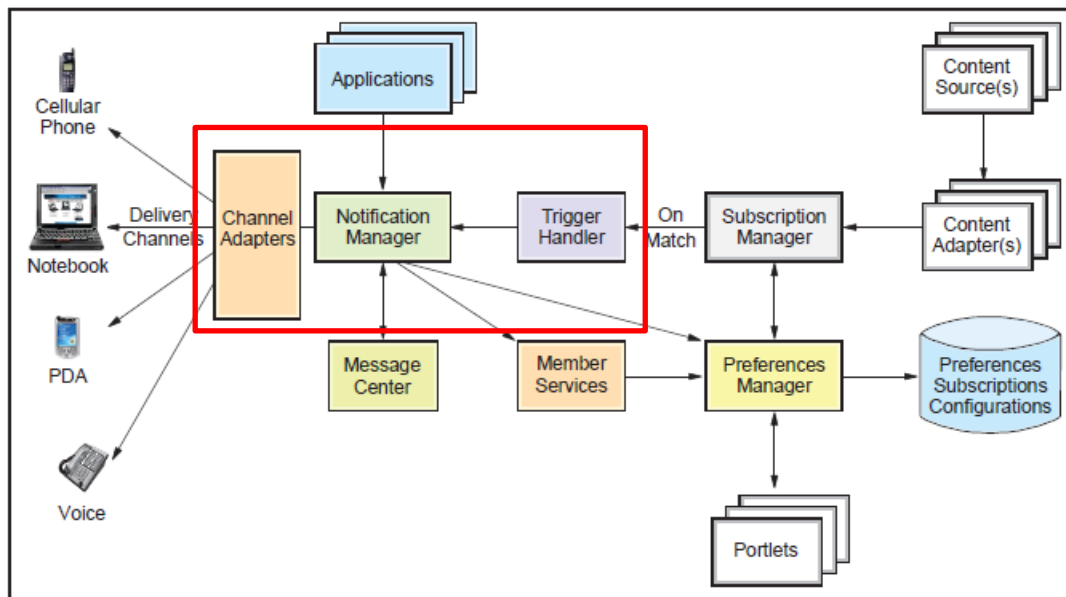


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotation added).

132. Austin-Lane similarly teaches generating notification data according to the determined notification method. EX1010, [0031], [0039], [0041], [0045-46], [0079]; *supra* Section VI.B. For example, the “notification generation service [] generates notifications based on the ... notification delivery service [] that delivers the notifications to the user [] using one or more of the delivery mechanisms.” EX1010, [0041]. These delivery mechanisms “format the notification using a standard protocol, such as, ... (SGML), ... (XML), ... (HTML), ... (DOM) ...” (EX1010, [0031]) and deliver the alert using a networking protocol, such as “SMS,” “WAP,” “TCP,” “IP,” (EX1010, [0048]), etc. Austin-Lane also discloses

“perform[ing] sorting, prioritizing, or other types of organizational processing on the notification so that the notification is delivered to an optimal delivery mechanism in a desired fashion.” EX1010, [0045]

133. Thus, when improved with Austin-Lane’s session data-based notification method (*see* element [1.10] above), the combined system would generate notification data according to the determined notification method, as taught by the WebSphere references and Austin-Lane’s complementary disclosures. In my opinion, a POSITA would have understood that the notification data needs to be generated according to the determined notification method to ensure successful delivery and proper presentation of the notification/alert. A POSITA would have understood and/or at least found it obvious that notification data would depend on the type of alert and the communication protocol used to send the alert.

134. For example, a POSITA would have understood or at least found it obvious that the content and/or format of the notification data for a visual alert is different than for an audible alert, and that even for visual alerts, the notification data is different for text (e.g., instant message) than graphics (e.g., flashing icon). *See, e.g.*, EX1009, 48-50 (showing different types of alerts); EX1010, [0039], [0079] (describing a variety of alerts, including “instant message, pop-up window, icon, and or [sic] audible or tactile alarm”). Further, a POSITA would have

understood that the content and/or format of the notification data would depend on the communication protocol being used (e.g., HTTP vs. SMS vs. SMTP) and/or the markup language being used (e.g., HTML vs. XML vs. RFC822 email headers).

See, e.g., EX1006, 10; EX1009, 2, 7-10, 12, 20-25, 32, 40-50, 58, 60, 80

(describing different communication protocols); EX1010, [0004], [0031], [0033], [0048] (describing different communication protocols and markup languages).

135. The WebSphere references also teach that the notification data is configured to cause the at least one external device to provide the at least one alert on the at least one external device at least because the alert is provided on the external device. EX1006, 9-10; EX1009, 2, 4, 7-14, 48-50, 77-78, 81. For example, the channel adapter “delivers notifications using different types of channels.” EX1009, 2; *see also id.*, 3, 7-14, 20-25, 29-30, 40-50.

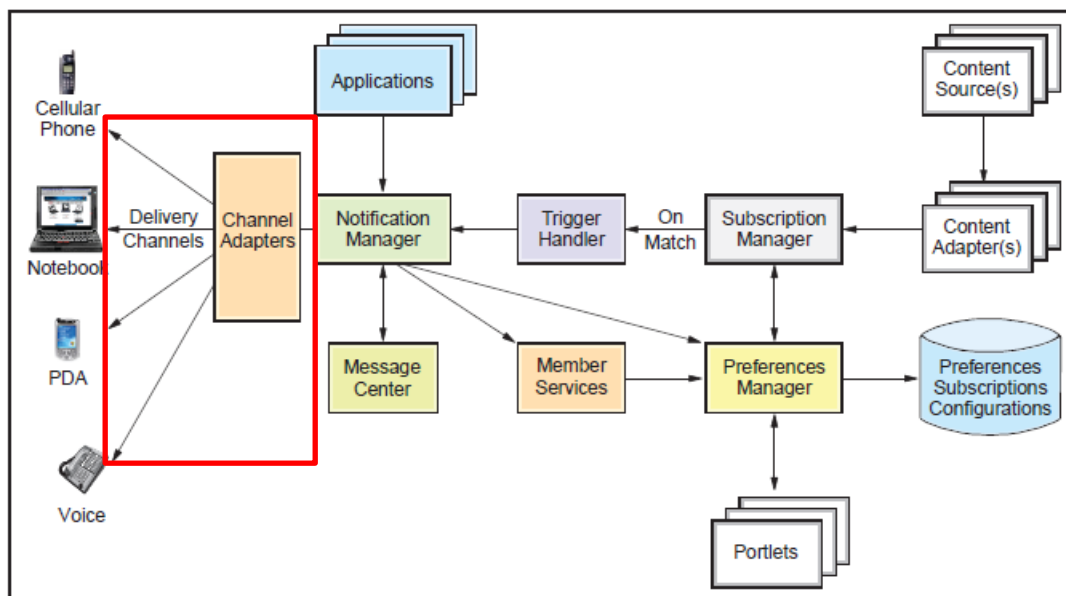


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotation added). The device(s) that receive the notification then provide the alert, such as an alert that a stock price has crossed a user-set threshold. See, e.g., EX1009, 49-50.



Figure 1-35 Stock notification received

EX1009, 48 (red annotation added) (showing a stock price alert being displayed within the WebSphere application).

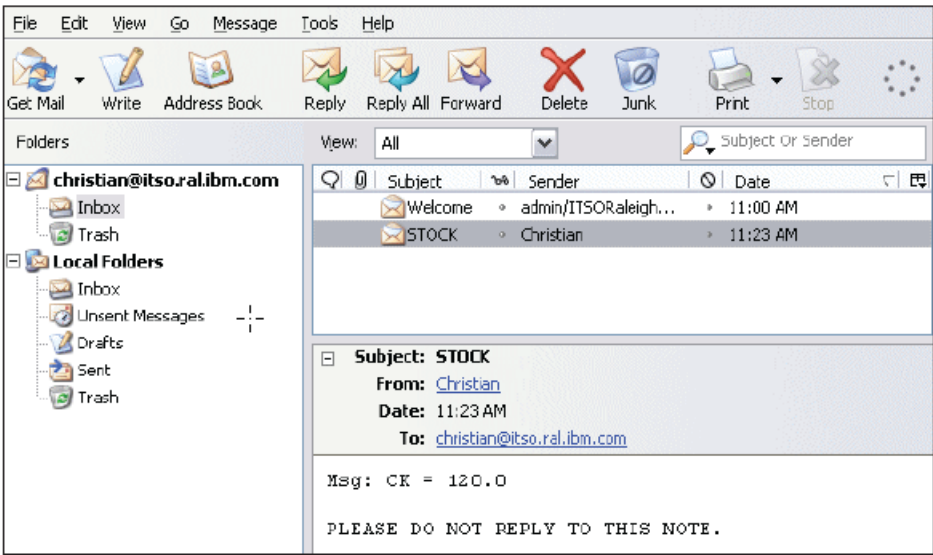


Figure 1-37 Stock notification to e-mail account

EX1009, 49 (showing a stock price alert being displayed within the user's email).



Figure 1-38 Stock notification in the BlackBerry emulator

EX1009, 50 (showing a stock price alert being displayed on a user's Blackberry device).

I) Element [1.12]

[1.12] H) controlling the at least one communication interface to transmit the notification data to the at least one external device via the first channel without being requested by the user, wherein the transmission of the notification data to the at least one external device is based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of authorized channels, the user, and the at least one user platform.

136. In my opinion, the WebSphere+Austin-Lane combination teaches this element at least because the WebSphere references disclose or suggest this element.

137. The WebSphere references disclose or suggest that the apparatus (one or more servers) is programmed to control the at least one communication interface to transmit the notification data to at least one external device from which session data is obtained, via the first channel without being requested by the user at least

because the WebSphere references disclose sending the notification using the appropriate channel adapter (e.g., Message Center, Lotus Sametime instant message, wireless application protocol (WAP), SMTP email, voice, etc.) whenever the first channel information (stock price) crosses the threshold (e.g., \$50), without needing prompting from the user each time the stock price crosses the threshold. EX1006, 10; EX1009, 2, 4, 7-12, 40-50. “The Intelligent Notification Services ... proactively notif[ies] mobile workers (based on their subscription to particular notification applications) of important information and events.” EX1006, 9. “If a match occurs, [the Subscription Manager] calls the trigger handler” (EX1009, 4), which “notifies the appropriate user via the Notification Manager” (EX1009, 8). For example, “[i]f the stock price is less than \$50” and/or “higher than \$100,” “a notification message is sent.” EX1009, 41; *see also* EX1006, 10 (“a subscriber could be notified when their favorite stock shifted five points”). This is analogous to the stock alert example described by the ’948 patent itself, where a user sets up an alert to occur when the share price of a stock drops below \$9.23. *See* EX1001, 25:29-26:16, FIGS. 14-17.

138. As I explained above for element [1.2], the WebSphere references disclose or suggest using the at least one communication interface to transmit information (including alerts/notifications). *Supra* Section VI.C.1.b.

139. And, as I explained above for element [1.5], the user receives (and thus the apparatus transmits to the user device(s)) the user-centric information (which includes the notification/alerts) based on user access rights (roles/permissions/privileges) (EX1004, 5, 11, 15, 19-20, 39; EX1005, 8, 191-193) and/or security protocols (encryption protocols (e.g., SSL) and/or user authorization protocols (e.g., SSO)) (EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642, 899-900; EX1005, 5, 8, 15, 195-196, 225-226, 270, 380-401; EX1006, 5, 22, 30-33, 310-311, 315-337, 378-383; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184, 234; EX1009, 277, 289-290, 314, 324-355) respectively associated with the plurality of channels. *Supra* Section VI.C.1.e; *see also supra* Section VI.C.1.h (describing tickets/tokens/certificates such as LTPA tokens and X.509 certificates). As I also explained above for element [1.5], the notifications are transmitted based on information access rights and/or security protocols respectively associated with the plurality of channels for at least the additional reasons that, for at least some channels (e.g., the Sametime messaging portlet), the user's access rights are channel-specific. For example, to access the Sametime messaging portlet, the user must log in to the Sametime messaging portlet using a username and password that is specific to that portlet. *Supra* Section VI.C.1.e; EX1006, 378-383.

140. In my opinion, a POSITA also would have understood or at least found it obvious that the notification data is transmitted to at least one external device from which session data is received, based on access rights and/or security protocols respectively associated with the user and the user platform (e.g., via authenticating the user when they log in to their account) at least because the system delivers notifications for only those “users who have subscribed to that information” (EX1009, 2) and only those users that are “in an Intelligent Notification Services user group” after they log in to their account (EX1009, 15; *see also id.*, 26-28). Thus, unauthorized users that do not have an account, or, authorized users that have not subscribed to the notification, do not have access to, and do not receive, the notification.

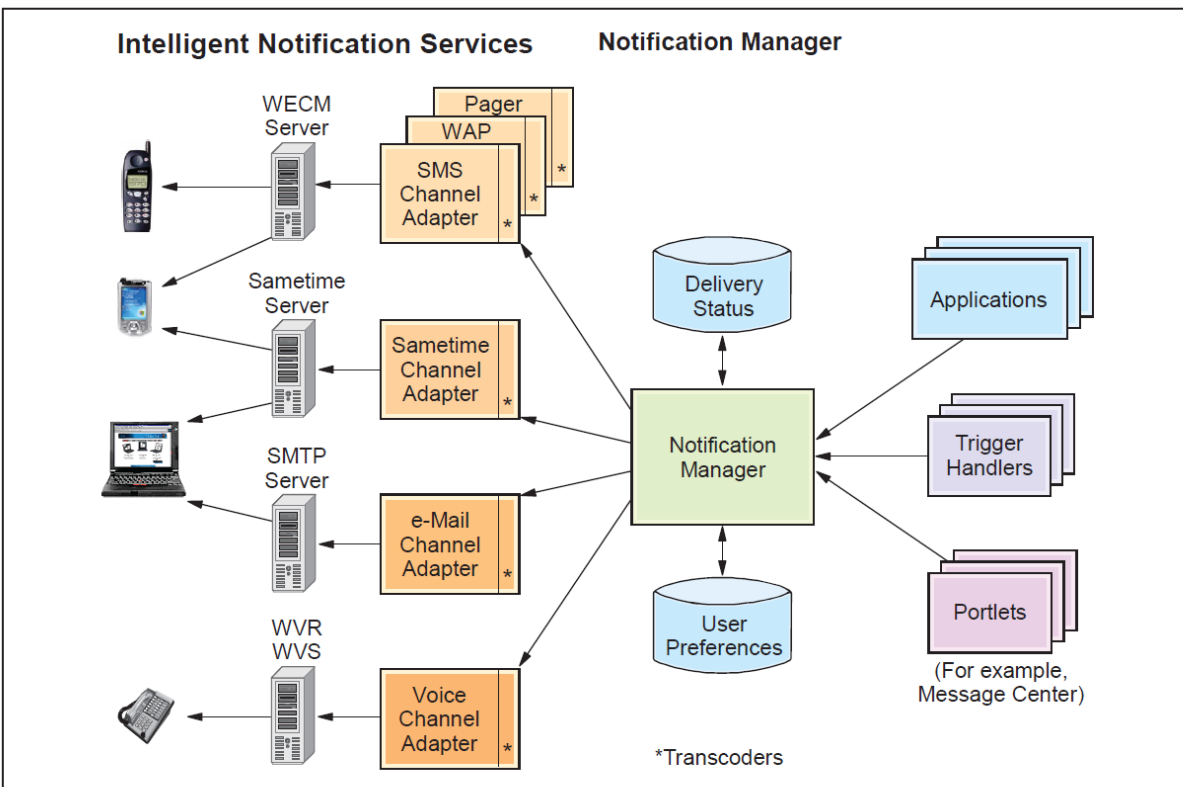
141. In my opinion, a POSITA also would have understood or at least found it obvious that the combination teaches that the notification data is transmitted to at least one external device from which session data is received, based on access rights and/or security protocols respectively associated with the at least one external device at least because, as I explained above for element [1.10], the combination teaches transmitting the notification to the device(s) on which the user is online and/or to the application on the device(s) on which the user has an active session. *Supra* Sections VI.C.1.h, VI.C.1.j; EX1010, [0046], [0066-67], [0074-77]). In my opinion, a POSITA would have understood that the notification

must be sent based on the access rights respectively associated with the at least one external device at least because the user would have had to log in to each device that is set to receive the notification via the determined notification (i.e., each device that is online and/or has an active session). *Supra* Section VI.C.1.a.

Moreover, a POSITA would have understood or at least found it obvious that that the notification must be sent based on security protocols respectively associated with the at least one external device at least because different security protocols would be used depending on the type of device(s) set to receive the notification.

For example, a POSITA would have understood or found it obvious that the security protocols for an SMS message to a mobile phone would be different than for SMTP emails to a notebook computer or a voice message to a landline phone.

EX1009, 3, 7-14.



EX1009, 7 (showing some of the different delivery channels).

142. To the extent the claim requires the alert be provided within (for example) the stock portlet, it would have been obvious to a POSITA to provide the alert within the stock portlet instead of and/or in addition to the notification message center portlet, especially if the presence information indicates that the user is currently using the stock portlet. This would increase the chances the user notices the alert sooner.

2. **Claim 2**

[2.1] The apparatus of claim 1, wherein if the one or more events, conditions, logical workflows, discrete information values or signal data is/are determined in E), the at least one processor performs H).

143. As I explained above for claim elements [1.9]-[1.12], the WebSphere references disclose or suggest that the at least one processor performs H) (transmits the notification) if it determines that the one or more events, conditions, etc. have occurred (e.g., if the stock price has cross the user-set threshold). *Supra* Sections VI.C.1.i-l. Thus, in my opinion, the WebSphere+Austin-Lane combination teaches this claim.

3. **Claim 3**

[3.1] The apparatus of claim 1, wherein if the one or more events, conditions, logical workflows, discrete information values or signal data is/are determined in E), the at least one processor controls the at least one memory so as to store trigger information relating to the one or more determined events, conditions, logical workflows, discrete information values or signal data.

144. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because the WebSphere references disclose or suggest it. The WebSphere references disclose that “the Subscription Manager ... issues a message to the Notification Manager for further processing” if the “information meets the criteria established by the subscriber(s).” EX1006, 10. Specifically, “the Subscription Manager fires a trigger which handles the match and notifies the user

about the event using the Notification Manager.” EX1009, 4. As I explained above for element [1.11], the trigger handler “composes [the] notification” (EX1009, 81; *see also id.*, 8, 82), the Notification Manager determines the delivery channels for the notification (EX1009, 8) and “is responsible for message formatting” (EX1006, 10), and the one or more channel adapters “transcode those messages into the proper formats for the designated delivery channels” (EX1009, 8; *see also id.*, 3, 7, 9-14, 147). A POSITA would have understood or at least have found it obvious that the processor would store trigger information (e.g., the triggering stock price, the user(s) to send the alert to) in memory because it would have to in order to perform the aforementioned actions—message creation, message formatting, transcoding, notification method determination. Otherwise, the trigger information would be lost, and the processor would not be able to complete delivery of the notification/alert. Moreover, if the underlying channel information that triggered the alert (the triggering stock price) is not stored in memory, it too would be lost, contrary to the WebSphere references’ express teaching to display the stock price information to the user as part of the alert. Thus, in my opinion, a POSITA would have understood that in order to successfully complete delivery of the notification and provide the stock price information to the user, as taught by the WebSphere references, the processor would have to store the trigger information in memory, at least temporarily. EX1009, 48-50.

4. Claim 4

[4.1] The apparatus of claim 3, wherein if the one or more events, conditions, logical workflows, discrete information values or signal data is/are determined in E), the at least one processor further performs H).

145. See claim 2, which recites the same subject matter. *Supra* Sections VI.C.1.i-l, VI.C.2.

5. Claim 5

[5.1] The apparatus of claim 1, wherein the first channel information includes at least one of: text information; ... content associated with an executing computer application; ... instant messaging/SMS information; ... financial services information; ... email; and address book information.

146. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because the WebSphere references expressly disclose at least one of the claim-recited information types, including, *inter alia*, text information (numerical stock price), financial services information (stock information), and content associated with an executing computer application (stock information associated with a notification message center portlet). EX1004, 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 10; EX1007, 283-293, 308-324; EX1009, 6, 30, 40-50.

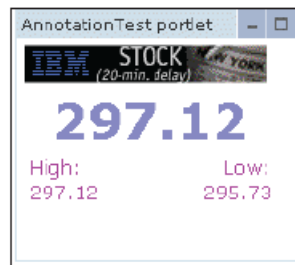


Figure 9-35 Portlet view after applying the annotator

EX1007, 287 (showing stock price information displayed within a stock portlet);
see also EX1007, 319).

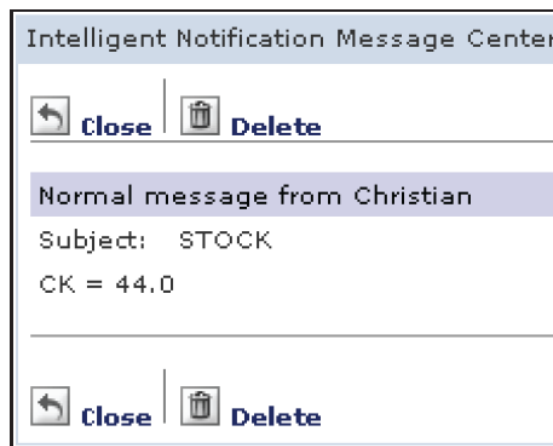


Figure 1-36 Stock notification details

EX1009, 48 (showing stock price information displayed within the notification message center portlet).

6. Claim 6

[6.1]. The apparatus of claim 1, wherein the at least one threshold condition or parameter includes a numerical limit or a trend.

147. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because, as I explained above for element [1.7], the WebSphere

references expressly disclose that the at least one threshold condition includes a numerical limit or a trend, including when a stock “shift[s] five points,” (EX1006, 10), “is less than \$50,” and/or “is higher than \$100” (EX1009, 41). *Supra* Section VI.C.1.g.

7. Claim 7

[7.1] The apparatus of claim 1, wherein E) comprises: E1) making a comparison of the monitored first channel information and the at least one threshold condition or parameter based at least in part on at least one criterion for the comparison; and E2) establishing a trigger, based at least in part on E1), if the at least one criterion is met.

148. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because, as I explained above for element [1.9], the WebSphere references disclose or suggest comparing the monitored first channel information (stock price information) to a threshold condition or parameter (e.g., user-set threshold price), and “fir[ing] a trigger” (EX1009, 4) if the stock information matches the threshold condition (e.g. the user-set stock price). EX1009, 3-4, 7-8, 40-50, 81; *supra* Section VI.C.1.i.

8. Claim 10

[10.1] The apparatus of claim 1, wherein the at least one processor performs H), and wherein the at least one alert includes at least one of: at least one visual alert; at least one auditory alert; at least one email message; and at least one SMS text message.

149. As I explained above for claim elements [1.9-1.12], the WebSphere+Austin-Lane combination teaches that the processor performs H) (transmits the notification). *Supra* Sections VI.C.1.i-l. And, as I also explained above for element [1.12] and claim 5, the WebSphere references also disclose that the alert includes a visual alert, an email message, and/or a SMS text message. EX1006, 10; EX1009, 2, 4, 7-12, 40-50; *supra* Sections VI.C.1.l, VI.C.5. Thus, in my opinion, the WebSphere+Austin-Lane combination teaches this claim.

9. Claim 11

[11.1] The apparatus of claim 1, wherein the at least one processor performs H), and wherein the at least one alert includes activation of at least one channel of the plurality of channels.

150. As I explained above for claim elements [1.9-1.12], the WebSphere+Austin-Lane combination teaches that the processor performs H) (transmits the notification). *Supra* Sections VI.C.1.i-l. The WebSphere references also teach that the alert includes activation of at least one channel. *E.g.*, EX1006, 9-10; EX1009, 9-10, 48-50, 77-78. For example, the message center portlet is activated by displaying the stock alert in purple highlighting:



Figure 1-35 Stock notification received

EX1009, 48 (red annotation added). As another example, an email channel is activated to display the email alert:

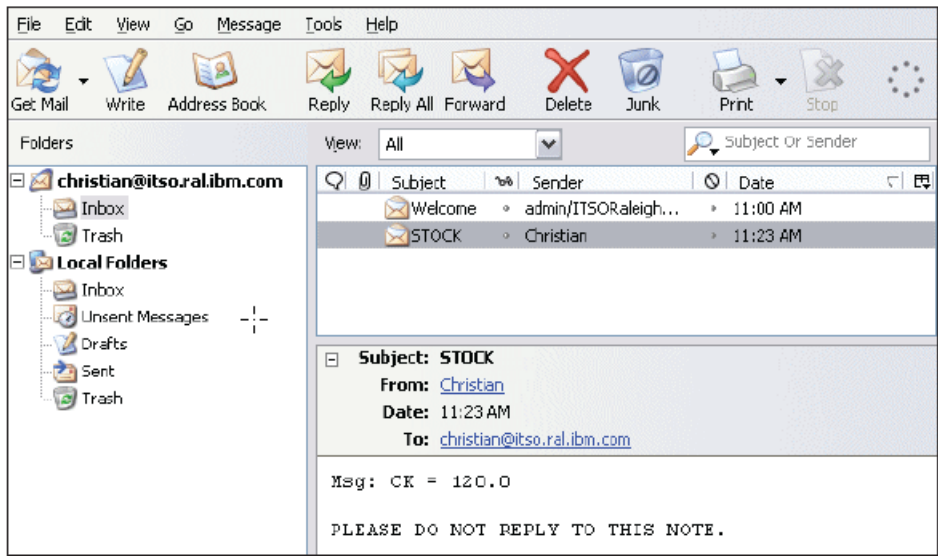


Figure 1-37 Stock notification to e-mail account

EX1009, 49. As another example, an SMS channel is activated to display the alert:



Figure 1-38 Stock notification in the BlackBerry emulator

EX1009, 50. Thus, in my opinion, the WebSphere+Austin-Lane combination teaches this claim.

10. Claim 13

[13.1] The apparatus of claim 1, wherein the at least one processor performs H), and wherein: H) comprises transmitting the notification data so as to generate the at least one alert on at least one external device; the at least one processor further provides the at least some of the secure user-centric information by: I) controlling the at least one communication interface so as to transmit to the at least one external device channel information relating to at least one authorized channel of the plurality of authorized channels implemented in A); and the notification data transmitted in H) causes an appearance of the at least one authorized channel, as represented on the at least one external device, to change so as to generate the at least one alert on the at least one external device.

151. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because, as I explained above for claim elements [1.5] and [1.11-12], the combination teaches that the processor controls the at least one communication interface to transmit the notification data, including the channel information (e.g., stock price information). *Supra* Sections VI.C.1.e, VI.C.1.k-l. And, as I explained

above for claim 11, the notification data causes the external device to change the appearance of the at least one authorized channel so as to generate the at least one alert on the at least one external device (e.g., the message center portlet displays the stock alert as text with purple highlighting). *Supra* Section VI.C.9.

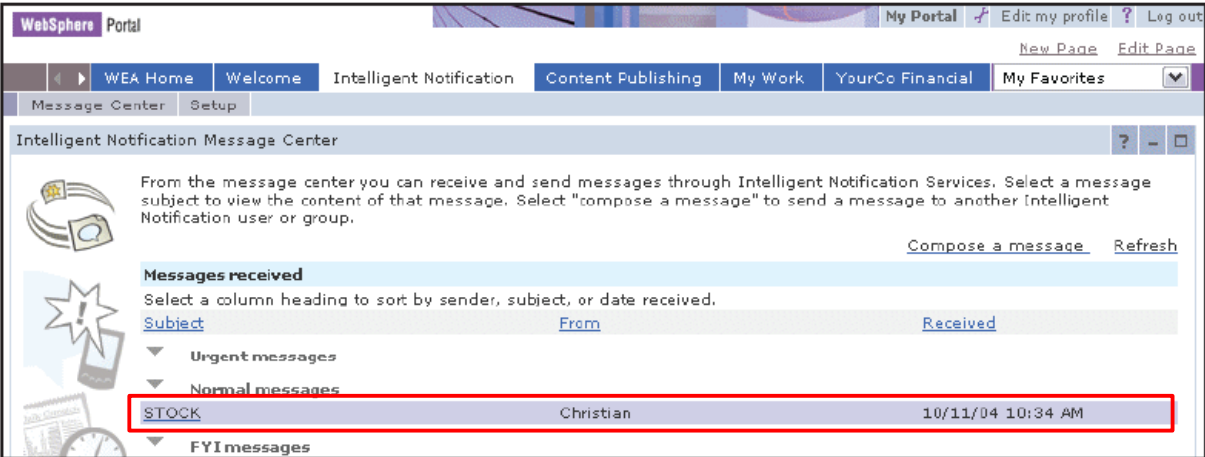


Figure 1-35 Stock notification received

EX1009, 48 (red annotation added) (showing receipt of an alert/notification within the message center portlet).

6. You can select the new message to see the details (as shown in Figure 1-36).

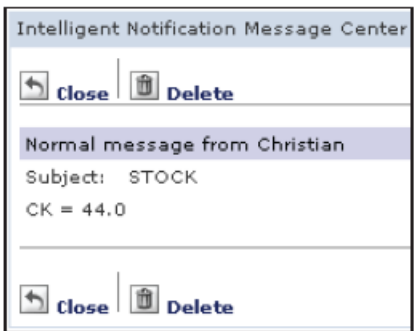


Figure 1-36 Stock notification details

EX1009, 48 (selecting the stock alert shows the stock price).

11. Claim 18

[18.1] The apparatus of claim 1, wherein the at least one processor performs H), and wherein in H), the at least one external device includes at least one of a mobile device, a television, and a Blu-ray player.

152. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because the WebSphere references expressly disclose that the external device on which the alert appears includes a mobile device (e.g., cellular phone, notebook, PDA). EX1006, 2-4; 1009, 3, 7, 20.

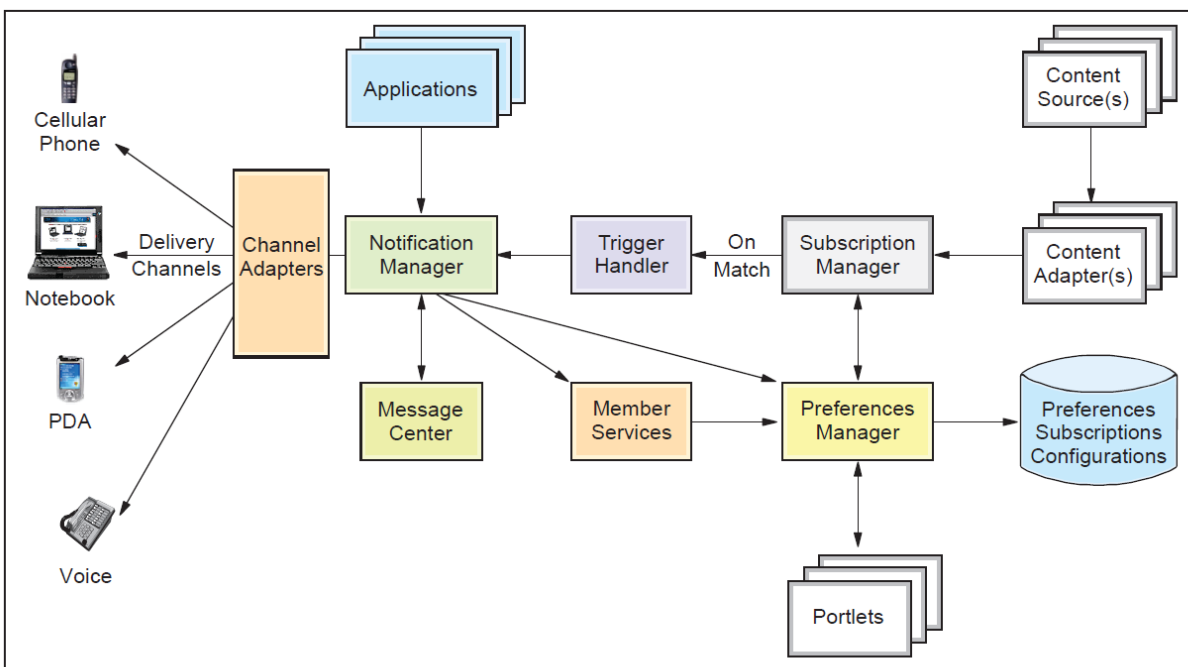


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3.

12. Claim 19

[19.1] The apparatus of claim 1, wherein the at least one processor further provides and evaluates at least some of the secure user-centric information by:

I) controlling the at least one communication interface to transmit at least some of the first channel information to the at least one user platform.

153. As I explained above for claim elements [1.5], [1.9], and [1.12], the WebSphere+Austin-Lane combination teaches that the processor provides and evaluates at least some of the secure-user centric information (the stock price information) by controlling the at least one communication interface to transmit at least some of the stock price information to the user platform, through the stock portlet and/or the message center portlet. *Supra* Sections VI.C.1.e, VI.C.1.i, VI.C.1.l; EX1004, 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 10; EX1007, 283-293, 308-324; EX1009, 6, 30, 40-50.

13. Claim 23

[23.1] The apparatus of claim 1, wherein the at least one processor further provides and evaluates at least some of the secure user-centric information by:
I) authenticating the user and the at least one user platform to receive at least the first channel information and/or the at least one alert.

154. As I explained above for claim elements [1.1] and [1.12] the WebSphere+Austin-Lane combination teaches this claim at least because only “those users who have subscribed to that information” (EX1009, 2) and only those users that are “in an Intelligent Notification Services user group” (EX1009, 15) receive the first channel information (stock price information) and/or the alert (the stock price alert). *Supra* Sections VI.C.1.a, VI.C.1.l. Moreover, as I explained

above for claim element [1.1], the user must log in to their account to receive at least some of the first channel information. *Supra* Section VI.C.1.a; EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642; EX1005, 15, 195-196, 225-226, 270, 382-401, EX1006, 5, 30-33, 310-311, 378; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184; EX1009, 289-290, 314, 324-355. And, as I explained above for claim element [1.6] (*supra* Section VI.C.1.f), the apparatus authenticates (e.g., enrolls) the at least one user platform during device enrollment (e.g., EX1004, 27-28; EX1006, 354; EX1007, 8), as was well known in the art (*supra* Section IV.B.2). Further, as I explained above for claim element [1.8], the WebSphere references disclose that the apparatus (one or more servers) employ tickets/tokens/certificates (e.g., LTPA tokens, X.509 certificates) as part of authenticating users and/or user devices. *E.g.*, EX1004, 630, 639-640, 899-900; EX1005, 270, 365-401; *supra* Section IV.B.2.

14. Claim 29

[29.1] The apparatus of claim 1, wherein in A), the at least one processor implements a channel server that defines one or more visual characterizations, one or more functions or features, and/or one or more information types provided by respective channels of the plurality of channels through which the user receives and/or interacts with the respective portions of the secure user-centric information, wherein the channel server implements at least the first channel, and wherein the at least one processor further provides and evaluates at least some of the secure user-centric information by: I) controlling the at least one communication interface to transmit at least some of the first channel information to the at least one user platform.

155. In my opinion, the WebSphere+Austin-Lane combination teaches this claim at least because the at least one processor implements a channel server (e.g., web application server (WAS), portlet container & services, and page aggregation) that implements at least the first channel (stock portlet and/or message center portlet) and that defines one or more visual characterizations (e.g., themes and/or skins), one or more functions or features, and/or one or more information types provided by respective channels of the plurality of channels through which the user receives and/or interacts with the respective portions of the secure user-centric information. EX1004, 6, 8, 18-19, 28-29, 30, 34, 48-49, 60, 116, 152-153, 241, 630, 946-947, 956, 989, 1000; EX1005, 4-6, 13-17, 141, 241-247, 277, 493-494; EX1006, 6, 10, 30, 34, 42, 390; EX1007, 290-293, 308-311, 319-321; EX1008, 66-67, 182; EX1009, 1-50.

156. For example, each channel (portlet) is “executed inside a Web container [(referred to as “the Portlet container”)] managed by the application server” (EX1004, 116), which uses JavaServer Pages (JSPs) to implement the themes and skins of the portlets (*e.g.*, EX1004, 354). *E.g.*, EX1005, 4-6, 15-17, 242-244.

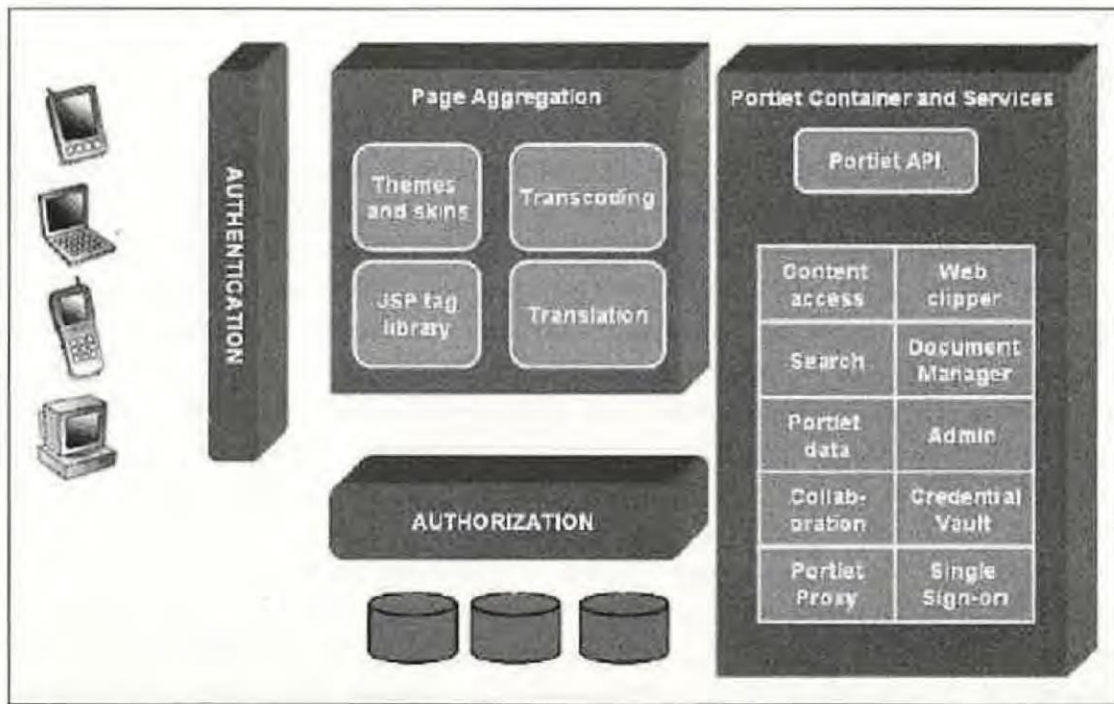


Figure 13-1 Portal architecture.

EX1005, 242.

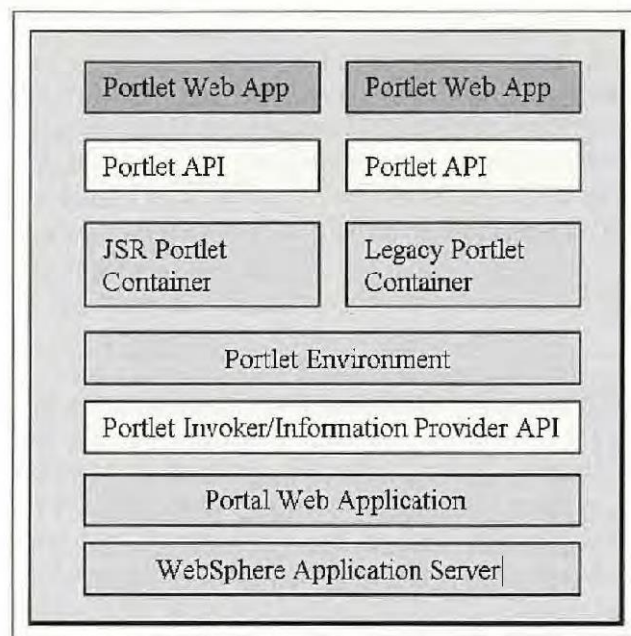


Figure 13-2 Portlet container.

EX1005, 244.

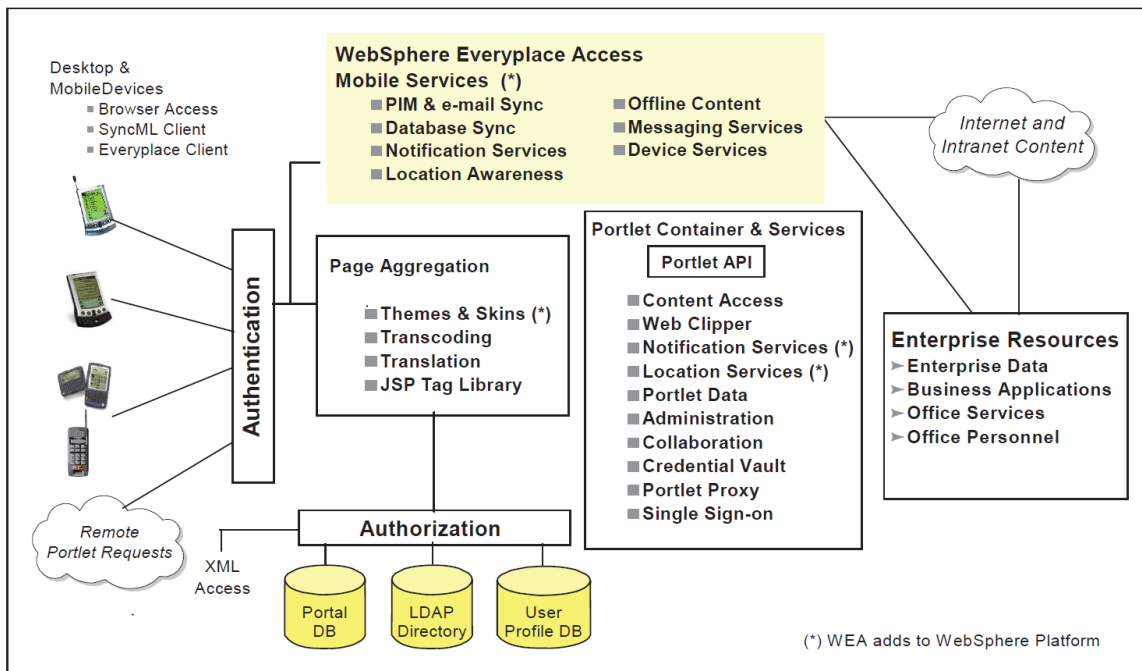


Figure 1-2 WebSphere Everyplace Access server

EX1006, 5.

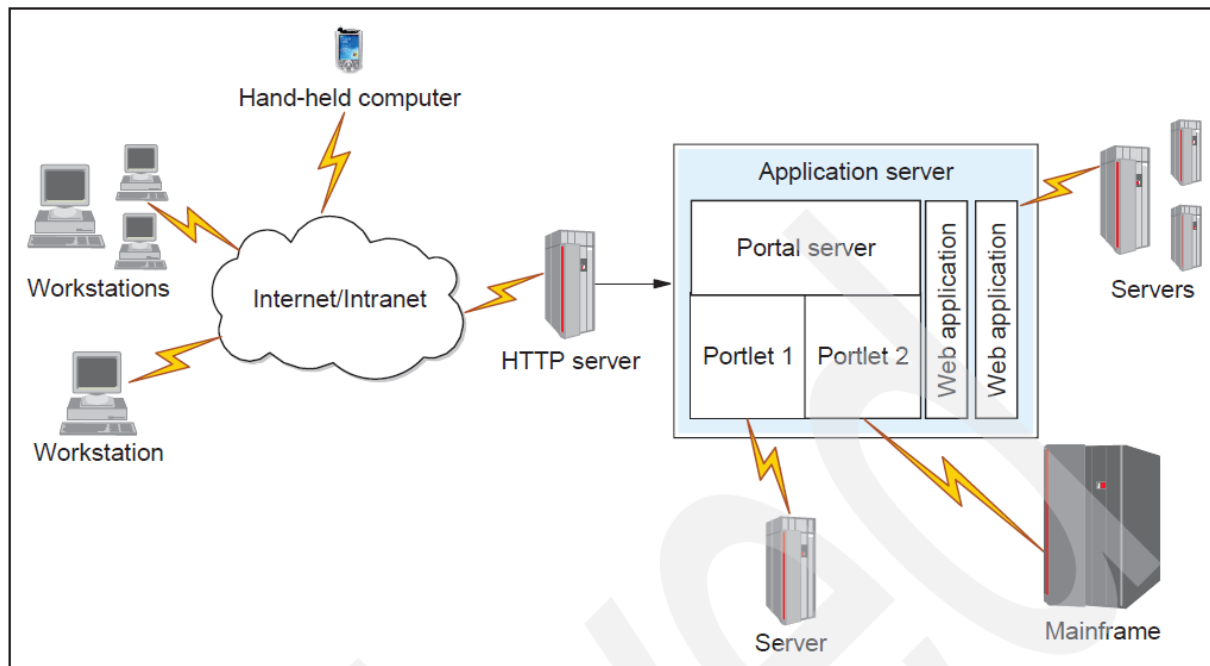


Figure 1-13 Portal Solutions - portlet to remote application

EX1004, 43.

157. As I explained above for claim elements [1.1], [1.5], and [1.9-1.12], the WebSphere references disclose or suggest that the processor controls the at least one communication interface to transmit at least some of the first channel information (stock price information) to the at least one user platform. *Supra* Sections VI.C.1.a, VI.C.1.e, VI.C.1.i-l.

15. Claims 35-36

158. Claims 35 and 36 are substantively identical to claim 1 except they do not require a communication interface or processor. Thus, these claims are obvious over for the same reasons claim 1 is obvious. *Supra* Section VI.C.1.

**VII. SECONDARY CONSIDERATIONS
(OBJECTIVE INDICIA OF NON-OBVIOUSNESS)**

159. I am not aware of any allegations by the named inventors of the '948 patent or any assignee of the '948 patent that any secondary considerations tend to rebut the obviousness of any challenged claim of the '948 patent.

I, Christopher M. Schmandt, 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: September 20, 2024

A handwritten signature in black ink, appearing to read "Chris Schmandt", written over a horizontal line.

Signature

APPENDIX A

Christopher Schmandt

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Education

M.I.T., Master of Science, Visual Studies (Computer Graphics), 1980

M.I.T., Bachelor of Science, Computer Science, 1978

Professional Experience -- MIT

Media Laboratory, Principal Research Scientist, 1985-2018 (retired)
Director, Living Mobile Research Group (formerly Speech + Mobility)

Architecture Machine Group, Research Associate, 1980-1984

Architecture Machine Group, Research Assistant, 1979-1980

Architecture Machine Group, Graphics Programmer, 1977-1979

Departmental Undergraduate Research Opportunities Program Coordinator, 1984-2018

Laboratory Intellectual Property Committee 2001-2016, chair 2002-2009

Departmental Committee on Graduate Studies, 1996-2001, 2007-2018

Sponsored Research Activities

Alerting and Mobile Messaging, Digital Life Consortium, MIT Media Lab, 1997-2018

Acoustical Cues to Discourse Structure, National Science Foundation, Principal Investigator, 1995-1998

Parsing Radio, News in the Future Consortium, MIT Media Lab, 1993-1999

Desktop Audio, SUN Microsystems, Inc., Principal Investigator, 1989-1996

Voice Interaction in Hand Held Computers, Apple Computer, Principal Investigator, 1991-1993

Voice Interfaces for Network Services, AT&T, Principal Investigator, 1989-1991

Back Seat Driver, NEC, Principal Investigator, 1988-1991

Acoustic and Visual Cues for Speech Recognition, DARPA, co-Principal Investigator, 1986-1988

Personal Computers and Telephony, NTT Public Corporation, Principal Investigator, 1984-1989

Home Telecomputing, Atari, Inc., Principal Investigator, 1983

Testifying legal engagements within the last five years, representing party in italics

- *Microsoft v. SpeakWare*, 2019
- *Bumble Trading LLC v. Match Group LLC*, 2019
- *Tile Inc. v. Cellwitch Inc.*, 2019
- *Blackberry Ltd v. Facebook, Inc* 2020
- *EROAD Ltd v. PerDiem Co.*, 2020
- *Snap Inc. v. SRK Technology LLC*, 2020
- *Shopify Inc Ltd v. Express Mobile Inc.*, 2020
- *Express Mobile Inc. v Wix Ltd* 2020
- *Motorola Mobility LLC v. Ironworks patents, LLC.* 2021
- *Express Mobile Inc. v GoDaddy Inc* 2021
- *Bumble Trading LLC v. Kinectus, LLC.* 2021
- *Tile, Inc v. Linquet Technologies, Inc.* 2021
- *Facebook, Inc. v. Palo Alto Research Center, Inc.* 2021
- *Unified Patents, LLC v. Gesture Technology Partners, LLC.* 2021
- *Quantum Metric, Inc v. Content Square Isreal, Ltd.* 2021
- *Meta Platforms Inc. v. AlmondNet, Inc* 2022
- *Apple Inc. v. Zentian Limited* 2022
- *Google LLC v. Mira Advanced Technology Systems Inc* 2022
- *Google LLC v. Robocast* 2023
- *Google LLC v. Buffalo Patents LLC* 2023
- *Amazon v. AlmondNet* 2023
- *Google LLC v. Valtrus* 2023
- *Samsung Electronics Co., Ltd v. Stanton Techiya, LLC* 2024
- *Roku, Inc. v. AlmondNet, Inc.* 2024
- *LinkedIn v. AlmondNet, Inc* 2024
- *Google, LLC v. Dialect, LLC* 2024

Professional Experience -- Intellectual Property

Co-inventor on U.S. Patents

- 5,177,685 for "Automobile navigation system using real time spoken driving instructions"
- 6,728,348 for "System for storing voice recognizable identifiers using a limited input device such as a telephone key pad"
- 6,937,986 for "Automatic dynamic speech recognition vocabulary based on external sources of information"
- 7,098,776 for "Methods and apparatus for vibrotactile communication"
- 7,392,280 for "Method for summarization of threads in electronic mail"
- 7,738,637 "Interactive voice message retrieval"
- 7,443,283 for "Methods and apparatus for connecting an intimate group by exchanging awareness cues and text, voice instant messages, and two-way voice communications"
- 7,865,560 for "System for summarization of threads in electronic mail"
- 8,121,653 for "Methods and apparatus for autonomously managing communications using an intelligent intermediary"
- 8,135,128 for "Animatronic creatures that act as intermediaries between human users and a telephone system"

Co-inventor on U.S. Patent Applications

- 20020076009 "International dialing using spoken commands"
- 20020087328 "Automatic dynamic speech recognition vocabulary based on external sources of information"

- 20020064257 "System for storing voice recognizable identifiers using a limited input device such as a telephone keypad"
- 20030023688 "Voice-based message sorting and retrieval method"
- 20030081738 "Method and apparatus for improving access to numerical information in voice messages"
- 20030144846 "Method and system for modifying the behavior of an application based upon the application's grammar"
- 20030158903 "Calendar bar interface for electronic mail interaction"

Publications

Field Study of a Tactile Sound Awareness Device for Deaf and Hard of Hearing Users ISWC 2020. (with D. Jain, B. Chiu, S. Goodman, L. Findlater, J. Froehlich)

SkinMorph: Texture-Tunable On-Skin Interface Through Thin, Programmable Gel ISWC 2018. (with Cindy Kao, M. Banforth, D. Kim)

Technical Interventions to Detect, Communicate, and Deter Sexual Assault. ISWC 2017. (with Manisha Mohan)

Exploring Interactions and Perceptions of Kinetic Wearables. DIS 2017. (with Cindy Hsin-Liu Kao, D. Ajilo, O. Anilonyte, A. Dementyev, I. Choi and S. Follmer)

Leveraging User-made Predictions to Help Understand Personal Behavior. MobileHCI 2017. (with Miriam Greis, Tilman Dangler and Albrecht Schmidt)

Rovables: On-Body Robots as Mobile Wearables. UIST 2016. (with Cindy Hsin-Liu Kao, A. Dementyev, I. Choi, D. Ajilo, M. Xu, and S. Follmer)

DuoSkin: Rapidly Prototyping On-Skin User Interfaces Using Skin-Friendly Materials. ISWC 2016. (with Cindy Hsin-Liu Kao, Christian Holz, Asta Roseway, and Andres Calvo)

Immersive Terrestrial Scuba Diving Using Virtual Reality (with Dhruv Jain, Misha Sra, Jingru Go, Rodrigo Margues, Raymond Wu and Justin Chiu) Proceedings, UIST 2016

Expanding social mobile games beyond the device screen (with Misha Sra) Journal of Personal and Ubiquitous Computing, 2015

NailO: Fingernails as an input surface (with Cindy Hsin-Liu Kao, Artem Dementyev, Joseph Paradiso) CHI 2015

Mugshots: A mug display for front and back stage social interaction in the workplace (with Cindy Hsin-Liu Kao) TEI (Tangible and Embedded Interfaces) 2015

Mime: compact, low power 3D gesture sensing for interaction with head mounted displays (with Andrea Colaco, Ahmend Kirmani, Hye Soo Yang, Nan-Wei Gong, and Vivek Goyal) Proceedings of UIST 2013.

Spotz: A location-based approach to self-awareness (with Misha Sra) Proceedings of Persuasive 2013.

Setting the stage for interaction: A tablet application to augment group discussion in a seminar class (with Drew Harry and Eric Gordon) Proceedings of CSCW 2012.

Indoor Location Sensing using Geo-Magnetism (with Jaewoo Chung, Matt Donahoe, Ig-Jae Kim, Pedram Razavai and Micaela Wiseman) Proceedings of International Conference on Mobile Systems, Applications, and Services (Mobisys) 2011.

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