

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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SAMSUNG ELECTRONICS CO. LTD. and SAMSUNG ELECTRONICS  
AMERICA, INC.,  
Petitioners,

v.

MOBILE DATA TECHNOLOGIES LLC,  
Patent Owner

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IPR2025-00540

U.S. Patent No. 8,793,336

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**DECLARATION OF HENRY HOUH, PH.D. IN SUPPORT OF PETITION  
FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,793,336**

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I, Henry Houh, Ph.D., declare as follows:

1. I have been retained by Goodwin Procter LLP on behalf of Petitioners Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. (“Petitioners”) to provide this Declaration concerning technical subject matter relevant to the petition for *Inter Partes* Review (“Petition”) of U.S. Patent 8,793,336 (“the ’336 patent”).

2. I am over 18 years of age. I have personal knowledge of the facts stated in this Declaration and could testify competently to them if asked to do so.

3. I have been asked to provide my technical opinions regarding how a person of ordinary skill in the art would have understood the claims of the ’336 patent at the time of the alleged invention, which I have been asked to assume is the 2002 timeframe. For purposes of whether the teachings of the prior art render the claims of the ’336 patent obvious, I have been asked to assume the date of June 18, 2002. I have also been asked to provide my technical opinions on how concepts in the ’336 patent specification relate to claim limitations of the ’336 patent.

4. In reaching the opinions provided herein, I have considered the ’336 patent, its prosecution history, and the references cited in the Appendix. I have also drawn on my own education, training, research, knowledge, and personal and professional experience.

5. In general, I have been asked to cite to the specification of a patent or patent publication using the following formats: (Patent No., Col:Line Number(s)) or (Patent No., Paragraph Number(s)). For example, the citation (EX-1001, 1:1-10) points to the '336 patent specification at column 1, lines 1-10. Also, for convenience, I use italics to denote limitations from the challenged claims. Unless otherwise noted, all emphasis is added.

6. I am being compensated for my time at my standard consulting rate. I am also being reimbursed for expenses that I incur during the course of this work. My compensation is not contingent upon the results of my study and analysis, the substance of my opinions, or the outcome of any proceeding involving the '336 patent. I have no financial interest in the outcome of this matter or in any litigation involving the '336 patent.

7. I understand that another party, Meta Platforms, Inc. ("Meta"), has challenged the '336 patent in *inter partes* review proceedings at Case No. IPR2024-00246 ("Meta-MDT-IPR"), which was instituted by the Patent Trial and Appeal Board. I refer in my declaration below to some of the positions and issues raised in that proceeding, including as it pertains to claim construction of certain claim terms in the '336 patent.

## **I. Qualifications**

8. I believe I am well qualified to render useful opinions on this matter. I will briefly summarize my knowledge, training, and experience here. A more detailed summary of my background, education, experience, and publications is set forth in my curriculum vitae (CV), which is submitted as EX-1004.

9. I received my Bachelor of Science degree in Physics from Massachusetts Institute of Technology (“MIT”) in 1990. I also received my Bachelor of Science degree, Master of Science degree, and Ph.D., all in Electrical Engineering and Computer Science, from MIT in 1989, 1991, and 1998 respectively.

10. My college studies focused on communications and data networking. My undergraduate and graduate coursework pertained to telecommunication networks optical communications, and data networking. I maintained both the computer workstations and networking devices in my networking research group, along with other graduate students within the group.

11. I served as a teaching assistant for the Computation Structures course several times. This course taught low-level computer architecture and included a laboratory component that involved building a central processing unit (“CPU”) from discrete components from the gate level and higher. As a student this course, I redesigned the CPU hardware and software to raise the average speed by a factor of 30. I then became a head laboratory assistant and teaching assistant as an

undergraduate student, and later became head teaching assistant as a graduate student.

12. I was a research assistant in the Telemedia Network Systems (“TNS”) group in the Laboratory for Computer Science as part of my doctoral research at MIT. This group built a high-speed gigabit network and created applications that ran over the network such as remote video and audio capture, processing, and display on computer terminals.

13. I set up the TNS group’s web server. Using this server, the TNS group was the first group to initiate a remote video display over the World Wide Web. Vice President Al Gore visited our group in 1996 and received a demonstration of—and remotely drove—a radio-controlled toy car with a wireless video camera mounted on it; the video was encoded by TNS-designed hardware, streamed over the TNS-designed network and displayed using TNS-designed software. I was also able to modify a web server to determine the location of the client, and present different web pages based on the client’s location. I co-authored and presented papers on these video demonstrations and dynamic webpages at the first World Wide Web conference.

14. I defended and submitted my Ph.D. thesis, titled “Designing Networks for Tomorrow’s Traffic,” in January 1998. As part of my thesis research, I analyzed local-area and wide-area flows to show a more efficient method for routing packets

in a network, based on traffic patterns at the time. My thesis also addressed real-time streamed audio and video. The network traffic that I analyzed was IP protocol traffic, including User Datagram Protocol (“UDP”) and Transmission Control Protocol (“TCP”).

15. I worked at NBX Corporation as a Senior Scientist and Engineer from 1997 to 1999, and worked on the first fully featured business telephone that operated on data networks. I designed the core audio reconstruction algorithms for the telephones which depacketized the voice data and reconstructed the audio, and the voice data packet transmission algorithms. I created a system to capture and analyze network packets sent by devices in the NBX system for aid in testing and debugging. I also designed and validated the core packet transport protocol used by the phone system. In addition, I designed and oversaw the development of the underlying transport protocol used by the NBX100 phone system for reliable packet transport. This transport protocol is still estimated to be used hundreds of millions of times daily. I also served as lead architect in designing NBX’s next-generation system, and worked with NBX’s successor 3Com to demonstrate the phone system over cable equipment infrastructure in 1999.

16. From 1999 to 2004, I worked at Teradyne and its successor Empirix, which developed and provided functional and load test tools for telecommunication protocols and systems. I rebuilt Empirix’s primary testing product, which could pull

data from a database to provide variation of data submitted to the web applications, and then to extract data from a web page to populate a database with key results computed by the web site after customized data is submitted. This product, PacketSphere, was Empirix's most successful new platform introduction and received several industry awards.

17. I also worked at BBN Technologies Corp. from 2004 to 2008. BBN Technologies is a technology R&D company with expertise in acoustics, speech recognition, and communications technology. I helped create EveryZing, formerly PodZinger, which is a public audio and video search engine that utilizes speech recognition technology.

18. I am a named inventor on several U.S. Patents. The patents and applications are listed in my CV.

## **II. Understanding of Relevant Legal Principles**

19. I am not a lawyer, and I will not provide any legal opinions. Although I am not a lawyer, I have been advised certain legal standards are to be applied by technical experts in forming opinions regarding the meaning and validity of patent claims.

20. I understand that a patent claim is invalid if it is anticipated or obvious in view of the prior art, and that a claim can be unpatentable even if all of the requirements of the claim cannot be found in a single prior-art reference. I further

understand that invalidity of a claim requires that the claim be anticipated or obvious from the perspective of a person of ordinary skill in the art at the time the invention was made.

21. I have been informed that a patent claim is invalid if it would have been obvious to a person of ordinary skill in the art. In analyzing the obviousness of a claim, I understand the following factors may be taken into account: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims; (3) the level of ordinary skill in the art; and (4) any so called “secondary considerations” of non-obviousness, if they are present. I am not aware of any evidence of secondary considerations of non-obviousness relevant to the ’336 patent. I reserve the right to supplement this Declaration if Patent Owner (“PO”) introduces evidence of secondary considerations of non-obviousness.

22. I understand that to prove that prior art or a combination of prior art renders a patent obvious, it is necessary to:

- (1) identify the particular references that, singly or in combination, make the patent obvious;
- (2) specifically identify which elements of the patent claim appear in each of the asserted references; and
- (3) explain why a person of ordinary skill in the art would have combined the references, and how they would have done so, to create the inventions claimed in the patent. I further understand that exemplary rationales that may support a conclusion of obviousness include:

- combining prior art elements according to known methods to yield predictable results;
- simple substitution of one known element for another to obtain predictable results;
- use of known technique(s) to improve similar devices (methods or products) in the same way;
- applying a known technique to a known device (method or product) ready for improvement to yield predictable results;
- “obvious to try” – choosing from a finite number of identified, predictable solutions with a reasonable expectation of success; known work in one field of endeavor may prompt variations of the work for use in either the same field or a different field based on design incentives or other market forces if the variations are predictable to a person of ordinary skill in the art; and
- some teaching, suggestion, or motivation in the prior art that would have led a person of ordinary skill in the art to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

23. I have been informed that, in considering obviousness, hindsight reasoning derived from the patent-at-issue may not be used.

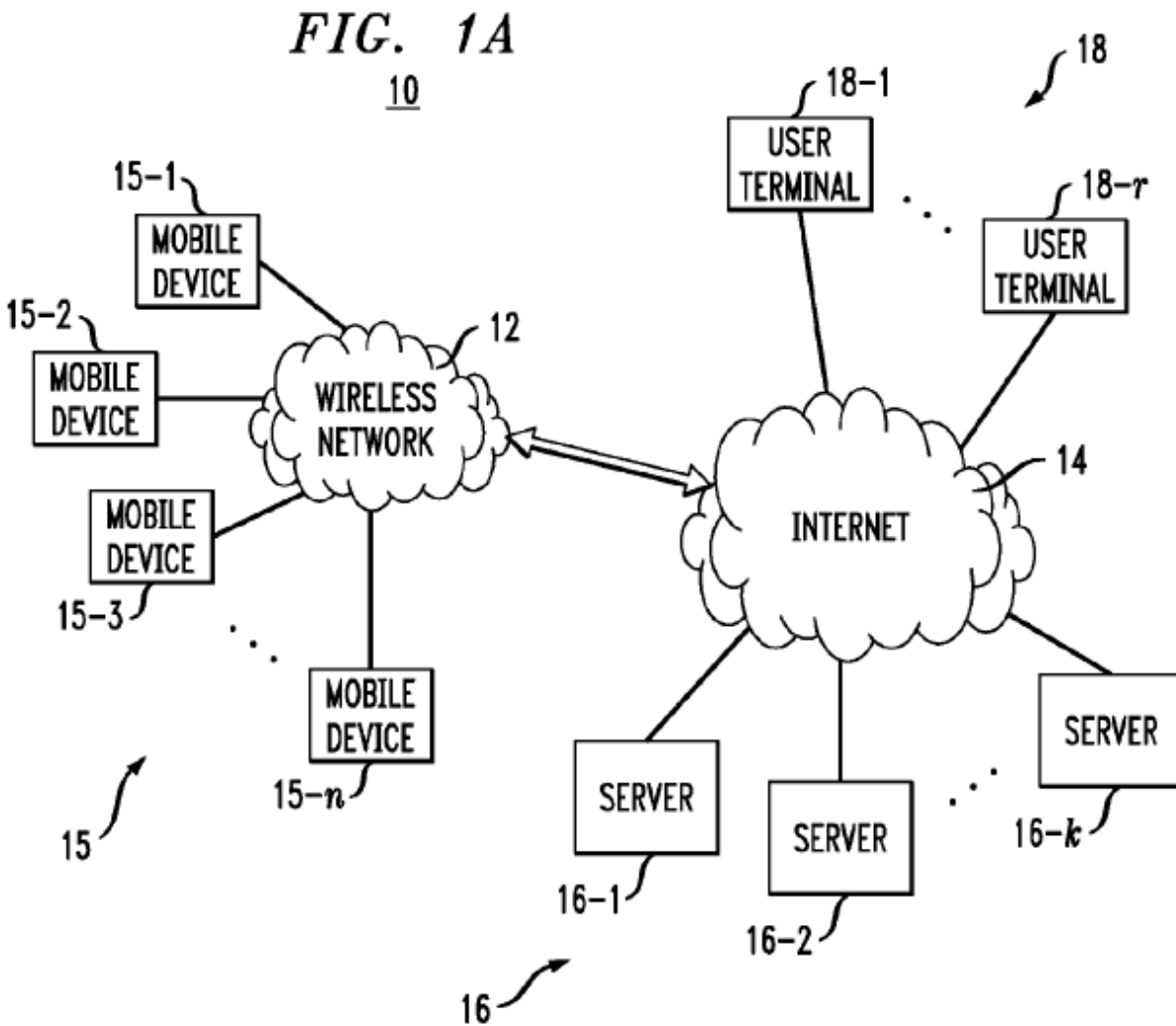
### **III. '336 Patent**

24. The '336 patent, filed February 2, 2012, claims priority through three continuations to U.S. Patent 7,599,983, filed June 18, 2003, which claims priority to Provisional 60/389,430 filed June 18, 2002. While I do not have an opinion about whether the '336 patent is entitled to any of the listed priority dates, each applied reference was filed or published before June 18, 2002.

25. The '336 patent “relates generally to network-based communications systems, and more particularly to techniques for information content management in such systems.” (EX-1001, 1:24-26.) The patent also describes providing content from a mobile device, along with “information associated with at least one wireless networking functionality of the wireless network” to at least one server for insertion into a specified application-based information channel. (EX-1001, 5:56-59.)

#### **A. Overview of the '336 Patent**

26. The '336 patent identifies “accessing of information content over wireless networks via web-enabled mobile devices” as among “the most rapidly expanding aspects of wireless networking.” (EX-1001, 1:30-32.) Figure 1A reproduced below “shows an example network-based communication system 10” including “wireless network 12 coupled to the Internet 14, a set of mobile devices 15, a set of servers 16 and a set of user terminals 18.” (EX-1001, 3:46-50.)



'336 patent, Figure 1A

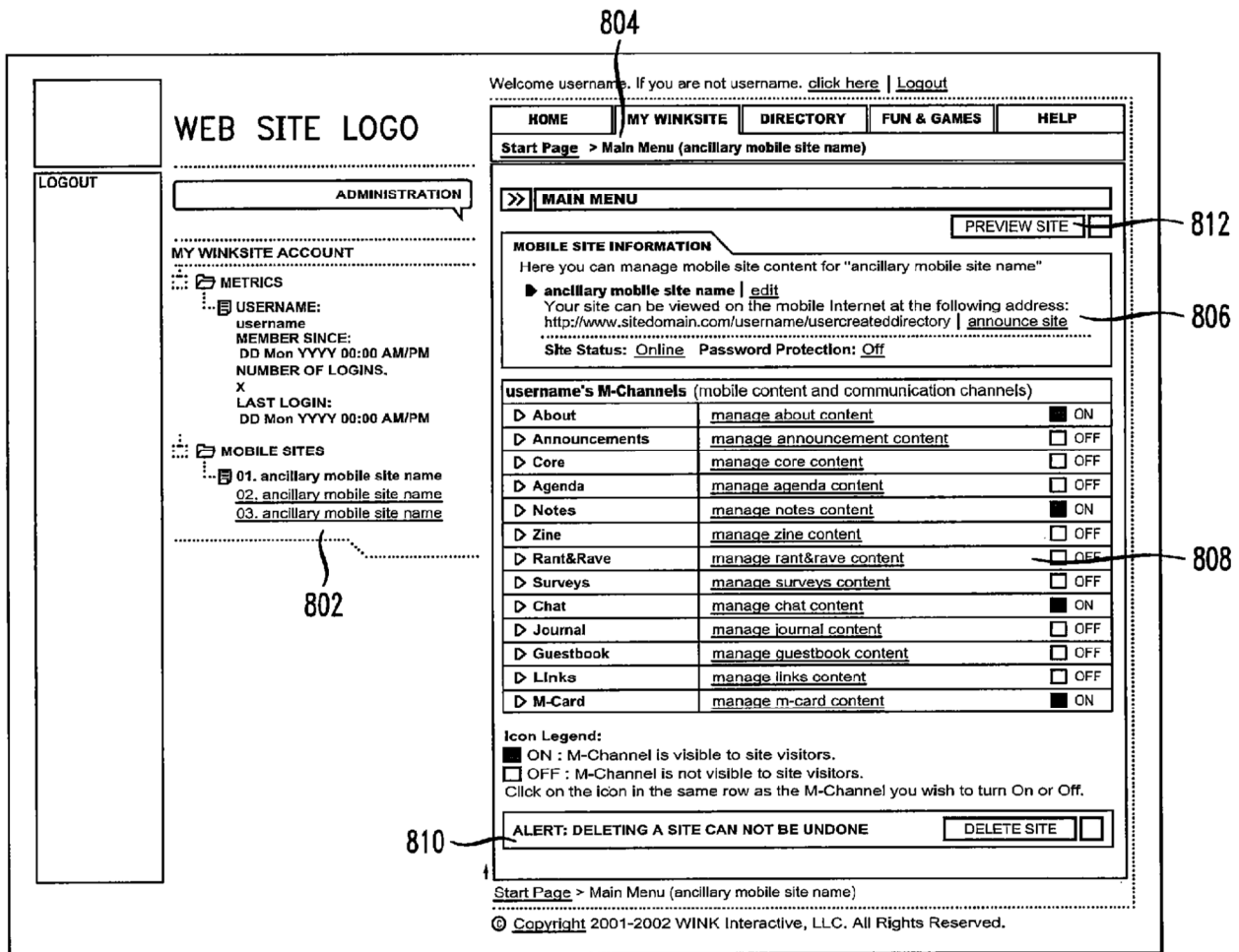
27. The Background purports to address the challenge of “facilitating the process of creating, publishing, distributing or otherwise managing information content so as to provide optimal presentation consistent with the limited display space and navigational capabilities of typical mobile devices.” (EX-1001, 1:41-45.) This section also identifies “mobile telephones, personal digital assistants (PDAs), [and] palmtop computers” as typical mobile devices. (EX-1001, 1:33-34.) Further,

the '336 patent admits in this section that it is “well-known” these wireless devices “provide access to the Internet” and “support other types of wireless networking functionality, such as messaging, distributed collaboration, and location-based services.” (EX-1001, 1:34-39.)

28. The patent discloses that the system “provides at least one content management site accessible to a system user” including “M-channels” which “allow unsophisticated users to easily and efficiently author message data or other types of information content to be made accessible via a collaborative workspace, a data mailbox, a collaborative community, or other type of mobile site.” (EX-1001, 5:10-12, 8:11-16.) Such mobile sites may be associated with “a group comprising multiple members having a common interest,” (EX-1001, 6:23-25), “an event,” (EX-1001, 6:43-44), “a game,” (EX-1001, 7:24-25), or “a user of IM, SMS, MMS, email or other type of messaging service,” (EX-1001, 7:36-38), among other associations. (EX-1001, 6:23-8:6.)

29. The main menu page in this example includes information identifying user account information and the particular mobile sites associated with that user, page navigational links, mobile site information associated with a selected one of the mobile sites associated with the user, M-channel information 808, and a delete site field. (EX-1001, 13:44-50.)

FIG. 8



'336 patent, Fig. 8

30. As noted above, according to the '336 patent, these "M-channels allow unsophisticated users to easily and efficiently author message data or other types of information content to be made accessible via a collaborative workspace, a data mailbox, a collaborative community, or other type of mobile site or portion thereof generated or otherwise managed in the system 10." (EX-1001, 8:11-17.)

31. The '336 patent provides examples of M-channels:

Examples of M-channels suitable for use in the illustrative embodiment include channels denoted herein as mobile ID/business card (also referred to as a “contact” M-channel), announcements, chat, events, guest book, diary/journal, bookmarks/links, discussion forum, survey/poll, newsletter/zine, notes, email, address book, contribute/donate, mobile volunteer management, company directory, in/out board, field reports, feedback, form builder, live data/in-out syndication, mobile document library, products catalog/shopping cart, services catalog/shopping cart, appointments, task list/assignments, promotions, offers, coupons, sweepstakes, contests, photo blog, etc.

(EX-1001, 8:27-38.)

## **B. Level of Ordinary Skill in the Art**

32. I understand that certain issues relating to the validity of the '336 patent must be judged from the perspective of a person of ordinary skill in the relevant art, as I discuss below. I have been asked to define the level of a “person of ordinary skill in the art” or “POSITA” at the time the alleged invention as claimed was made. In deciding the level of ordinary skill, I have considered the following factors, which I have been informed are relevant to the determination of ordinary skill in the art.

- levels of education and experience of persons working in the field;
- types of problems encountered in the art;
- prior art solutions to these problems;
- rapidity with which innovations are made; and
- sophistication of the technology.

33. In my opinion, a POSITA would have a bachelor’s degree in electrical engineering, computer science, or similar field, with two years of experience in

developing and implementing network-based computer systems that interact with mobile devices, such as systems for storing and retrieving information over the Internet or communicating using the Web using wireless mobile devices. A person could also have qualified as a POSITA with some combination of (1) more formal education (such as a master's of science degree) and less technical experience, or (2) less formal education and more technical or professional experience.<sup>1</sup>

### **C. Prosecution History**

#### **1. U.S. Prosecution**

34. On May 28, 2014, the Examiner rejected all pending claims for double patenting over U.S. Pat. No. 8,135,801. The applicant filed a terminal disclaimer in response to the rejection, and the Examiner allowed all the pending claims on June 23, 2014. (EX-1002, 356.)

#### **2. *Ex Parte* Reexamination**

35. The '336 patent was subject to an *ex parte* reexamination proceeding for claims 1, 11, 15, and 27. (EX-1032, 249.) The claims were rejected: (1) as anticipated by WO 01/72002 to Weiden ("Weiden"); (2) as unpatentable over Int'l WO 01/93069 to Read ("Read") in view of U.S. Patent 7,802,207 to Agboatwalla

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<sup>1</sup> I understand that PO did not dispute this characterization of a POSITA in Meta-MDT-IPR.

(“Agboatwalla”); and (3) as unpatentable over WO 01/01372 to Alcorn (“Alcorn”) in view of Read. (EX-1032, 253-74.)

36. Applicant argued that the prior art failed to disclose all the claimed limitations, and that there was no motivation to combine. Specifically, Applicant argued Weiden failed to disclose a “web-based interface” or “activation accomplished by the first user” as set forth in the claims. (EX-1032, 290.) Applicant further argued that the obviousness references of Read, Agboatwalla, and Alcorn also failed to teach activation of the mobile information channel as required by the claims, and that there was no motivation to combine the given references for a person of ordinary skill in the art. (EX-1032, 295-301.) The Examiner confirmed the patentability of the claims on March 14, 2024, stating the prior art does not teach a “web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional user,” or “activation of [a] mobile channel by a user.” (EX-1032, 342.)

#### **D. Claim Construction**

37. I understand that “claim construction” is the process of determining a patent claim’s meaning. I understand that the Patent Office applies the same claim construction standard used in district courts which seeks to give claim terms their plain and ordinary meaning to a POSITA at the time of the claimed invention in view

of the claims, specification, and prosecution history. I also understand that if the patent applicant gave a term a special meaning in the specification or during prosecution, then the special meaning should be used.

38. I understand that in the Meta-MDT-IPR and the co-pending district court litigation, *Mobile Data Tech. v. Meta Platforms*, 7:22-cv-00244 (“MDT-Meta-Litigation”), Meta and Patent Owner have taken the following claim construction positions reproduced below. (*See* EX-1009, 1-3; EX-1010, 19-28; EX-1011, 2-8.)

39. For purposes of my analysis here, I do not believe express claim constructions are necessary for the terms of the challenged claims, because the prior art renders the claims obvious under the proposed constructions identified above or any other reasonable construction. My analysis discusses the proposed constructions and explains why, under each of them, the limitations are disclosed and rendered obvious by the prior art.

**1. “Mobile Device”**

40. I dispute PO’s narrow Meta-MDT-IPR construction because it is contrary to the express definition in the specification. (*See, e.g.*, EX-1001, 4:30-33.) I apply the plain meaning for the term which is consistent with Meta’s Meta-MDT-IPR and MDT-Meta-Litigation constructions.

<b>MDT-Meta-Litigation</b>	
PO	plain and ordinary meaning; alternatively, “a piece of handheld equipment” (EX-1009, 3)
Meta	“any type of portable information processing device capable of being configured for communication over a network, including but not limited to a mobile telephone, a personal digital assistant (PDA), a palmtop computer, a hand-held computer, a laptop computer, a tablet computer, a global positioning system (GPS) receiver or other GPS-based navigational device, an MP3 player or other type of audio player, a pager, a watch or other timepiece, a camera, or a portable game player” (EX-1009, 3)
<b>Meta-MDT-IPR</b>	
PO	“a portable device with limited display space and limited navigational capabilities that connects to a mobile site and/or mobile channel via a wireless network” (EX-1010, 21-22)
Meta	construed based on express definition: “The term ‘mobile device’ as used herein is intended to include, without limitation, any type of portable information processing device capable of being configured for communication over a network” (EX-1011, 2)

## 2. “Mobile Information Channel”

41. I note that the term “channel” has different meanings based on the context in which it is used. For example, in the context of an Internet Relay Chat (IRC), a channel is “a named, topical-focused forum where you can chat in real time with other computers.” (EX-1028, 4.) For media pushed to a user device, the term “channel” is “a named link to a network-based transmitter to which a user can tune.” (EX-1028, 4.) The PO’s MDT-Meta-Litigation construction and Meta’s Meta-MDT-IPR construction use the term in a manner consistent these exemplary meanings. The

prior art as I describe in my analysis meets this term under any of the applied constructions.

<b>MDT-Meta-Litigation</b>	
PO	plain and ordinary meaning; alternatively, “a medium for transferring information that allows mobile device users to author content” (EX-1009, 1-2)
Meta	“a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site” where “content management site” = “a web site that allows a user without programming to create and manage content on a mobile website, or a portion thereof.” (EX-1009, 1-2)
<b>Meta-MDT-IPR</b>	
PO	“a component of a mobile site configured to permit a wide variety of mobile devices to send and receive content over a wireless network” (EX-1010, 19)
Meta	“a medium for transferring information that allows mobile device users to author content” (EX-1011, 5)

### 3. “Wireless Network”

42. In the Meta-MDT-IPR, the parties dispute the construction primarily based on the inclusion of language that the wireless network is “separate from the internet” and “facilitates connection to the internet.” While I also dispute PO’s construction, the prior art discloses the term under both constructions.

<b>Meta-MDT-IPR</b>	
PO	“a network separate from the internet that facilitates connection to the internet by mobile device” (EX-1010, 28)
Meta	“a network that allows a device to communicate wirelessly over a network” (EX-1011, 6)

**IV. GROUND 1: The Combination of Randall and Forsyth Renders Claims 1-3, 6-16, 19-21, 23-27 Obvious**

**A. Overview of the Combination**

43. The combination of WO 02/17652 to Randall, et al. (“Randall”; EX-1005) and U.S. Patent 7,047,030 to Forsyth, et al. (“Forsyth”; EX-1006) discloses every limitation of claims 1-3, 6-16, 19-21, 23-27. Randall and Forsyth were both assigned to Symbian Limited (“Symbian”) and describe different aspects of functionality provided by Symbian.

44. Symbian was a company jointly owned by Nokia, Ericsson, Motorola, Matsushita (Panasonic) and Psion. (Allin, 1.) “The nucleus of the company was formed from Psion Software” and the “Symbian [operating system (“OS”)] is an evolution of Psion’s EPOC Release 5.” (Allin, 1.) Symbian provided technical documents describing use of its OS devices in a wireless client-server infrastructure that supported a wide variety of application/services. Such a client-server infrastructure is described in Randall which along with Forsyth describes use of this infrastructure to provide the Forums service.

45. Randall is directed to an “open, universal data infrastructure for wireless information devices” used within a wireless client-server infrastructure. (See Randall, 3:10-11.) Randall’s data infrastructure is designed for use “by application developers to write new applications by extending the attributes of the database” which forms the core of the data infrastructure, “using a *standard protocol*, as opposed to a closed and proprietary protocol.” (Randall, 3:10-13 (emphasis by italics in original).) One application discussed in Randall using its data infrastructure is Forums. (Randall, 40:15-41:14.)

46. Forsyth is directed to a “group communication method” using a “group object” to specify identities of group members. (See, e.g., Forsyth, 1:15-16, 2:17-27.) Forsyth’s “group object” is application independent and as such can be created in one application and then immediately used in other applications to specify a group for group communication. (Forsyth, 24:32.) Forsyth describes use of its “group objects” by Forums. (See, e.g., Forsyth, 2:41-60.) Forsyth provides a detailed discussion of Forums enhanced through the use of group objects and presents numerous use scenarios of this enhanced version of Forums. (See, e.g., Forsyth, 5:35-7:13 (Group Based Text Messaging (Scenario 1)), 7:18-57 (Discussion of Photos (Scenario 2)), 7:58-9:4 (Social Scheduling (Scenario 3)), 9:5-35 (Digital Memento from a User’s Birthday (Scenario 4)).)

47. I describe both Randall and Forsyth in further below.

## 1. Randall

48. Randall published on February 28, 2002. (Randall, Bibliography Page (43).)

49. Randall describes that a “large number of entirely new applications are [] being developed to take advantage of the powerful conflux of personal communications, wireless information transfer and computing made possible by the Symbian platform.” (Randall, 1:26-28.) Many applications “are client-server based (with the wireless information device itself constituting an advanced client), transferring information to and from servers, which are often internet or WAP servers.” (Randall, 1:28-30.) Randall explains that “a major barrier to the fast and efficient design and deployment of applications needing access to shared content is the need to custom build the data sharing infrastructure for each new application.” (Randall, 2:25-27.) Randall therefore presents “an open, universal data infrastructure for wireless information devices which can be used by application developers to write new applications by extending the attributes of the database using a *standard protocol*, as opposed to a closed and proprietary protocol.” (Randall, 3:10-13 (emphasis by italics in original).) Accordingly, “a huge range of new applications requiring access to shared content” can “be rapidly and cheaply constructed and rolled out since the data infrastructure which allows content to be shared is pre-fabricated.” (Randall, 3:17-19.)

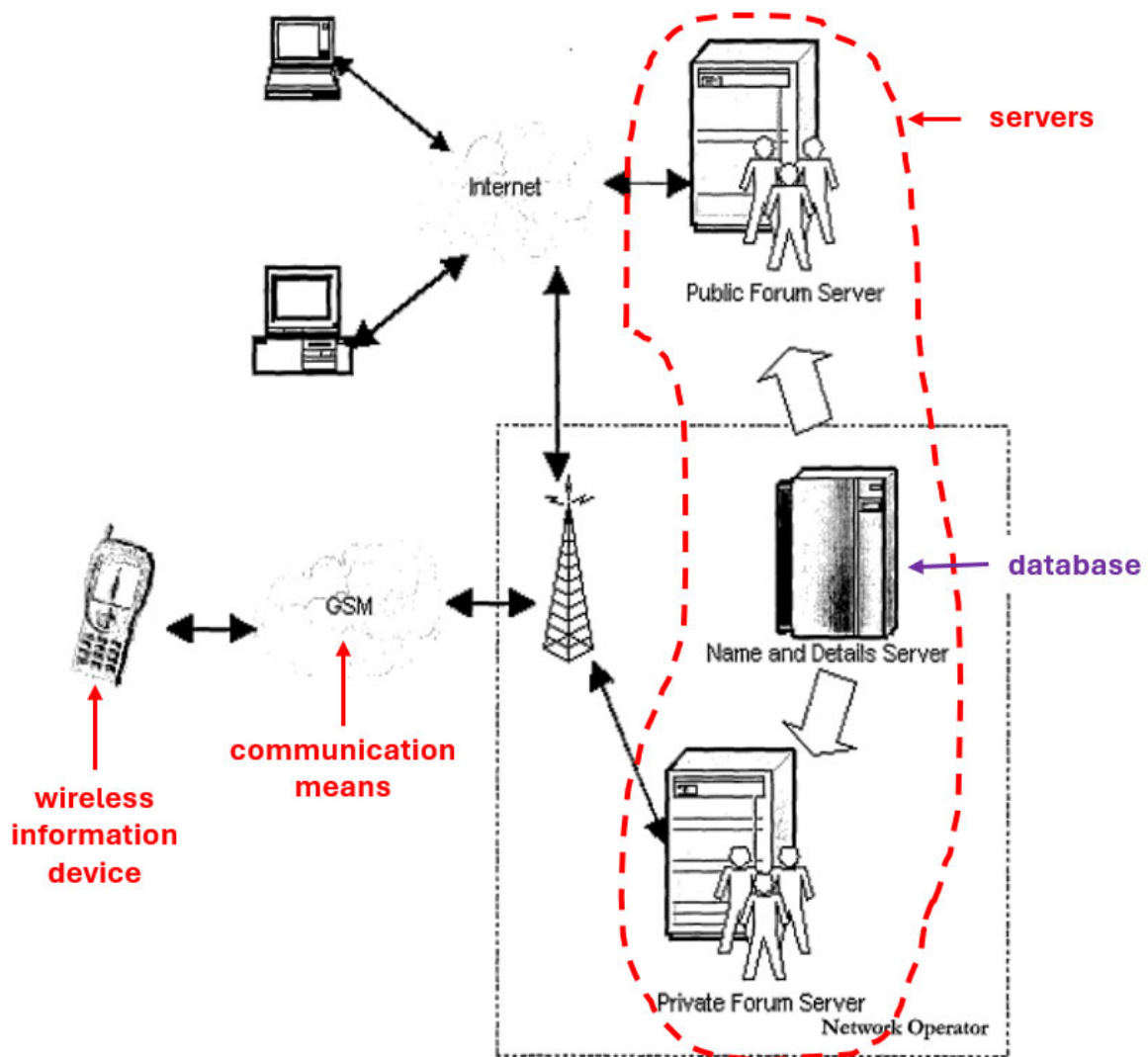
50. Randall also discusses various applications and services using a client-server framework with Symbian's data infrastructure. One such service is Forums. (See, e.g., Randall, 36:6-9.) Randall explains that "Forums also known as chat rooms are likely to be very popular on wireless devices, especially in light of the success of SMS." (Randall, 40:16-17.) Forums "allows several people to be part of a 'channel' or room, which is usually themed; for instance supporters of a football team may meet in a channel devoted to that team to discuss the team." (Randall, 40:17-19.) In use, a "user logs on to a forum" and "he or she will have a name associated with them, it may be a nickname instead of their real name." (Randall, 40:28-30.) "Once they are logged on they can exchange and receive messages with those also on the channel." (Randall, 41:1-2.)

51. Randall illustrates an exemplary network infrastructure supporting Forums in Figure 4 below<sup>2</sup>. The Symbian infrastructure, through services like Forums, "acts in effect like a fully personalised web portal, yet with the information links not consolidated in one general area, but instead distributed to the domains in which they are most likely to be relevant to a user." (Randall, 13:22-24.). The Symbian infrastructure, illustrated below, includes "(a) internet servers hosting extensible databases; (b) wireless information devices which can access information on these databases; and (c) applications resident on these devices which present a

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<sup>2</sup> Unless otherwise noted, all annotations to Figures have been added.

common set of APIs to plug-ins from commercial service providers.” (Randall, 7:16-19.) That is, to offer the Forums service, a Forums application resides on the wireless device and a corresponding program exists on the server. The client and server communicate via a “communication means” (i.e., set of protocols). As shown, Symbian Forums also supports the ability for non-mobile (fixed) computing devices to connect to the Forums servers over what is labeled the “Internet.” I provide an overview of wireless information devices, servers, communications means, and the extensible database below.



**Symbian Forums—Randall, Figure 4**

**a. Client Devices: Wireless Information Devices**

52. Wireless information devices used in Forums “run[] applications which access data by interacting with data component plug-ins supplied by commercial data services providers using a standardised set of APIs to access data.” (Randall, 9:6-8.) Randall does not specify the implementation details of the client-side

application. However, based on Randall’s disclosure of GSM and WAP, a POSITA would have understood the client-side application is either (1) a standalone application supporting WAP or GSM-messaging protocol (discussed below) or (2) a web browser (such as a WAP microbrowser). Wireless information devices may also “access the information held on the extensible databases running on central servers ... without the plug-ins.” (Randall, 9:11-13.) The “wireless information device (as well as web browsers) can access an entity’s database by sending to the server an unchanging pointer or key (an ‘ADS Number’) which is unique to that entity.” (Randall, 9:13-15.) Randall’s “ADS numbers are typically constructed using text strings and can be though[t] of as defining a namespace.” (Randall, 9:17-18.) The ADS number “in one implementation [is] an address on a web server – for example [www.indirect.com/Alice](http://www.indirect.com/Alice).” (Randall, 64:25-26.)

#### **b. Servers**

53. A Symbian Forums server “handle[s] all aspects of **storing and forwarding messages**<sup>3</sup> to the intended recipients.” (Forsyth, 3:20-22; 6:9-10 (“message server stores ... and forwards a copy of the message to each of the people on the address list”).) Randall describes the server-side architecture as the “ServML” Framework. (Randall, 45:1-7.) ServML “embraces existing standards and initiatives” and “uses standard data transports such as WAP or http for data access.”

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<sup>3</sup> Unless otherwise indicated, all emphasis by bold has been added.

(Randall, 45:14-15.) “Although the [Symbian] server architecture is in many ways identical to the present Internet, the usage model is quite different.” (Randall, 46:7-8.) Instead of passive data-viewing, “the Internet and its servers can be used by a mobile device to deliver enchanting services that far surpass the present PC-Internet model.” (Randall, 46:8-10.) “The result will be the ability of wireless information devices to interact closely with applications and data on the Internet to deliver high quality services.” (Randall, 46:12-13.) That is, in services like Forums, a program component exists on the server to provide the end-to-end service.

**c. Communication means**

54. Randall uses “existing transports” (communication means) for client-server communication such as “WAP to access the services on the server side” and “standard IP formats such as MIME, SMTP and HTTP” to “enable compatibility with Internet Messaging systems.” (Randall, 58:23-27.) In addition to WAP, Randall also discloses use of GSM-SMS for transport over the wireless network. (*See* Randall, 12:11-15 (disclosing that a server could “send a SMS”), 14:10-11 (“This form of data transfer could be via SMS or packet delivery in packet based systems.”), 15:16-17 (“Alice’s device directly transfers this data to Bob using an appropriate mechanism (such as SMS or IPv6 data packet) without any server intervention.”); *see also* Randall, 1:11-13 (“It includes devices able to communicate in any manner over any kind of network, such as GSM ...”), Figure 6.)

55. The disclosure of HTTP indicates that the communication means, from non-mobile computers shown in Figure 4, is the world-wide web (WWW) because HTTP operating on top of TCP/IP is the most commonly used protocol on the web and because Randall mentions the “web” at various places. (*See, e.g.*, Randall, 8:25-83 (disclosing “internet servers hosting extensible databases with attributes remotely extensible by application authors” where “[t]he database contains information from or relating to many different entities” and “in effect represents a web page containing information specific to that entity”), 64:25-28 (disclosing one implementation where “[a]n ADS Number is ... an address on a web server” (e.g., [www.indirect.com/Alice](http://www.indirect.com/Alice)) and “[t]his address is in effect a pointer to entity specific data held on the web server” (e.g., Alice’s information)); WAP Architecture, 13.)

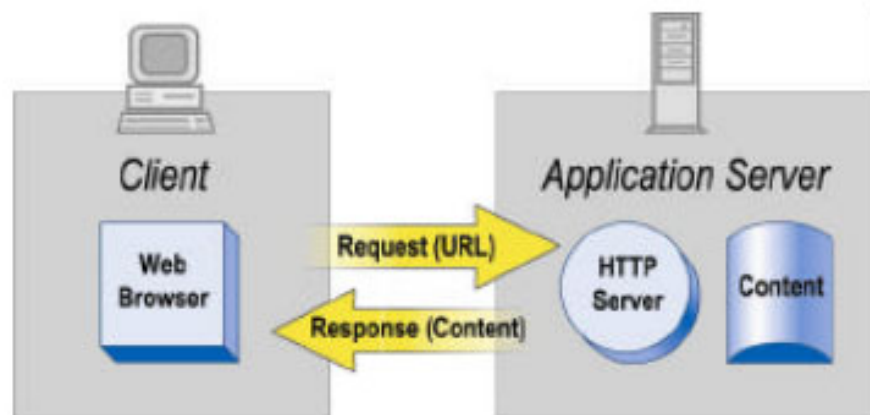
56. I discuss the WWW, WAP, and GSM-SMS communications means referenced in Randall below. I note that Randall does not provide details of these means because each was covered in standards documents and would have been well within the general knowledge of a POSITA by June 2002.

### (1) WWW

57. The Internet World-Wide Web (WWW) architecture provides “a very flexible and powerful programming model.” (WAP Architecture, 12.) Applications and content are “*browsed* by applications known as *web browsers*.” (WAP Architecture, 12 (emphasis by italics in original).) I note that browsers are not the

only programs that can initiate valid web transactions; any program that can create a TCP/IP connection and send a valid protocol request can get data from a web server. All servers and content on the WWW are named using an Internet-standard Uniform Resource Location (URL). (WAP Architecture, 12-13.)

58. As shown in Figure 1 from the WAP Architecture Specification published by the WAP Forum on July 21, 2001, a client device initiates a web transaction by making a request to a URL (e.g., through the web browser). If the requested content exists, it is returned by the web server (HTTP server) and displayed through the browser.

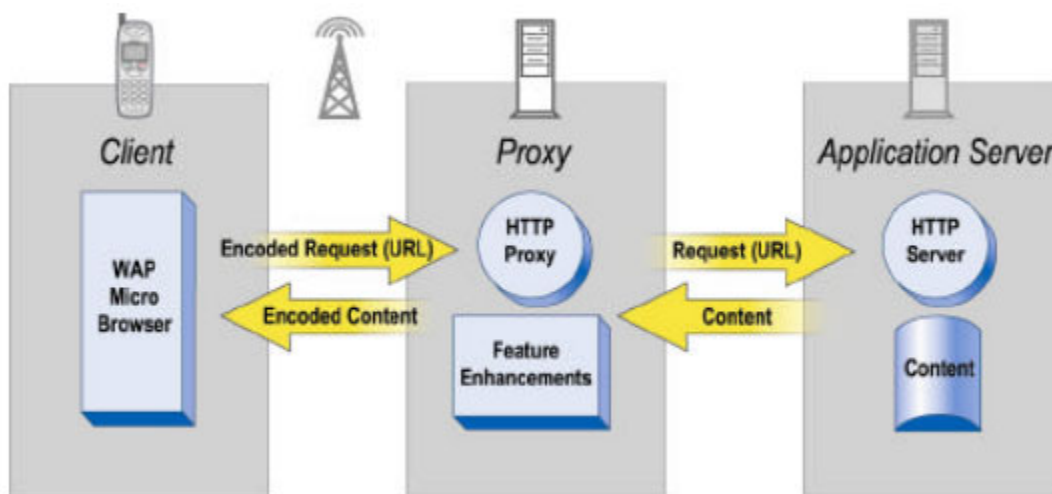


**WAP Architecture, Figure 1**

## **(2) WAP**

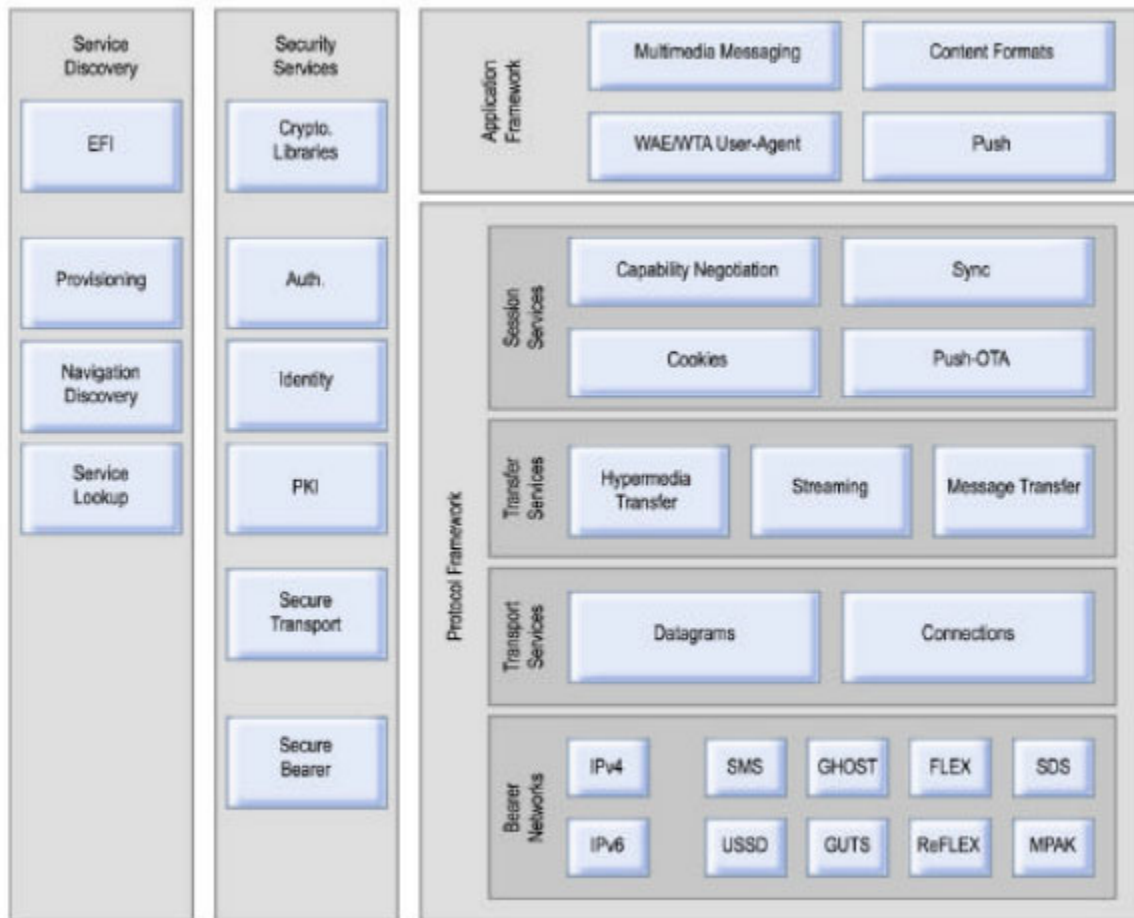
59. “WAP content and applications are specified in a set of well-known content formats based on the familiar WWW content formats.” (WAP Architecture, 13.) “Content is transported using a set of standard communication protocols” which are also “based on the WWW communication protocols.” (WAP Architecture, 13.)

As shown below in WAP Architecture Figure 3, a WAP microbrowser “in the wireless terminal co-ordinates the user-interface and is analogous to a standard web browser.” (WAP Architecture, 13.) However, as I noted above for the WWW, a client application can also be used instead of a microbrowser provided the application uses the WAP protocol stack to communicate with the server. WAP also provides a gateway (labeled as proxy) which “translates requests from a wireless protocol stack (e.g., the WAP 1.x stack—WSP, WTP, WTLS, and WDP) to the WWW protocols (HTTP and TCP/IP).” (WAP Architecture, 14.) The WAP proxy “allows content and applications to be hosted on standard WWW servers.” (WAP Architecture, 14.) WAP Architecture specification explains the “nominal use of WAP will include a web server, a WAP proxy and WAP client.” (WAP Architecture, 14.)



**WAP Architecture, Figure 3**

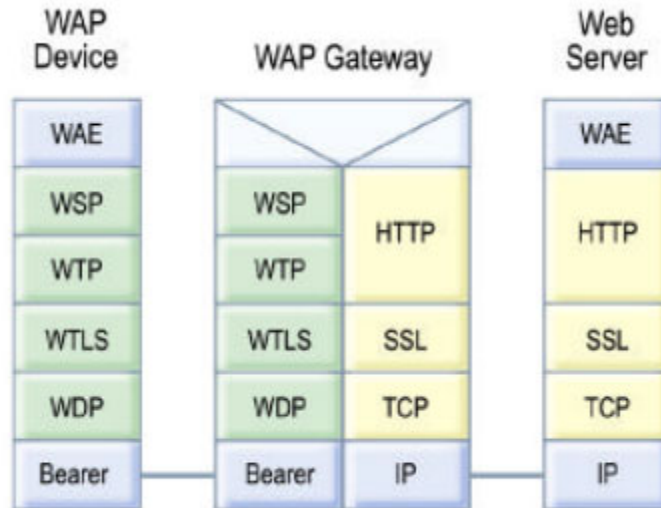
60. The WAP Stack, illustrated in WAP Architecture Figure 7 (below) is a layered protocol stack with each layer “provid[ing] a set of functions and/or services to other services and applications through a set of well-defined interfaces.” (WAP Architecture, 18.) At the lowest layer are the “Bearer Networks” which include short message (SMS), circuit-switched data, and packet data (e.g., IPv4, IPv6). (See WAP Architecture, 18.) The transport service layer provides datagram transport via the Wireless Datagram Protocol (WDP). (WAP Architecture, 19.)



**WAP Architecture, Figure 7**

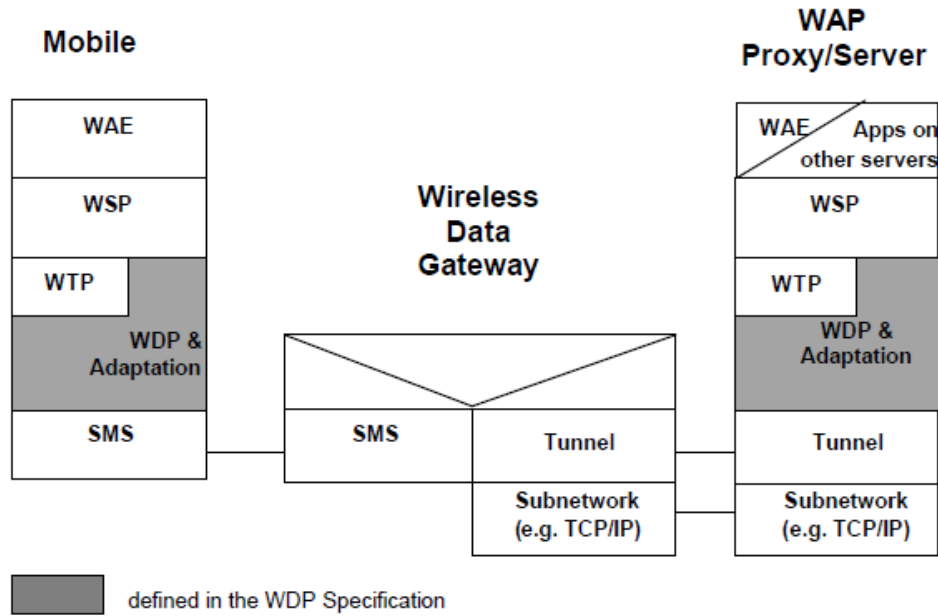
61. The transfer services provide streaming and message transfer via Wireless Session Protocol (WSP), Wireless Transport Protocol (WTP), and e.g., MMS Encapsulation protocol. (*See, e.g., WAP Architecture, 19.*) Session services provide “for the establishment of shared state between network elements.” (WAP Architecture, 19.) The application framework “provides a general-purpose application environment based on a combination of World Wide Web (WWW), Internet and Mobile Telephony technologies” with a primary objective “to establish an interoperable environment that will allow operators and service providers to build applications and services that can reach a wide variety of different wireless platforms in an efficient and useful manner.” (WAP Architecture, 20.) The application framework includes multimedia messaging support, support for well-defined data formats such as color images, audio, video, animation, etc. and push service for network initiated data transmission to “applications resident on WAP devices.” (WAP Architecture, 20.)

62. The following Figure from WAP Architecture is an illustrative configuration of a WAP 1.x gateway depicting the protocol stack at a WAP device, a WAP gateway, and a Web Server. As shown, the WAP gateway has an interface supporting the WAP stack allowing communication over a wireless network and an interface supporting the TCP/IP/HTTP stack allowing communication over the Internet.



**WAP Architecture, Figure 8**

63. The Wireless Datagram Protocol specification, issued June 14, 2001 by the WAP Forum (“WDP”; EX-1014) provides the protocol profiles for operating WDP between a mobile device and server over GSM, as specified by Randall. (*See* WDP, 18-20.) I reproduce Figure 4-4 which illustrates the protocol profile for the WDP layer when operating over the GSM-SMS bearer service. The other profiles in WDP specification such as GSM-USSD, GSM Circuit-Switched Data, GSM-GPRS, and GSM Cell Broadcast are equally applicable.



**WDP Specification, Figure 4-4**

### (3) GSM-SMS

64. The “technical realization of short message service (SMS)” for GSM is set forth in ETSI TS 123 040 (“GSM SMS Standard”; EX-1015). I refer to version 3.6.0 of this standard released in September 2001. In GSM-SMS messaging, a mobile station can either send messages (referred to as mobile originating) or receive messages (referred to as mobile terminating). Mobile originated short messages are sent to a server, called the Service Centre, “which acts as a store and forward centre for short messages.” (GSM SMS Standard, 6.)

#### **d. Database**

65. The internet servers of the Symbian infrastructure “host[] extensible databases with attributes remotely extensible by application authors using *a standard*

*protocol* over a network.” (Randall, 8:25-26 (emphasis by italics in original); *see* Randall, 4:9-12 (“Because the remote server acts as a data repository open to any application which can structure data in conformance with a meta-language schema, it is capable of being used as the central resource which allows data sharing for any new application.”).) The “database contains information from or relating to many different entities” and “is organised into information fields which an entity can complete or have completed.” (Randall, 8:26-28.) “Information is placed onto the database by an entity so that it can be readily shared with other entities: the database in effect represents a web page containing information specific to that entity.” (Randall, 8:29-31.)

66. The system database “is at the heart of much of the [Symbian] System’s extensibility.” (Randall, 66:3.) “Each piece of data on the server (the ‘i-server’) has an associated tag (or name) which defines its meaning.” (Randall, 66:3-4.) The tags, referred to as “i-tags”, “live under a unique category name that is allocated by Symbian to ensure that the global namespace is not polluted.” (Randall, 66:4-6.) Each piece of data further has “an associated list of groups (‘i-Groups[’]) allowed to access the data.” (Randall, 66:9-10.) As shown in Randall’s Figure 4, the Forums service accesses the database when processing received messages from client devices.

67. Randall's Table 1 (reproduced below) provides examples of "the kinds of information fields which are possible for an individual." (Randall, 8:28-29.) Table 1 "is an example application view" of the i-Data for a user, Alice. (Randall, 66:17.) "Some information is entered by Alice (e.g., her name). Other information is entered automatically (e.g., location information from Bluetooth pods)." (Randall, 66:18-19.) A view of this database is "provided on Alice's mobile device to allow her to manage her data." (Randall, 66:19-20.) Although Randall's example uses a person, Randall teaches that other entity types can have a record stored on the database.

Table 1

Alice's iData			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all
Company Name	work	Wireless Information Device gets R Us	all
Company Address	work	1 Science Park Rd, London, N1	all
Company E-mail	work	alice.edwards@Wireless Information Device getsrus.com	business 1
Company switchboard	work	0207 200 2000	all
Company Direct	work	0207 200 2012	business 1
Mobile Phone	work	0840 1234 567	business 1, friends
Home Phone 1	work	0208 341 1234	friends, family
Home Address	work	25 The Gables, Hampstead, London, NW3	family
My photo	photos		friends
Childhood photo	photos		family
Home note	notice	Sorry about dinner ☹	partner
Work note	notice	In a meeting with Tim till 7pm	work 1
My mood now	mood	Very tired	all
Tel Call Subject		"Dinner Tonight"	
Bluetooth:	location	Bluetooth pods 1000-1020 ...Sentinel room 2...	
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

Randall, Table 1

## 2. Forsyth

68. Forsyth issued on May 16, 2006 from U.S. Application 10/476,261, which is a National Stage Entry of PCT/GB02/02046, filed on May 2, 2002.

69. Forsyth enhances the functionality of the Symbian infrastructure through use of group objects which provide “a group communication method for a wireless information device.” (*See* Forsyth, 1:15-16.) Specifically, “the end-user of the device defin[es] the identities of the end-user[s] that form group.” (Forsyth, 2:4-5.) A group object is then constructed “that defines or references members of the group in a way that enables communication to take place from the device and all other members of the group.” (Forsyth, 2:6-9.) This group object is application independent. It can be “used by a first application running on the device to enable communication from the device to be made automatically to all members of the group.” (Forsyth, 2:10-12.) Another application running on the device, “unrelated to the first application,” can also use the same group object “to enable communication from the device to be made automatically to all members of the group.” (Forsyth, 2:13-16.)

70. Through the use of content and application independent group objects “activities performed in different applications but which also involve the same group can re-use the same object.” (Forsyth, 5:21-23.) “In this way, a user can organise people and entities (e.g., companies, clients etc.) into different group objects and can

re-use that group object in many different applications (e.g., instant messaging, voice, e-mail, etc).” (Forsyth, 5:23-26.)

71. Forsyth describes the use of its group objects in Symbian Forums which “is designed specifically to allow current and very popular internet type services (e.g. chat/instant messaging between groups) to be handle[d] effectively between mobile devices and to enable a new generation of group based communication services.” (Forsyth, 2:40-47.) “Forums offers many advantages to group communication since it is an easy to understand messaging tool that facilitates open discussion amongst a group and allows multiple chat-style conversations to take place simultaneously.” (Forsyth, 5:26-30.) Forums described in Forsyth is the Forums application described in Randall, enhanced through the use of group objects.

72. Forsyth describes several Scenarios that illustrate the operation of group-object enhanced Forums: Group Based Text Messaging (Scenario 1), (*see* Forsyth, 5:35-7:13), Discussion of Photos (Scenario 2), (*see* Forsyth, 7:18-57), Social Scheduling (Scenario 3), (*see* Forsyth, 7:58-9:4), and Digital Memento from a User’s Birthday (Scenario 4), (*see* Forsyth, 9:5-35). Forsyth also describes numerous services, features, and functions which that can be used within each individual Forum. I discuss these Scenarios and representative services/features/functions in further detail throughout my analysis.

### **3. Motivation to Combine Randall and Forsyth**

73. A POSITA would have been motivated to combine Forsyth’s teachings regarding the use of group objects and additional features and functions to enhance the Forums service taught by Randall. The resulting combination, utilizing Randall’s Forums network infrastructure, provides a Forums service having a client-based program and a server-based program, which utilizes Randall’s extensible database. The Forums service in the combination utilizes Forsyth’s group objects as well as the features and functions taught by both Randall and Forsyth to provide an enhanced Forums service.

74. Randall and Forsyth are both in the same field of the ’336 patent—“network-based communication systems.” (*See* EX-1001, 1:24-26 (“The present invention relates generally to network-based communication systems, and more particularly to techniques for information content management in such systems.”); Randall, 40:16-18 (Forums are “also known as chat rooms” and “allow[] several people to be part of a ‘channel’ or room”); Forsyth, 1:15-16 (“This invention relates to a group communication method for a wireless information device.”).) Randall and Forsyth are also reasonably pertinent to problems addressed by the ’ 336 patent, namely “overcom[ing] one or more of the drawbacks of” conventional techniques for content sharing for mobile devices. (*See, e.g.* EX-1001, 2:1-4.)

75. A POSITA would have been motivated to make the above combination because Forsyth explicitly motivates the combination. Forsyth stresses the benefits of group objects noting that its “invention is founded on the insight of providing an object which defines solely the identities of members of a group” and “as such, it is application (and hence also content) independent.” (Forsyth, 2:24-27.) “This means that a group created in one application (e.g. for text based instant messaging) can immediately be used in other applications (e.g. a diary/agenda application could use that same group as the recipient list for an invitation to a meeting).” (Forsyth, 2:27-32.) “Similarly, data specifically created for one group and in one application can be re-used in a different application and the data viewed appropriately for that different application.” (Forsyth, 2:34-37.) Forsyth further describes the “strengths” of Forums application utilizing group objects “over conventional communications.” (*See* Forsyth, 2:54-57.) These relative strengths are illustrated in Forsyth’s Figure 1 (reproduced below).

<b>Capability:</b>	<b>Can you create a discussion between group members on your own device?</b>  (Important since it facilitates setting up a group discussion)	<b>Push delivery?</b>  (Push is more convenient to mobile users)	<b>Is it possible to retain a long term record of exchanges between group members?</b>  (An important attribute for many new kinds of services)	<b>Can you deliver messages to all members of a group, or is it restricted to one to one?</b>  (Clearly critical to group based messaging)	<b>Do all group members see the same, unitary message thread, or are there instead many separate individual messages?</b>  (A single, unitary message entity (e.g. a thread) makes message organisation and navigation far easier.)	<b>If a recipient is off-line (e.g messaging app not open), are they alerted anyway?</b>  Potentially very important for mobile useage because of the high proportion of time users may not be on-line (i.e. actively using their messaging application).
<b>Web bulletin board</b>	No	No	Yes	Yes	Yes	No
<b>Chat/instant messaging</b>	Yes	Yes	No	Yes	Awkward	No
<b>Group e-mail</b>	Yes	No	Awkward	Yes	No	No
<b>SMS</b>	Awkward	Yes	No	Awkward	No	Yes
<b>Forums</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

Table 1

Forsyth, Figure 1

76. Therefore, a POSITA would have been motivated to combine Forsyth's teachings with Randall's Forums provided on the Symbian network infrastructure with an extensible infrastructure to obtain the advanced capabilities provided by Forsyth.

77. Additionally, a POSITA when considering Randall's Forums service, would have been motivated to search for other references directed to Forums and its enhancements. As I noted above, Forsyth was originally assigned to Symbian. A POSITA would have been motivated particularly to search for references associated with Symbian for implementation details and enhancements and would have been led to Forsyth.

78. Finally, the combination is nothing more than the application of a known technique (Forsyth's group objects, features and functions) to a known method/product (Randall's Forums service implemented with extensible database infrastructure) which was ready for further improvement.

79. A POSITA would have had a reasonable expectation of success in the combination and the results of the combination would have been predictable because both references are directed to the same service, Forums, are based on devices using the Symbian OS and use features and functionality associated with Symbian. The Symbian operating system was well-known and Symbian offered many technical developer resources prior to the earliest possible priority date of the ' 336 patent. (*See, e.g.*, EX-1017; Allin, 4-6, 229-31; Jipping, 11-14.)

#### **B. Independent Claims 1, 11, 15**

80. The '336 patent includes three server-side independent claims—a method claim (claim 1), an apparatus claim (claim 11) and a system claim (claim

15) having substantially overlapping processing limitations [1A]-[1F]/[11B]-[11G]/[15B]-[15G]. Because of the overlap, I address these limitations together in §IV.B.4. The unique limitations of the claims are provided in the table below.

Claim 1	Claim 11	Claim 15
[1P] A method for managing information content in a network-based communication system, the method comprising the steps of:	[11P] An apparatus for use in managing information content in a network-based communication system, the apparatus comprising:	[15P] A network-based communication system, comprising:
	[11A] a processing element comprising a processor coupled to a memory;	[15A] a plurality of servers configured to communicate over a network;

## 1. Preambles

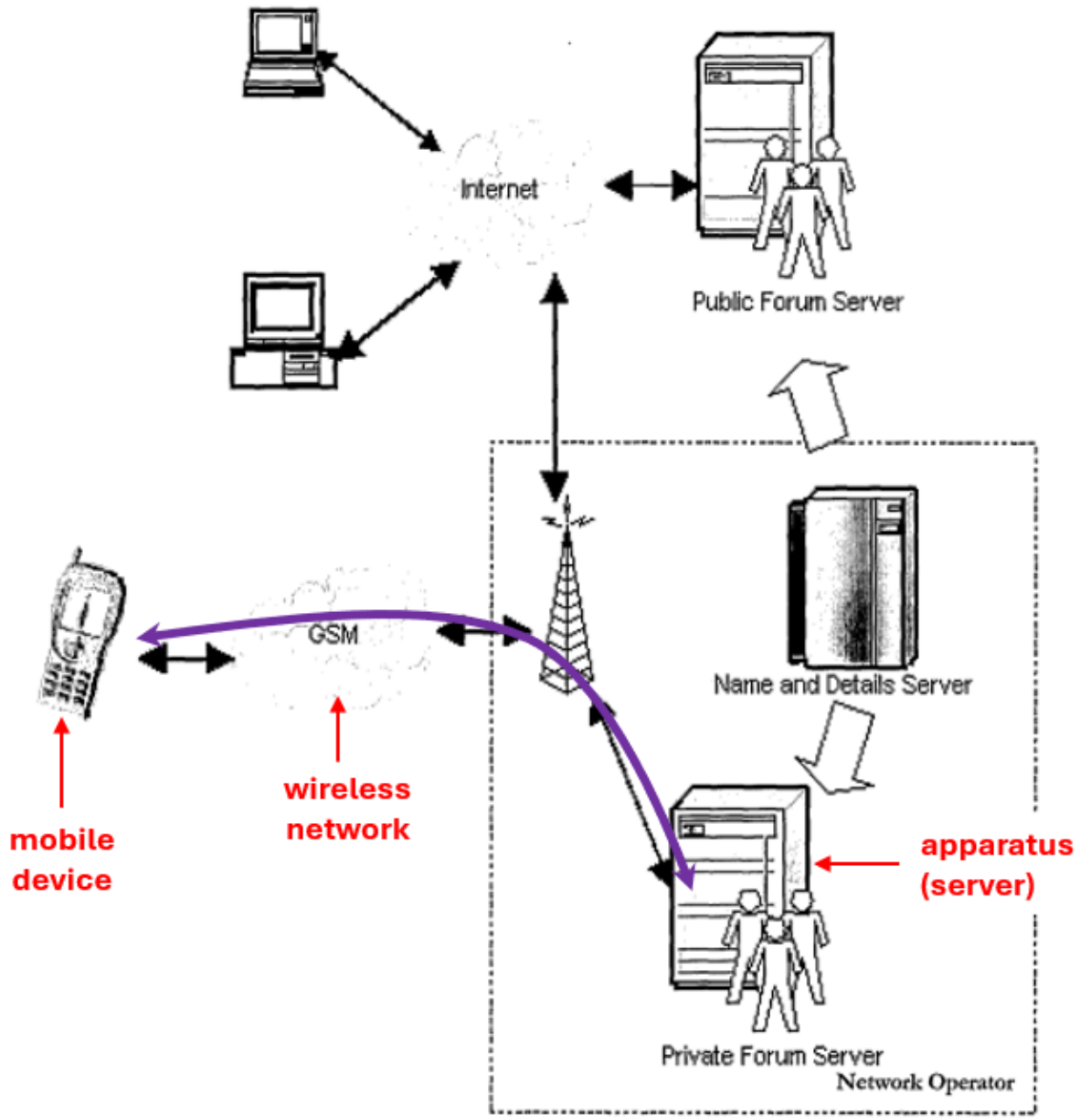
### a. Preamble [1P]: “method”

[1P] A method for managing information content in a network-based communication system, the method comprising the steps of:
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81. Forsyth describes Forums as “new approach to group communication ... designed specifically to allow current and very popular internet type services (e.g. chat/instant messaging between groups) to be handle[d] effectively between mobile devices and to enable a new generation of group based communication services.” (Forsyth, 2:40-47.) As explained by Forsyth, “Forums offers many advantages to group communication since it is an easy to understand messaging tool that **facilitates**

**open discussion amongst a group and allows multiple chat-style conversations to take place simultaneously.”** (Forsyth, 5:27-30.)

82. Forums is implemented “*in a network-based communication system.*” As illustrated in Randall’s Figure 4, the Forums network infrastructure includes a server hosting Forums (e.g., a Private Forum Server). In Forums, the server “handles contacting each group member, storing messages, allowing message to be read, sending, receiving and distributing messages.” (Forsyth, 3:28-31, 3:31-33 (“The central server can also act as a store for resources which group-members may wish to discuss and share (e.g. personal information, personal photographs, music, web sites etc”).) That is, Forums “*manag[es] information content*” shared among Forum members.



**Symbian Forums—Randall, Figure 4**

83. Forums also provides a user with the capability to “*manag[e] information content.*” Randall adds a “universal data infrastructure for wireless information devices” to the Symbian client-server infrastructure used to provide Forums. (See Randall, 3:10-11.) A core component of this data infrastructure (“the

heart”) is the database located on a “remote server” which “acts as a data repository open to any application which can structure data in conformance with a meta-language schema” and “is capable of being used as the central resource which allows data sharing for any new application.” (Randall, 4:9-12; *see also* Randall, 66:1-70:16.) Forsyth similarly mentions that a central server “act[s] as a store for resources which group-members may wish to discuss and share (e.g., personal information, personal photographs, music, web sites etc.)” (Forsyth, 3:31-34.) Although Randall illustrates the database as a standalone server, a POSITA would have understood and been motivated to implement the database functionality on the Forums server both for ease of maintenance and to reduce equipment costs.

84. Through Randall’s data infrastructure, used with the Forums server, a user “can enter personal information onto a part of the data structure associated with that [user].” (Randall, 4:24-25.) Specifically, in Forums, a user manages her user profile and stored content via a webpage associated with a link assigned to the user (referred to as the ADS number; e.g., “www.indirect.com/Alice”). The user also defines access rights through this webpage to “[e]ach piece of data on the server” by specifying the “list of groups (‘i-Groups’) allowed to access the data.” (Randall, 66:3-10.) Information stored in the centralized database includes content. Randall explains that “[u]sers must be able to share any of their content or activities with individuals and groups with ease.” (Randall, 32:21-22.) Specifically, “[u]sers must

be able to share content local to the device and have any [content] uploaded to a server handled automatically.” (Randall, 32:26-27.) Randall’s Table 1 (reproduced below) shows an exemplary view of the content managed for a user, Alice. As shown in Table 1, a piece of stored data “has an associated tag (or field/attribute)” such as “My photo” or “Childhood photo.” Randall explains that the database is not limited to the tags (field/attribute) used in Alice’s record and the “application owning the category is free to invent whatever tags it chooses and to extend the database.” (Randall, 66:10-14.)

Table 1

Alice's iData			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all
Company Name	work	Wireless Information Device gets R Us	all
Company Address	work	1 Science Park Rd, London, N1	all
Company E-mail	work	alice.edwards@Wireless Information Device getsrus.com	business 1
Company switchboard	work	0207 200 2000	all
Company Direct	work	0207 200 2012	business 1
Mobile Phone	work	0840 1234 567	business 1, friends
Home Phone 1	work	0208 341 1234	friends, family
Home Address	work	25 The Gables, Hampstead, London, NW3	family
My photo	photos		friends
Childhood photo	photos		family
Home note	notice	Sorry about dinner ☹	partner
Work note	notice	In a meeting with Tim till 7pm	work 1
My mood now	mood	Very tired	all
Tel Call Subject		"Dinner Tonight"	
Bluetooth	location	Bluetooth pods 1000-1020 ...Sentinel room 2...	
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

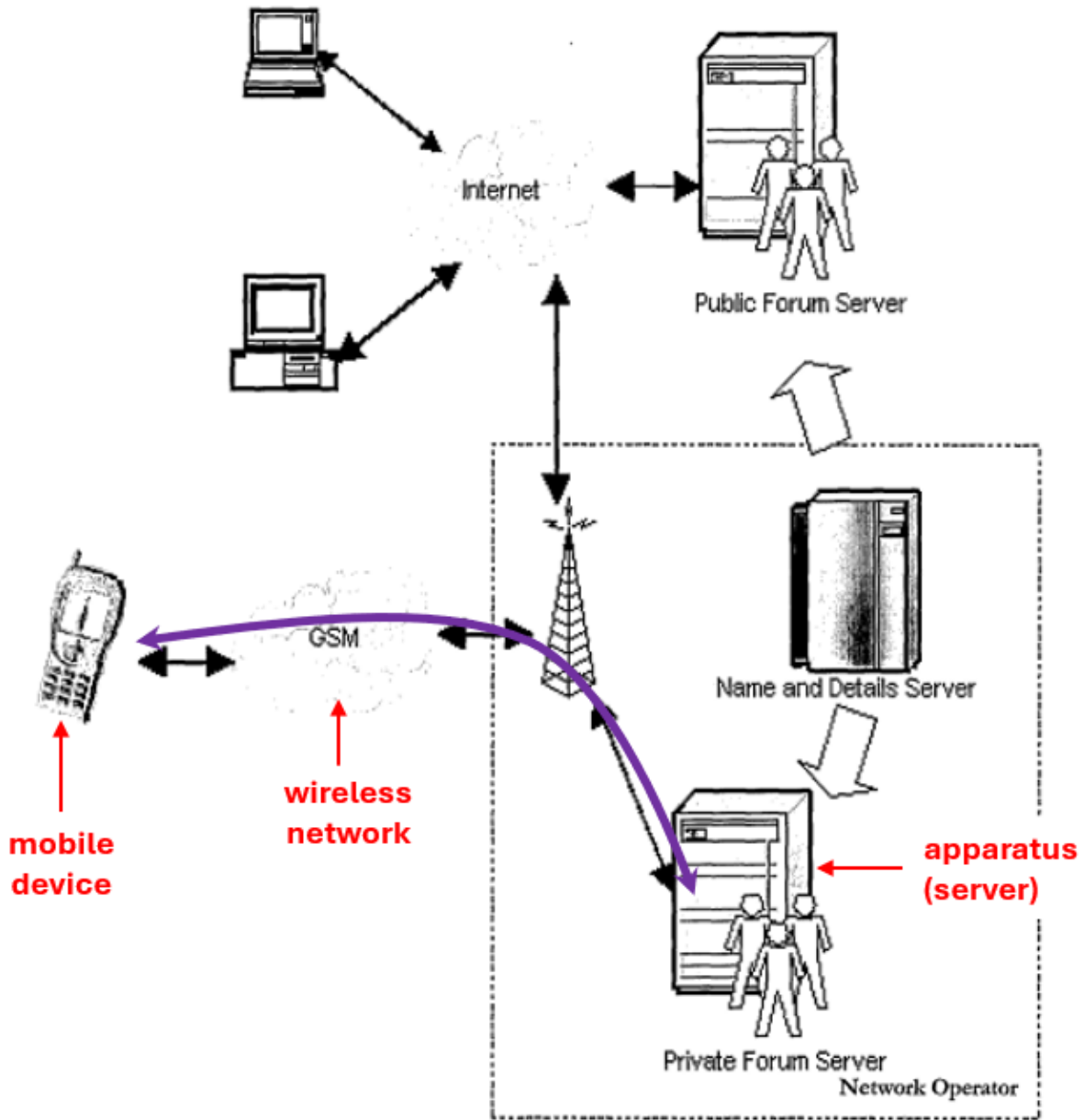
Randall, Table 1

85. The combination of Randall and Forsyth therefore discloses a “*method for managing information content in a network-based communication system*” comprising the steps recited in limitations [1A]-[1F] as discussed in §VI.B.4.

**b. Preamble [11P]: “apparatus”**

[11P] An apparatus for use in managing information content in a network-based communication system, the apparatus comprising:
---

86. The combination of Randall and Forsyth discloses a server which is an “*apparatus*” [11P]. As illustrated in Randall’s Figure 4, the Forums network infrastructure includes a server hosting Forums (e.g., a Private Forum server). In Forums, the server “handles contacting each group member, storing messages, allowing message to be read, sending, receiving and distributing messages.” (Forsyth, 3:28-31, 3:31-33 (“The central server can also act as a store for resources which group-members may wish to discuss and share (e.g. personal information, personal photographs, music, web sites etc).”).) For this and the reasons I discussed in §IV.B.1.a, the “*apparatus*” (server) used to provide the Forums service is “*for use in managing information content in a network-based communication system.*”



Symbian Forums—Randall, Figure 4

c. Preamble [15P]: “network-based communication system”

[15P] A network-based communication system, comprising:

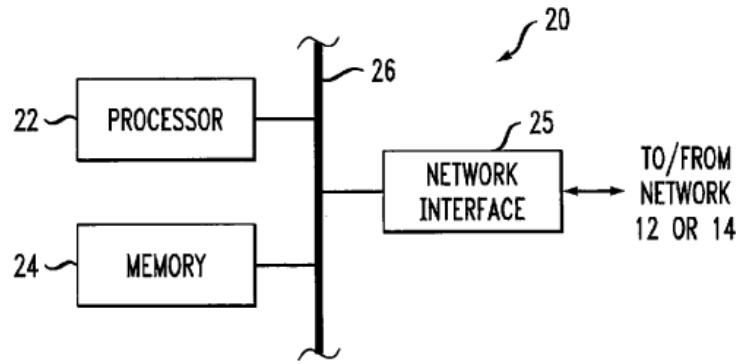
87. As I discussed in §IV.B.1.a, Forums is implemented as a “network-based communication system.”

2. “*Processing element*” [11A]

[11A] a processing element comprising a processor coupled to a memory;
--

88. Claim 11 further includes limitation [11A] which recites the high-level architecture of the “*apparatus*.” Neither Randall nor Forsyth explicitly disclose the architecture of the server. However, it would have been obvious to a POSITA that an “*apparatus*” (server) includes “*a processing element comprising a processor coupled to a memory*” based on the teachings of Randall and Forsyth and general knowledge of a POSITA.

89. The ’336 patent provides a high level “implementation” of an information processing element, shown in Figure 1B, applicable to mobile devices, servers, and user terminals. (EX-1001, 4:52-56.) The implementation has only three components—a processor 22, a memory 24, and a network interface 25 which “provides an interface to the wireless network 12 or Internet 14.” (EX-1001, 4:56-5:2.)



**'336 Patent, Figure 1B**

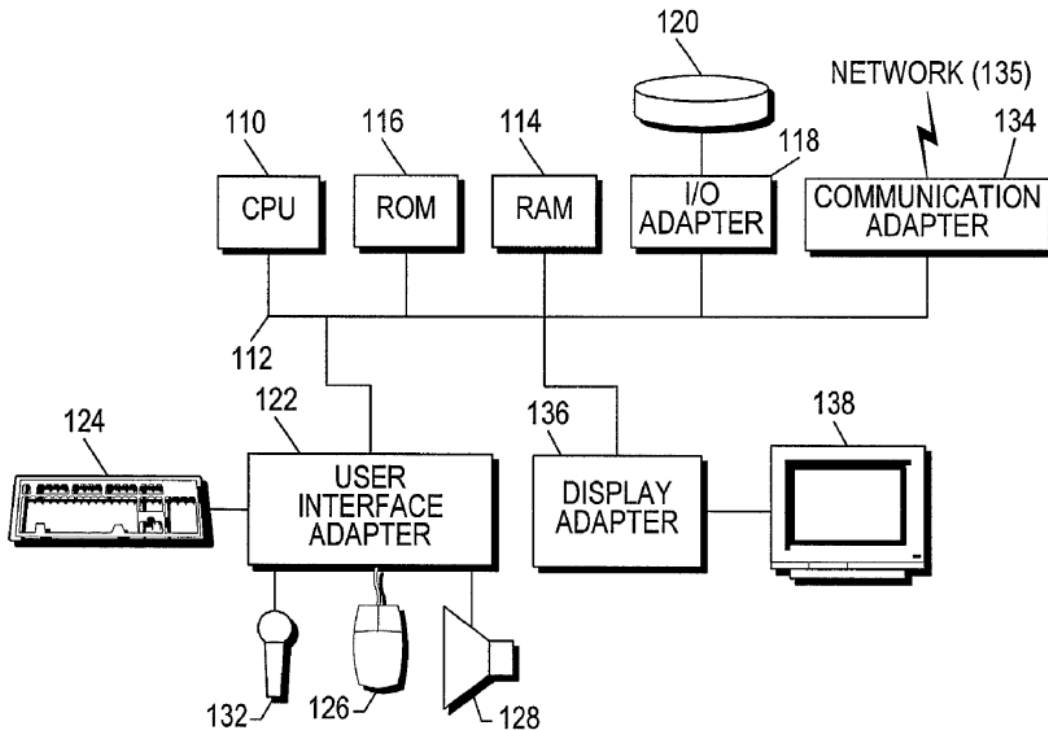
90. Both Randall and Forsyth describe that the server performs processing actions and therefore has a “*processing element*.” For example, Forsyth explains the server “handles **contacting each group member**, storing messages, **allowing message to be read, sending, receiving and distributing messages**.” (Forsyth, 3:28-31.) And Randall specifically mentions “server side software” (Randall, 57:4) and “server side message handling **applications**” (Randall, 38:24). A POSITA would have understood that software and applications execute on “*a processor*” within the “*processing element*.” The server acts as “a store for resources which group-members may wish to discuss and share (e.g., personal information, personal photographs, music, web sites, etc).” (Forsyth, 3:31-34.) The storage at the server is “*memory*.” (See, e.g., EX-1001, 4:64-67 (memory includes “any other type of storage device”).)

91. Should PO contend “*memory*” of the “*processing element*” must store instructions executed by the processor, such memory would have been obvious, if

not inherent in Randall and Forsyth which both teach software running on the server. Because the software/applications executing on a processor are stored in memory and also access information stored locally in memory, a POSITA would have understood Randall and Forsyth further disclose or suggest the “*processor [is] coupled to a memory.*”

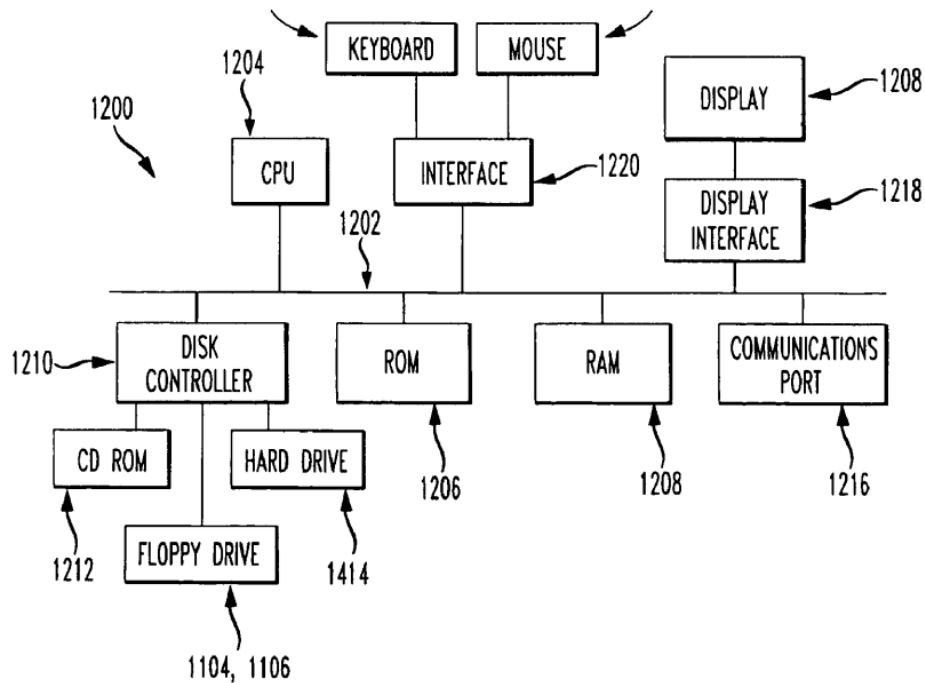
92. Moreover, it would have been within the general knowledge of a POSITA that a server includes “*a processor coupled to a memory.*” As I discussed in §III.B a POSITA has a “bachelor’s degree in electrical engineering, computer science, or similar field, with two years of experience in developing and implementing network-based computer systems that interact with mobile devices, such as systems for storing and retrieving information over the Internet or communicating using the Web using wireless mobile devices.” The high level design of a processing element shown in the ’336 patent would have been well-known to such an individual. I provide a sampling of examples below.

93. **U.S. Patent 7,802,207 to Agboatwalla et al. (“Agboatwalla”; EX-1024):** Agboatwalla discloses a “typical hardware configuration” of a workstation. (Agboatwalla, 5:40-42.) The configuration includes CPU 110, RAM 114, ROM 116 and “communication adapter 134 for connecting the workstation to a communication network.” (Agboatwalla, 5:45-55.)



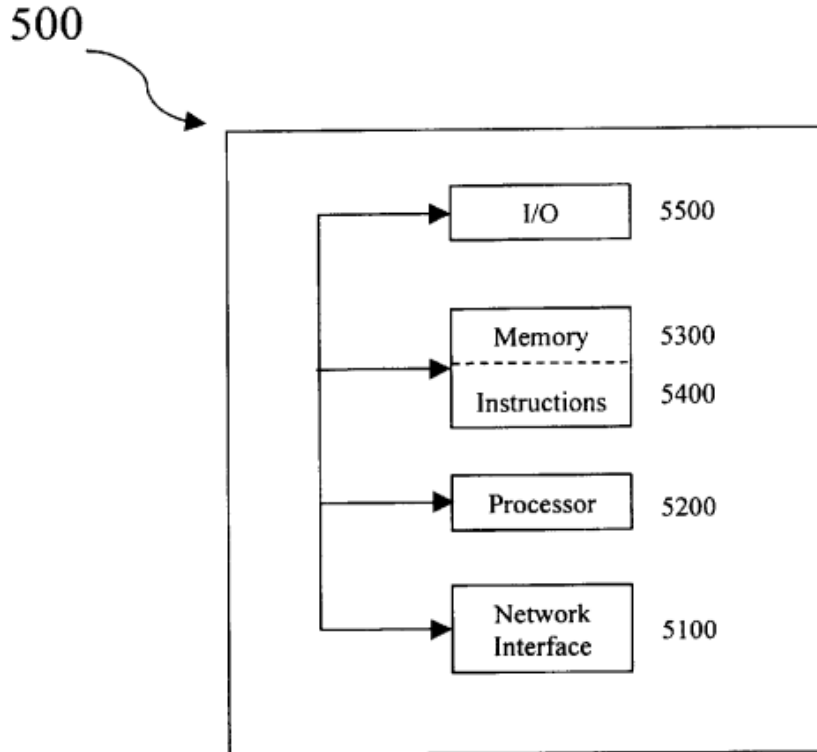
**Agboatwalla, Figure 1**

94. **U.S. Patent 7,574,486 to Cheng et al. (“Cheng”; EX-1025):** Cheng discloses “a block diagram of the internal hardware of [a] computer system”, illustrated in Figure 12 (below). (Cheng, 23:26-27.) The computer system includes a CPU 1204, ROM 1206, RAM 1208, and a communications port 1216 for communications with a transport medium such as wireless communication network. (Cheng, 23:29-51.)



Cheng, Figure 12

95. **U.S. Patent 6,788,949 to Bansal (“Bansal”)**: Bansal explains that “a typical information device” which can “symbolize” a server, illustrated in Figure 5 (below), includes “**well-known** components such as one or more network interfaces 5100, one or more processors 5200, one or more memories 5300 containing instructions 5400, and/or one or more input/output (“I/O”) devices 5350.” (Bansal, 6:66-7:5.)



**Bansal, Figure 5**

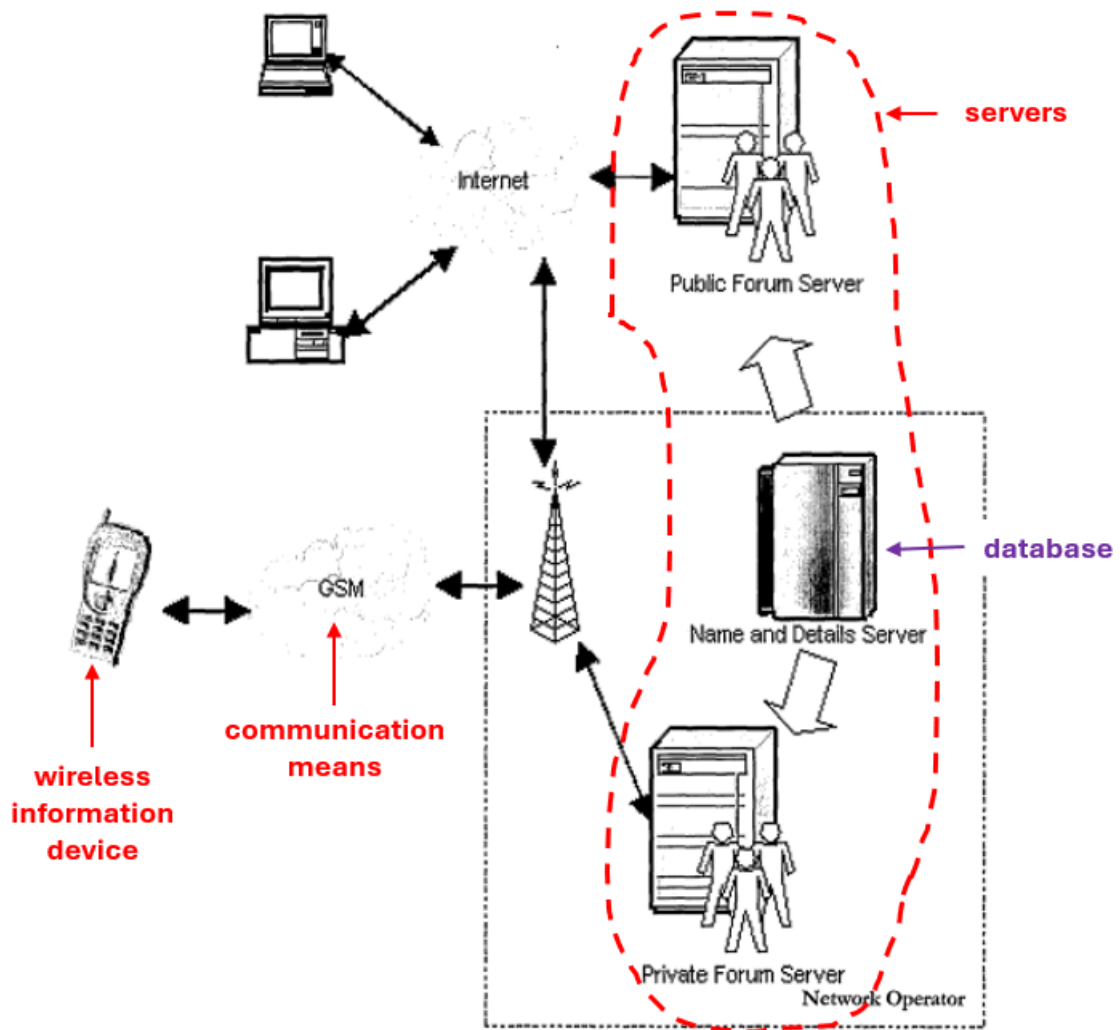
96. Additionally, Pelkey and Eck which I discuss in Ground 2 discloses a server having a CPU, memory, and network interface. (See, e.g., Eck, 3:46-47; Pelkey, 5:7-14.)

**3. “Plurality of Servers” [15A]**

[15A] a plurality of servers configured to communicate over a network;

97. The combination of Randall and Forsyth discloses a “*network-based communication system*” comprises “*a plurality of servers configured to communicate over the network*” [15A]. The Forums service is based on a client-server model and is implemented on a network such as the one illustrated in

Randall's Figure 4 (below). Through this network architecture, services, like Forums "act[] in effect like a fully personalised web portal, yet with the information links not consolidated in one general area, but instead distributed to the domains in which they are most likely to be relevant to a user." (Randall, 13:22-24.) The Symbian Forums infrastructure, illustrated below, includes "*a plurality of servers*": "internet servers" hosting individual Private and Public Forums (as enhanced by Forsyth) and "internet servers" hosting extensible databases (as taught by Randall). (Randall, 7:16-19.) As shown, wireless devices access these servers/databases via the wireless network and non-mobile devices access these servers via Internet respectively. That is, this "plurality of servers" is "configured to communicate over a network." A POSITA would have been motivated, e.g., to implement the functionality associated with providing Forums and the functionality of hosting a database on a single server to obtain the benefits of more efficient maintenance and cost savings of reduced amount of network equipment. Therefore, one of these plurality of servers, e.g., hosting the Private Forums and the user extensible database, performs the processing steps of claim 15. Other servers are also provided, e.g., to host other forums (e.g., the Public Forum server).



Symbian Forums—Randall, Figure 4

#### 4. Processing Limitations

##### a. “Providing a First Web-Based Interface” [1A]-[1B]/[11B]-[11C]/[15B]-[15C]

Claim 1	Claim 11	Claim 15
[1A] providing	[11B] the processing element providing	[15B] at least one of the servers providing
a first web-based interface accessible to a first user,	at least a portion of a first web-based interface accessible to a first user,	
[1B]/[11C]/[15C] the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users; and		

98. Limitations [1A]-[1B], [11B]-[11C] and [15B]-[15C] recite a number of different concepts. For ease of discussion, in this section, I first address the “*mobile information channel*” portion of the limitation. I next discuss “*providing a first web-based interface*” components of the limitation.

##### (1) “mobile information channel”

99. As I discussed in §III.D.2, the term “*mobile information channel*” was proposed for construction in the MDT-Meta-Litigation and in the Meta-MDT-IPR. I reproduce these constructions again below. The combination of Randall and Forsyth discloses a “*mobile information channel*” under both constructions.

<b>MDT-Meta-Litigation</b>	
PO	plain and ordinary meaning; alternatively, “a medium for transferring information that allows mobile device users to author content”
Meta	“a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site”
<b>Meta-MDT-IPR</b>	
PO	“a component of a mobile site configured to permit a wide variety of mobile devices to send and receive content over a wireless network”
Meta	“a medium for transferring information that allows mobile device users to author content”

100. Within the Forums service, a user has the ability to create an individual Forum open only to members of a specified group (a Private Forum) or open to the public (a Public Forum). (Forsyth, Appendix 1, 13:60-18:18; Randall, 24:13-17.) Randall describes that “a forum allows **several people** to be part of a ‘**channel**’ or room, which is usually themed; for instance supporters of a football team may meet in a channel devoted to that team to discuss the team.” (Randall, 40:17-19; *see also* 82 (“Old Friends: A function that easily lets you create circles of friends you wouldn’t normally keep in touch with – for example people you met on holiday, or at college etc.” and “[y]ou simply create & name a group of people, which you can then text in 6 months or 6 years time”; “New circles of people: A function that lets you create circles of contacts of people with similar interests who you may never have met before, but have picked up their text details on a website where you share

interests in common eg [sic] a particular sport or hobby”); Randall, 83 (“Text Mates: A service that lets a group of friends communicate at any time of the day via a chat site on their mobile phones”).)

101. As I mentioned above, “Forums ... **facilitates open discussion amongst a group and allows multiple chat-style conversations to take place simultaneously.**” (Forsyth, 5:27-30.) Forsyth describes several examples of an individual Forum being used to author and share content among members: Group Based Text Messaging (Scenario 1) describing authoring and sharing text messages (5:35-7:13), Discussion of Photos (Scenario 2) describing capturing and sharing photos (7:18-57), Social Scheduling (Scenario 3) describing authoring and sharing messages and capturing and sharing links (7:58-9:4), and Digital Memento from a User’s Birthday (Scenario 4) describing authoring and sharing messages, and capturing and sharing photos, audio files, and documents (9:5-35).

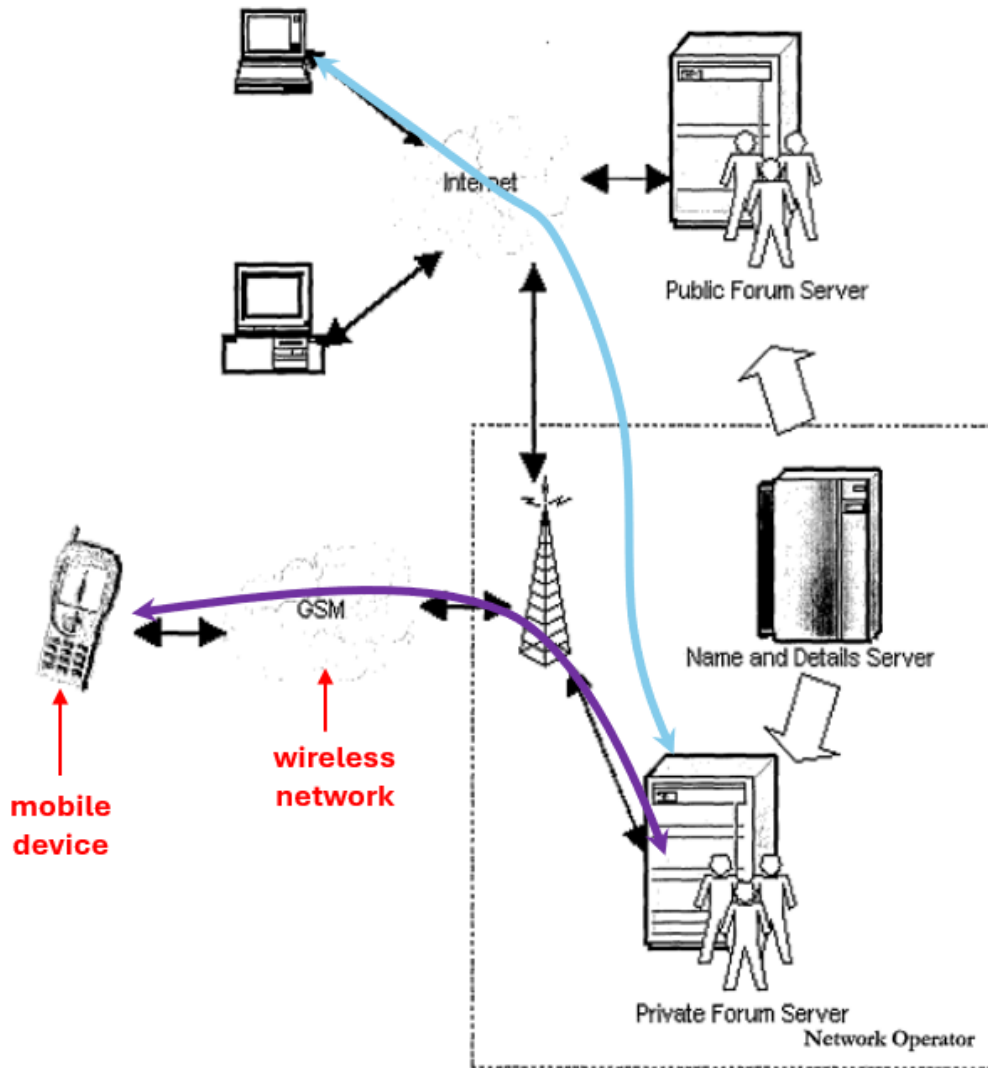
102. Each individual Forum (and its supporting network infrastructure) is a “medium for transferring information that allows users to author content”, meeting PO’s MDT-Meta-Litigation construction and Meta’s Meta-MDT-IPR construction. A Forum is also a “component of a mobile site [Forums running on the server] configured to permit a wide variety of mobile devices to send and receive content over a wireless network”, meeting PO’s Meta-MDT-IPR construction. The

combination of Randall and Forsyth therefore discloses a “*mobile information channel for sharing content between the first user and one or more additional users.*”

**(2) “providing a first web-based interface”**

103. The combination of Randall and Forsyth discloses “*providing [at least a portion of] a first web-based interface accessible to a first user.*” The Forums service is based on a client-server model implemented on a network such as the network illustrated in Randall’s Figure 4 (below). (Randall, 40:15-41:2.) The Forums infrastructure includes “internet servers” hosting individual Private and Public Forums (as enhanced by Forsyth) and “internet servers” hosting extensible databases (as taught by Randall). I note that one or all of the illustrated servers could be provided as a single server by a Forums provider to achieve benefits of more efficient maintenance and reduced equipment costs. Both Randall and Forsyth disclose that the wireless information devices communicate with these servers “in any manner over any kind of network, such as GSM or UMTS, CDMA and WCDMA mobile radio, Bluetooth, 802.11, [and] IrDa etc.” (Forsyth, 1:16-25; *see* Randall, 1:11-13.) Randall describes the use of “existing transports” (communication protocols) for client-server communication over these networks such as “WAP to access the services on the server side” from the wireless devices and “standard IP formats such as MIME, SMTP and HTTP” to “enable compatibility with Internet Messaging systems.” (*See* Randall, 58:23-27.) That is, the server

includes a GSM/WAP interface for communicating with mobile devices over the wireless network and a different interface (e.g., SMTP or HTTP) for communicating with non-mobile devices over the Internet.



**Symbian Forums—Randall, Figure 4**

104. The Forums servers, providing the server side processing for Forums (and the processing for each individual Forum created by users of Forums), are

designed to be “web portals” and as such Forums is a web-based service. Specifically, Forums “act[] in effect like a fully **personalised web portal**, yet with the information links not consolidated in one general area, but instead distributed to the domains in which they are most likely to be relevant to a user.” (Randall, 13:22-24.) Forums establishes this “web portal” architecture through (1) the use of “standard data transports such as WAP or http for data access”, which provide a “*web-based*” communication interface to the server and (2) through “webpages” provided by the Forum server to mobile devices causing the display of Forums user interfaces on the mobile device. The presence of these “webpage” downloads is confirmed by the use of Randall’s ADS naming scheme which uses web server addresses. (See, e.g., Randall, 64:27-28.) Each of the user interfaces associated with the “webpage” download from the server is also a “*web-based interface*.”

105. Use of WAP teaches or at least suggests to a POSITA that the user interfaces of Forums are provided directly or derived from information downloaded from the server (e.g., via a webpage download). WAP, which I discussed in §IV.A.1, “enables the supplying of advanced Internet services into digital mobile stations of wireless communication networks” and is “based on the WWW communication protocols” and “WWW content formats.” (Salmi, 6:63-65; WAP Architecture, 13.) The WAP server “allows content and applications to be hosted on standard WWW servers.” (WAP Architecture, 14.) For example, when a user of a WAP-enabled

terminal enters a URL either directly or through navigating to a user interface via a local application, the WAP-enabled terminal transmits a wireless Internet service request to the WAP server. (*See, e.g.,* WAP Architecture, 14, Figure 3; Park, 1:66-2:4.) The WAP server may respond to the request if hosting the request webpage or may convert the request into an HTTP request for a server on the Internet. (*See, e.g.,* WAP Architecture, 14, Figure 3; Park, 2:5-10.) The Internet web server responds and the WAP server converts the HTTP response into a WAP response for transmission to the WAP-enabled terminal. (*See, e.g.,* WAP Architecture, 14, Figure 3; Park, 2:15-25.) That is, Forums hosted or accessible via WAP-enabled servers are “*web-based.*”

106. Randall’s naming convention further underscores that Forums are designed to be mobile websites accessible “via the web.” Randall teaches that a “wireless information device (as well as web browsers) can access an entity’s database by sending to the server an unchanging pointer or key (an ‘ADS Number’) which is unique to that entity.” (Randall, 9:13-15.) Randall’s “ADS numbers are typically constructed using text strings and can be thought[t] of as defining a namespace.” (Randall, 9:17-18.) The ADS number “in one implementation [is] an **address on a web server**—for example **www.indirect.com/Alice.**” (Randall, 64:25-26.) “This address is in effect a pointer to entity specific data held on the **web server**, in this case, Alice’s information.” (Randall, 64:27-28.)

107. Randall describes an exemplary webpage associated with a user's record stored in the database, highlighting that Forums provides "*web-based*" user interfaces (e.g., webpages). Specifically, Randall teaches that "[i]nformation is placed onto the database by an entity so that it can be readily shared with other entities: the database in effect represents a web page containing information specific to that entity." (Randall, 8:29-31.) The server presents a different webpage based on the access rights associated with the requester. For example, when a user's device (e.g., Bob's device) sends the ADS Number associated with another user (e.g., Alice) to the server, "the server recognises Bob's device and allows the device to read Alice's information held on the database which is specified as being accessible to Bob." (Randall, 9:18-21.) Randall's Table 3 (reproduced below) illustrates the information displayed in the view of Alice's "website" presented to a user in the business 1 group. This view is different than the webpage presented when Alice's device requests access. (*See, e.g.,* Randall, 66-67 (Table 1: Alice's view of data).)

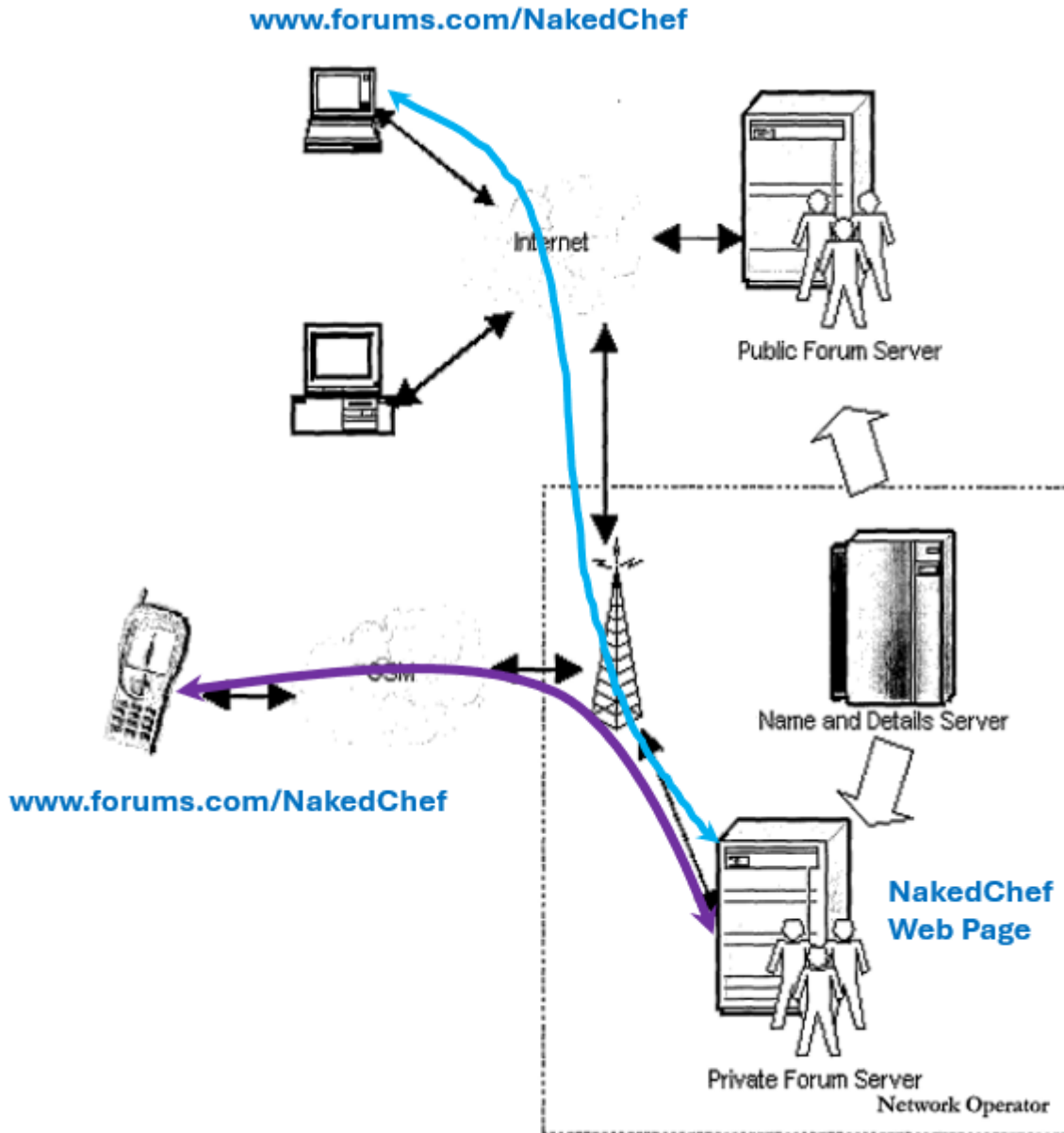
Name	Ms Alice Edwards
Title	European Marketing Manager
Company	Wireless Information Device gets R Us
ADS Number	urls.co.uk/1238947532345235
Last verified	7 <sup>th</sup> July 2000
e-mail	alice.edwards@Wireless Information Device getsrus.com
Work phone 1	0207 200 2000
Work phone 2	0207 200 2012
Mobile	0840 1234 567
Address	1 The Science Park, London, N1 9PQ
Other info	Met her at meeting with Tom Jones, August 2000.

**Randall, Table 3**

108. Forsyth confirms that Forums user interfaces are provided by the server via, e.g., webpages, explaining “Forums facilitates the situation where, to a degree, the other members of a group are ‘always there’ for a user” including “ensuring other interfaces—e.g., **via the Web** and PCs, and possibly via normal phones—are available.” (Forsyth, 11:23-31.)

109. I illustrate Forum’s web-based architecture over GSM-WAP (described above and in §IV.A.1) and HTTP using Randall’s Figure 4 (reproduced below). A user connected to the Internet enters the ADS number associated with the Forum, Naked Chef (e.g., the URL [www.forums.com/NakedChef](http://www.forums.com/NakedChef)) and connects to the server hosting that Forum via HTTP protocol messages; the server processes the request and responds using HTTP over the Internet (blue line). A mobile device user

similarly enters (directly or via navigating to a user interface displayed via a local Forums application) the ADS number (e.g., the URL [www.forums.com/NakedChef](http://www.forums.com/NakedChef)) of the Forum and connects to the WAP server over the GSM network (purple). (*See* WAP Architecture, Figure 3 (illustrating use of URL in WAP).) If the WAP server hosts the Forum (as shown below), it processes the request and responds with information for presenting a user interface (e.g., a webpage download). If a different web server hosts the Forum, the WAP server contacts that server via HTTP to retrieve the webpage which is then forwarded to the mobile device to generate the user interface display, as I discussed above.



**Symbian Forums—Randall, Figure 4**

110. Thus, the combination of Randall and Forsyth discloses that the processing element of the server hosting Forums “*provid[es] a first web-based interface accessible to a first user*” either through (1) the communications interface of the server and/or (2) the user interfaces provided by server download (e.g.,

webpage downloads). I discuss the server-provided user interfaces that “*permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users*” below.

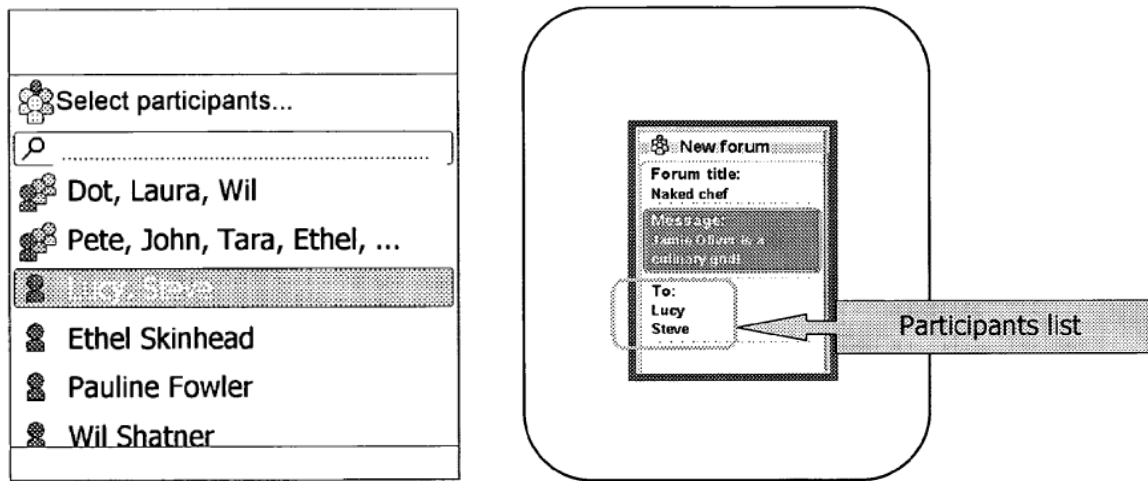
**(3) “activate a given mobile information channel for sharing content”**

111. A “*mobile information channel*” can be activated “*for sharing content*” in a number of ways in the combination of Randall and Forsyth. First, the “*channel*” can be activated through the creation of a Forum. Second, the “*channel*” can be activated when content stored in a user’s record is designated for sharing within a “*mobile information channel.*” And third, the “*channel*” can be activated “*for sharing content*” when a Forum member posts a message with new content within the Forum. Each of these mechanisms involves a user interface provided by the server and messages received from the mobile device via the server’s communication interface, described above.

**(a) Activation through Forum Creation User Interface**

112. Forsyth describes creation and activation of a Forum through its exemplary “Scenario 1–group-based text messaging.” As shown in Figure 4 (below-right), the user is presented with a “New Forum” user interface through which the user creates a Forum. As I discussed in §IV.A.1.c.(2), when WAP is used as the protocols between the mobile devices and server (as taught by Randall), this “New Forum” user interface screen is a provided by the server (e.g., a webpage) and

displayed via a microbrowser or a client-side Forums application supporting WAP. As shown, when creating a Forum, the user “has to select whom he wishes to invite.” (Forsyth, 5:50-51; Figure 3 (below-left).) As shown in Figure 3 of this scenario, the user selects Lucy and Steve as participants in the Forum, enters the Forum title (“Naked Chef”), and types in the initial message (“Jamie Oliver is a culinary god!!”). (Forsyth, 5:52-63.) The Forum creator in this example is “*a first user*” and the identified individuals agreeing to participate are “*one or more additional users.*”



**Symbian Forums—Forsyth, Figure 3 (left), Figure 4 (right)**

113. After the creator selects participants, an initial message and the participant list are provided “to the message server” via the server’s communication interface (a “*web-based interface*”). (See Forsyth, 6:1-8.) The server stores “and forwards a copy of the message to each of the people on the address list, along with an abstracted version of the address list.” (Forsyth, 6:9-14.) After the Forum is

created, members can send new messages “to the server, which then forwards on the increment [i.e., the new Forum content] to all the people on the current (server-maintained) address list.” (Randall, 6:18-22.) That is, the Forum (“*mobile information channel*”) is “*activat[ed]*” to provide a platform through which users share content by posting/sending the content to Forum via the server.

114. The New Forum webpage, provided by the processing element of the server, is therefore a “*first web-based interface ... configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users*” because it creates a Forum and provides initial content for the Forum.

#### **(b) Activation Through Content Management User Interface**

115. As I discussed above in §IV.B.4.a.(2), the data infrastructure of Forums includes a user record storing information about the user as well as the user’s personal content. Randall explains that “[u]sers must be able to share any of their content or activities with individuals and groups with ease.” (Randall, 32:21-22.) Specifically, “[u]sers must be able to share content local to the device and have any [content] uploaded to a server handled automatically.” (Randall, 32:26-27.) As I discussed in §IV.B.1.a.(b), the user manages her content through the content management webpage provided by the Forums infrastructure. The user is therefore

a “*first user*” and the members of the Forum designed for access to content are “*one or more additional users*.”

116. Randall’s Table 1 (reproduced below) shows an exemplary view of data associated with a user, Alice. As shown in Table 1, a piece of stored data “has an associated tag (or field/attribute)” such as “My photo” or “Childhood photo.” Some of the fields “can contain multiple objects and can be thought of as container fields.” (Randall, 68:11.) “For example, the ‘Photos’ field might contain all of Alice’s many hundreds of personal photographs.” (Randall, 68:11-13.) Randall explains that the database is not limited to the tags (field/attribute) used in Alice’s record and the “application owning the category is free to invent whatever tags it chooses and to extend the database.” (Randall, 66:10-14.) Therefore, in addition to photos, a POSITA would understand that the database would store other personal user content including a user’s music files, messages, graphics, opinions, playlists, etc.

Table 1

Alice's iData			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all
Company Name	work	Wireless Information Device gets R Us	all
Company Address	work	1 Science Park Rd, London, N1	all
Company E-mail	work	alice.edwards@Wireless Information Device getsrus.com	business 1
Company switchboard	work	0207 200 2000	all
Company Direct	work	0207 200 2012	business 1
Mobile Phone	work	0840 1234 567	business 1, friends
Home Phone 1	work	0208 341 1234	friends, family
Home Address	work	25 The Gables, Hampstead, London, NW3	family
My photo	photos		friends
Childhood photo	photos		family
Home note	notice	Sorry about dinner ☹	partner
Work note	notice	In a meeting with Tim till 7pm	work 1
My mood now	mood	Very tired	all
Tel Call Subject		"Dinner Tonight"	
Bluetooth	location	Bluetooth pods 1000-1020 ...Sentinel room 2...	
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

Randall, Table 1

117. Users are “able to **publish content** that is already stored (and conceivably shared) in their area on the server to specific groups.” (Randall, 34:10-12.) To share content, the client-server infrastructure allows the user to specify, via a web page, one or more groups that are permitted to access the data. (See Randall, 24:8-25:19.) Forums service provides a user access to their profile for management via a webpage associated with the ADS number of the user (e.g., [www.indirect.com/Alice](http://www.indirect.com/Alice)). Randall explains that the ADS number is “an **address on a web server**—for example **www.indirect.com/Alice**” and “is in effect a pointer to entity specific data held on the **web server**, in this case, Alice’s information.” (Randall, 64:25-28.) The content management webpage is therefore a “*web-based interface*” and the messages exchanged between the mobile device and server associated with this content management webpage are via the server’s communication interface (a “*web-based interface*”).

118. Stored user data can be categorized as Public (available to all) or Private. Private data falls into one of three exemplary categories: (1) “[i]nvisible at all times”, (2) “[v]isible to specific people (or groups) at all times”, and (3) “[v]isible to specific people (or groups) for a specific period of time.” (Randall, 24:13-17.) A Forum (e.g., “Pub on Friday”, “Who wants to go clubbing on my birthday”, “Naked Chef”) is an example of a group which can be specified by a user in her accessibility rules. (See, e.g., Randall, 4:30-5:30 (“If we take the name ‘Alice’

as being used to refer to an entity with information to share and the name ‘Bob’ as being used to refer to an entity seeking Alice’s information (where Alice and Bob are not necessarily people but can be any kind of entity), then in this system, Alice enters and maintains data relating to Alice on the web server and Bob simply reads in that information as and when needed and caches it.”.)

119. As shown in Randall’s Table 1 above, each piece of stored data “has an associated tag (or field/attribute) and an associated list of groups (‘i-Groups’) allowed to access the data.” (Randall, 66:9-10.) For example, the name and company data, associated with the “i-Group=‘all’”, “is available to anyone with a web browser.” (Randall, 68:1.) The “i-Group” list for each data element specifies which groups and individuals have access to that content. For example, Alice’s childhood photos are only available to Alice’s “family” group. To aid the user in managing content, the server “presents a table to Alice, showing thumbnails of all of the photographs and enabling Alice to allocate viewing rights to particular groups or individuals.” (Randall, 68:13-14.)

120. When a user associates stored content with an i-group (e.g, Forum), the user designates the content “*for sharing*” within the Forum. Thus, the user interface provides a means for activating the Forum to share the designated content. As Randall explains, after a group or individual is designated as having access rights, the information can be provided when the individual or a member of the group

“contacts the server” or the information “will be pushed to” member’s devices “if technology allows.” (Randall, 68:28-30.) Forsyth similarly discloses use of access rights associated with stored data to identify a group. In the “Discussion of Photos” Scenario, after uploading the photos to a remote storage area, the user “creates a Forum message based on the photographs and sends it to a group (as discussed above).” (Forsyth, 7:34-35.) The group members “receive (or are given access to) an object which incorporates or references the photographs.” (Forsyth, 7:37-38.)

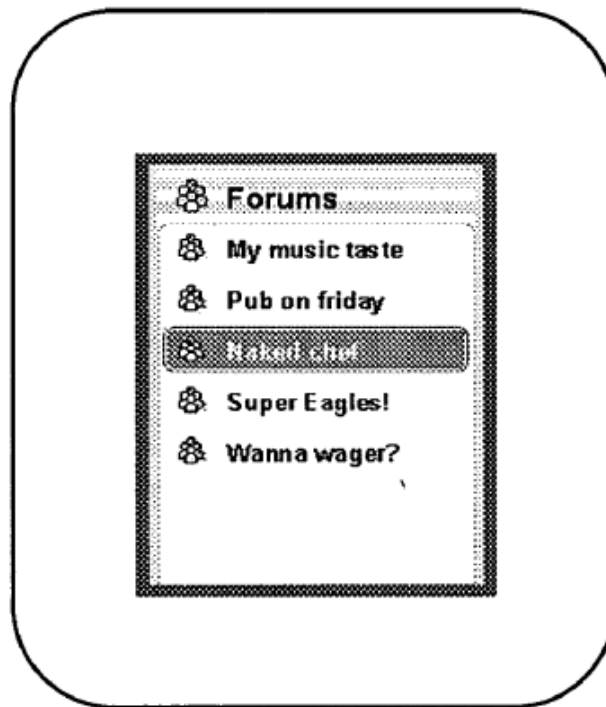
121. The content management webpage, provided by the processing element of the server, is therefore a *“first web-based interface ... configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users”* by designating a stored content item for insertion into the Forum.

### **(c) Activation Through Message Display User Interface**

122. The process of posting a message into a pre-existing Forum (new or response) via the user interface provided on the mobile device also *“activate[s] a given mobile information channel for sharing content.”*

123. Within Forums, a user (*“first user”*) is presented with a user interface displaying a list of his/her Forums on a screen such as the screen shown in Forsyth’s Figure 6 (reproduced below). The user selects one of these individual Forums which causes the user to navigate to a user interface associated with the Forum (e.g.,

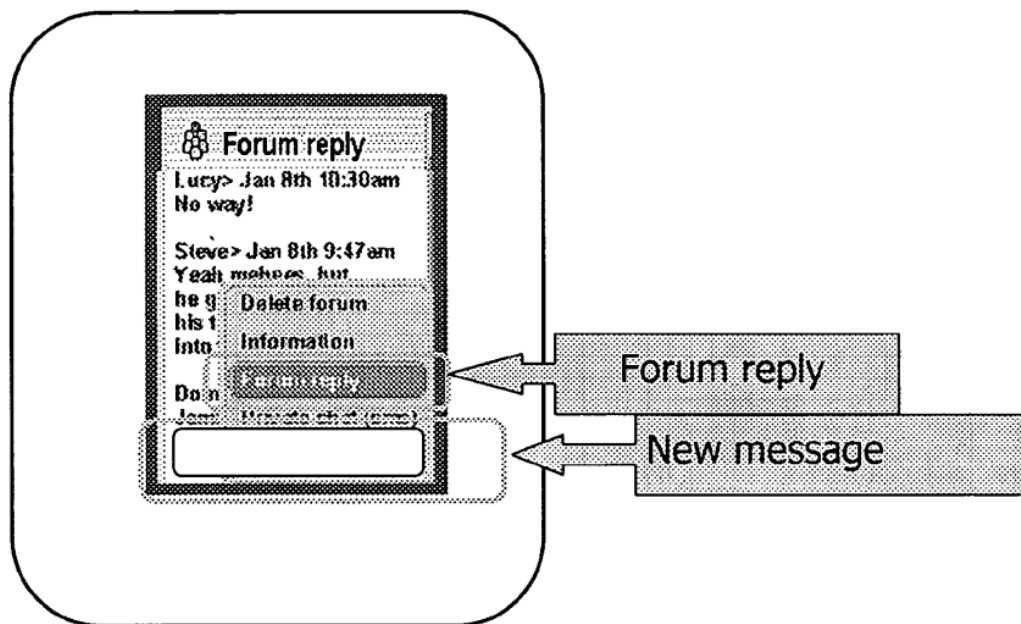
Forsyth Figure 8) where the user can enter and post content. (*See, e.g.*, Forsyth, 6:28-35.) I note that the later discussions of Forum scenarios in Forsyth omit the details of creating a Forum and navigating to a Forum via the user interface and instead focus on functionality available through the exemplary Forum.



**Symbian Forums—Forsyth, Figure 6**

124. The user interface displayed to the user provides the ability for a user to reply within the Forum by posting a Forums message with content. For example, through the Forum Reply user interface displayed in Figure 9 (below), a user can enter content and designate that content “for insertion” into the Forum by clicking on “reply.” (Forsyth, 6:54-55.) As shown, the Reply interface also includes messages from “*one or more additional users.*” A new message is then “posted to the Forum”

when the mobile device sends the Forums message to the server. This action activates the Forum processing at the server to “forward” (share) the message with the Forum members. As I discussed above, the user interface displayed to the user is provided by the server (e.g., via a webpage download) and converted by the mobile device for display to the user. Thus, the user interface provided by information downloaded from the server (e.g., webpage) is a “*web-based interface*” and the messages are communicated via the server’s communication interface (a “*web-based interface*”).



**Symbian Forums—Forsyth, Figure 9**

125. The Forum Reply webpage, provided by the processing element of the server, is therefore a “*first web-based interface ... configured to permit the first user to activate a given mobile information channel for sharing content between the first*

*user and one or more additional users” because it activates the server to insert new content into the Forum.*

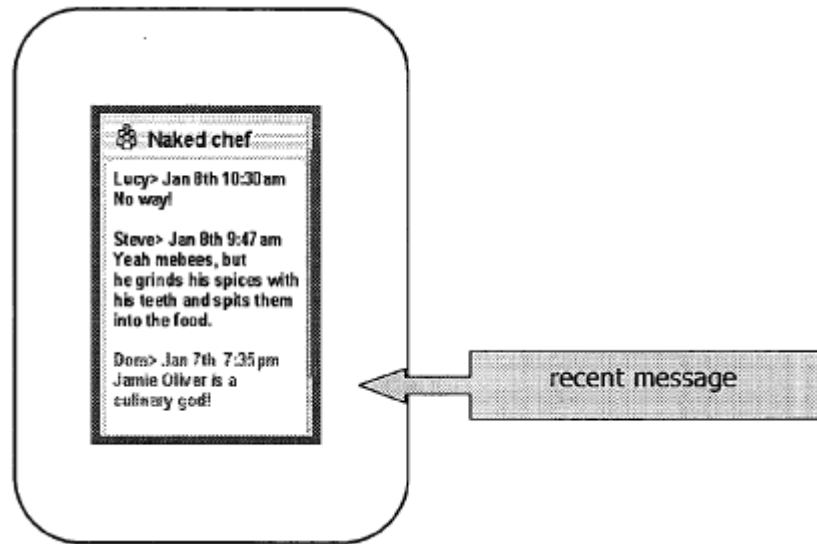
**b. Limitations [1C]-[1D]/[11D]-[11E]/[15C]-[15D]**

Claim 1	Claim 11	Claim 15
[1C] generating a second web-based interface different than the first web-based interface,	[11D] the processing element generating a second web-based interface different than the first web-based interface	[15D] wherein said at least one server generates a second web-based interface different than the first web-based interface
[1D]/[11E]/[15E] wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;		

126. A Forums server “handle[s] all aspects of storing and forwarding messages to the intended recipients.” (Forsyth, 3:20-22.) For example, in the group based messaging Scenario, Forsyth describes that the Forums server “forwards a copy of the [initial Forums] message to each of the people on the address list, along with an abstracted version of the address list.” (Forsyth, 6:9-14.) And, when new messages are sent to the server for posting/publishing within the Forum, the server “forwards the increment to all the people on the current (server-maintained) address list.” (Forsyth, 6:1-22.) Thus, the server “*provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users.*” The server provides such “access” by providing

information allowing the creation of a user interface at the mobile device that displays the messages (and content) shared within a Forum (e.g., via a webpage download).

127. Forums provides a user interface within each Forum that displays the messages/discussions posted/published to the Forum (*“mobile information channel”*) and through this interface *“share[s] content”* with Forum members and facilitates further interaction through a context menu allowing a Reply and allowing other actions such as private chats. (See Forsyth, 6:44-48.) Forsyth’s Figure 7, depicted again below, is an example of this user interface associated with the Naked Chef Forum. The user interface presented to the Forum members to display posted messages is *“a second interface.”* This user interface is different from the *“first web-based interface”* (e.g., the network communications interface, the content management user interface, the New Forum user interface, or the Forum Reply user interface). Therefore, the combination discusses *“a second web-based interface different than the first web-based interface.”*



**Forums—Forsyth, Figure 7**

128. As I discussed in §IV.B.4.a in my analysis of the “*providing a first web-based interface*” limitation, the combination of Randall and Forsyth teaches or at least suggests user interfaces provided by Forums are web-based information generated by the server and provided to the wireless devices (e.g., via a website downloaded.) Because a Forum has multiple members, this user interface (e.g., webpage) is provided by the Forum to each Forum member, thereby allowing “*one or more additional users*” to access the content shared within the Forum.

129. Thus, processing element of the server “*generat[es] a second web-based interface different than the first web-based interface*” which “*provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users.*”

**c. Limitations [1E]-[1F]/[11F]-[11G]/[15F]-[15G]**

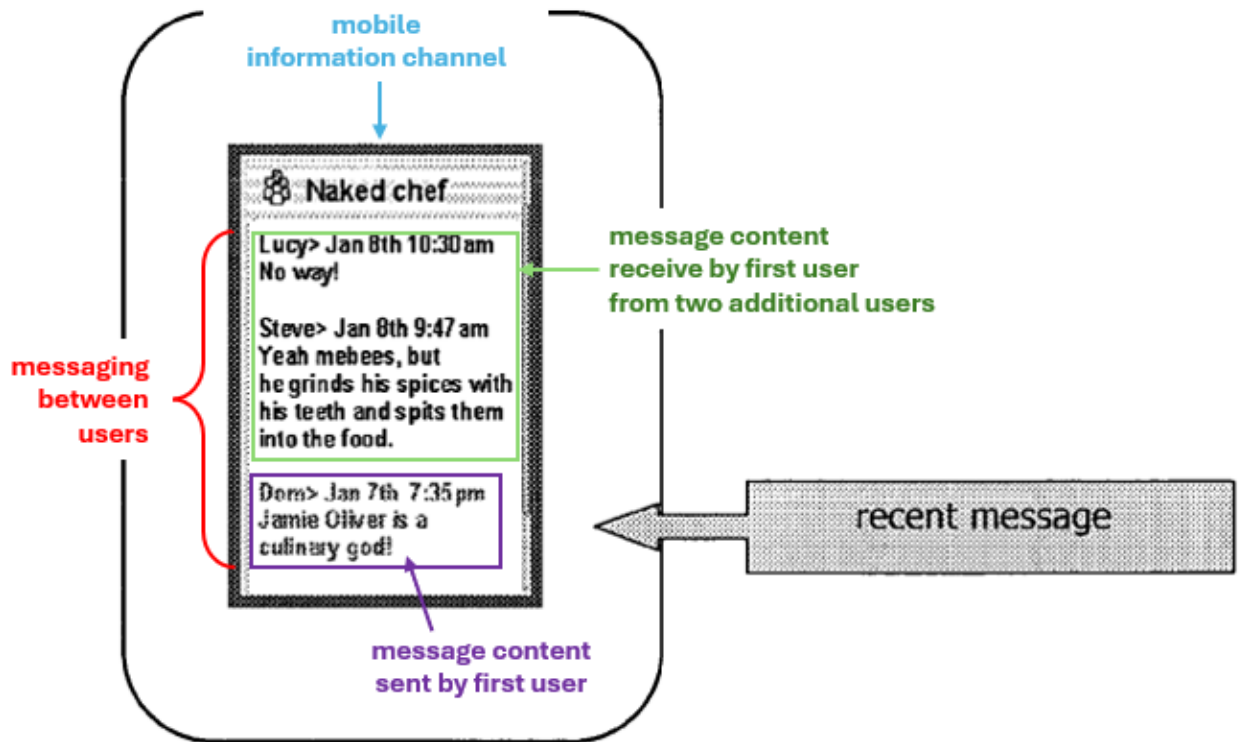
[1E]/[11F]/[15F] wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and

[1F]/[11G]/[15G] wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.

130. Forums, described by Randall and Forsyth, is designed for interactive communication/discussion within a Forum. Specifically, Forums is a “group communication method for a wireless information device that enables communications to be **sent and received between several wireless information devices operated by end-use[r]s that form a group of end users**” (i.e., a Forum). (Forsyth, 1:64-2:1.) Each of the Scenarios presented by Forsyth illustrates that a first user sends messaging content associated with a Forum (“*mobile information channel*”) to other Forum members, i.e., from “*the one or more additional users*” of the Forum and receives messaging content from other Forum members, i.e., from “*the one or more additional users*” of the Forum.

131. Forsyth describes that Forums supports “group based text messaging” and “group based multi-media messaging.” (Forsyth, 3:35-58, 5:45-49.) The scenarios and examples provided by Randall and Forsyth demonstrate “*messaging*” initiated by the user—e.g., the posting/sending of a message to the Forum. For example, in the “group based text messaging” (Scenario 1) of Forsyth, when the

“Naked Chef” Forum is created, a first user sends an initial message to the message server. (See Forsyth, 6:1-9.) Subsequent responses “are of the form that the new **message is sent to the server.**” (Forsyth, 6:18-22.) As highlighted in Forsyth’s Figure 7 below, the new content is received at the mobile device and displayed via the Forums application in the Forum associated with the content. The replies posted to the Forum are “*messaging content*” received “*from the one or more additional users.*” Similarly, “Discussion of Photos” (Scenario 2) describes “creat[ing] a Forum **message** based on the photograph.” (Forsyth, 7:35-36.) Other scenarios similarly discuss use of messaging/messages to interact with members (one or more additional users) within a Forum.



**Symbian Forums—Forsyth, Figure 7**

132. In the “Discussion of Photos” (Scenario 2) of Forsyth, “[a]ll group members receive (or are given access to) an object which incorporates or references” a photograph posted by a first user. (Forsyth, 7:37-38.) The group members (one or more additional users) “can make comments on the pictures and the group members can again discuss and deride the content.” (Forsyth, 7:39-40.) “Some people post their own photos back.” (Forsyth, 7:42-43.) The comments posted by the other group members are “*messaging content*” received by the first user from additional users which is displayed on the Forum’s message page.

133. Thus, the Randall-Forsyth combination discloses “*the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network*” and “*the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users*” [1E]-[1F]/[11F]-[11G]/[15F]-[15G].

## 5. Independent Claim 10

<p>10. A non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs for use in managing information content in a network-based communication system, wherein said executable program code when executed by a processing element of the communication system implements the steps of the method of claim 1.</p>
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134. Both Randall and Forsyth disclose that the server performs processing and therefore has a server-side program component of Forums. For example, Forsyth explains the server “handles **contacting each group member**, storing messages, **allowing message to be read, sending, receiving and distributing messages.**” (Forsyth, 3:28-31.) And Randall specifically mentions “server side software” (Randall, 57:4) and “server side message handling **applications**” (Randall, 38:24). Although not explicit, a POSITA would have understood from these disclosures that the server-side Forums program is “*executable code of one or more software programs*” which “*when executed by a processing element of the communication system*” implements the steps of the method specified in claim 1.

135. Neither Randall nor Forsyth explicitly states that the server-side program is stored of a “*non-transitory computer-readable storage medium*.” Memory or another similar computer readable medium storing the software to be executed on the processor would necessarily be included in the server. The 1994 textbook on Operating System Concepts by Silberschatz (“Silberschatz”; EX-1026) confirms this understanding. Silberschatz explains that a “computer system consists of a CPU and a number of device controllers that are connected through a common bus that provides access to shared memory.” (Silberschatz, 29-30.) Silberschatz stresses that for a computer “to do its job of executing programs,” the programs must be stored in memory. (Silberschatz, 37.)

136. To the extent this is not deemed to be inherent in a computing device running software, it would have been obvious to a POSITA and well within the POSITA’s general knowledge. I provide several examples of servers having a “*computer-readable storage medium*” below.

137. **U.S. Patent 7,802,207 to Agboatwalla et al. (“Agboatwalla”; EX-1024):** Agboatwalla describes a “computer program product” used to perform the function of “generating a customizable network user interface.” (Agboatwalla, 3:7-9.) Its “computer program product” is “embodied on a computer readable medium” and comprises “computer code.” (See Agboatwalla, 42:1-38.)

138. **U.S. Patent 7,574,486 to Cheng et al. (“Cheng”; EX-1025):** Cheng describes a “method, and computer readable medium [at a proxy server] for reformatting web content into a format readable on one or more mobile device.” (Cheng, Abstract.) Cheng explicitly discloses “sets of instructions resident” in RAM that “[u]ntil required by the computer system, the set of instructions may be stored in another computer readable memory.” (Cheng, 23:63-24:1.)

139. **U.S. Patent 6,788,949 to Bansal (“Bansal”; EX-1023):** Bansal teaches the memory in a server “can be coupled to a processor 5200 and can store instructions 5400 adapted to be executed by processor 5200.” (Bansal, 7:23-26, 7:3-4 (“one or more memories 5300 contain[s] instructions”), Figure 5.) These instructions “can be embodied in software, which can take any of numerous forms that are well known in the art.” (Bansal, 7:32-34.)

140. Additionally, Pelkey and Eck which I discuss in Ground 2 discloses a server having a CPU, memory, and network interface. (*See, e.g.*, Eck, 3:46-47; Pelkey, 5:7-14.)

### C. Independent Claim 27

[27P] A method comprising:

[27A] generating a given mobile information channel for sharing content authored by a first user with one or more additional users; and

[27B] providing each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to facilitate interaction between the first and additional users;

[27C] wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and

[27D] wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.

141. Independent claim 27 recites substantially overlapping subject matter with claim 1. Limitations [27C]-[27D] are identical to limitations [1E]-[1F]. In the combination of Randall and Forsyth, the “*mobile information channel*” is generated by, for example, the creation of a Forum as discussed in §IV.B.4.a.(3).(a). For the reasons discussed in that section, the combination discloses “*generating a given mobile information channel for sharing content authored by a first user with one or more additional users.*” Users are provided access to the shared content of a Forum via the message (content) display page provided via the “*second web-page interface*” discussed in §IV.B.4.a.(3).(b). Thus, for the reasons discussed in §IV.B.4, the combination of Randall and Forsyth renders claim 27 obvious.

## D. Dependent Claims

### 1. Claims 2, 8, and 12

2. The method of claim 1 wherein the first web-based interface is configured to permit the first user to designate accessibility rules controlling access of said one or more additional users to respective portions of the shared content.

8. The method of claim 1 wherein the first web-based interface permits the first user to upload at least one information item, and wherein the second web-based interface provides said one or more additional users with access to said at least one uploaded information item in accordance with accessibility rules established by the first user via the first web-based interface.

12. The apparatus of claim 11 wherein the first web-based interface is configured to permit the first user to designate accessibility rules controlling access of said one or more additional users to respective portions of the shared content.

142. As discussed in §§IV.B.1.a and IV.B.4.a.(3), a user uploads content for storage in her user record via the user’s content management webpage. (Randall, 32:26-27 (“[u]sers must be able to share content local to the device and have any [content] uploaded to a server handled automatically”).) And as discussed in §IV.B.4.a.(3), a user specifies, via the content management webpage, accessibility rules that specify one or more groups or individuals that are permitted to access the data. (See Randall, 24:8-25:19.) Content made accessible by the user is then published to the listed Forum members through the “*second web-based interface*” as discussed in §IV.B.4.b. (Randall, 34:10-12 (Users are “able to **publish content** that

is already stored (and conceivably shared) in their area on the server to specific groups.”.)

143. Forsyth describes an example of such accessibility rules in the “Discussion of Photos” Scenario 2. In this example, a “user is on holiday, and takes a few photographs of the beach with his digital camera.” (Forsyth, 7:30-31.) He then “uploads them to his remote storage area”, “creates a Forum message based on the photographs” and “sends it to a group.” (Forsyth, 7:32-35.) That is, the user has designated the stored content as accessible to his Photo Discussion Forum.

144. Thus, the combination of Randall and Forsyth discloses “*the first web-based interface [content management user interface] is configured to permit the first user to designate accessibility rules controlling access of said one or more additional users to respective portions of the shared content*” as recited in claims 2 and 12.

145. The combination of Randall and Forsyth also discloses “*the first web-based interface [content management user interface] permits the first user to upload at least one information item*” and “*the second web-based interface [message display user interface] provides said one or more additional users with access to said at least one uploaded information item in accordance with accessibility rules established by the first user via the first web-based interface*” as recited in claim 8.

## 2. Claim 3

3. The method of claim 1 wherein  
the first web-based interface comprises a content management web site and  
the second web-based interface comprises a mobile web site accessible independently of the content management web site via one or more mobile devices.

146. As discussed in § IV.B.4.a.(3).(b), the combination of Randall and Forsyth discloses that the “*first web-based interface*” is a “*content management web site*” and as discussed in §IV.B.4.b, the “*second web-based interface*” is (1) different from the content management webpage and (2) a “*mobile web site*” accessible via one or more mobile devices. As I discuss below, the combination of Randall and Forsyth discloses a “*mobile device*” under both Meta’s and PO’s construction. Thus, for the reasons discussed here and in §IV.B.4, the combination renders claim 3 obvious.

147. The combination of Randall and Forsyth discloses a “*mobile device.*” I understand the term “*mobile device*” was proposed for construction in the co-pending district court litigation, *Mobile Data Tech. v. Meta Platforms*, 7:22-cv-99244 (“Meta-MDT District Court Litigation”), and in the co-pending Meta-MDT IPR. I provide these constructions again below. As I discussed in §III.D.1, while I disagree with PO’s construction in the Meta-MDT IPR, the term does not require

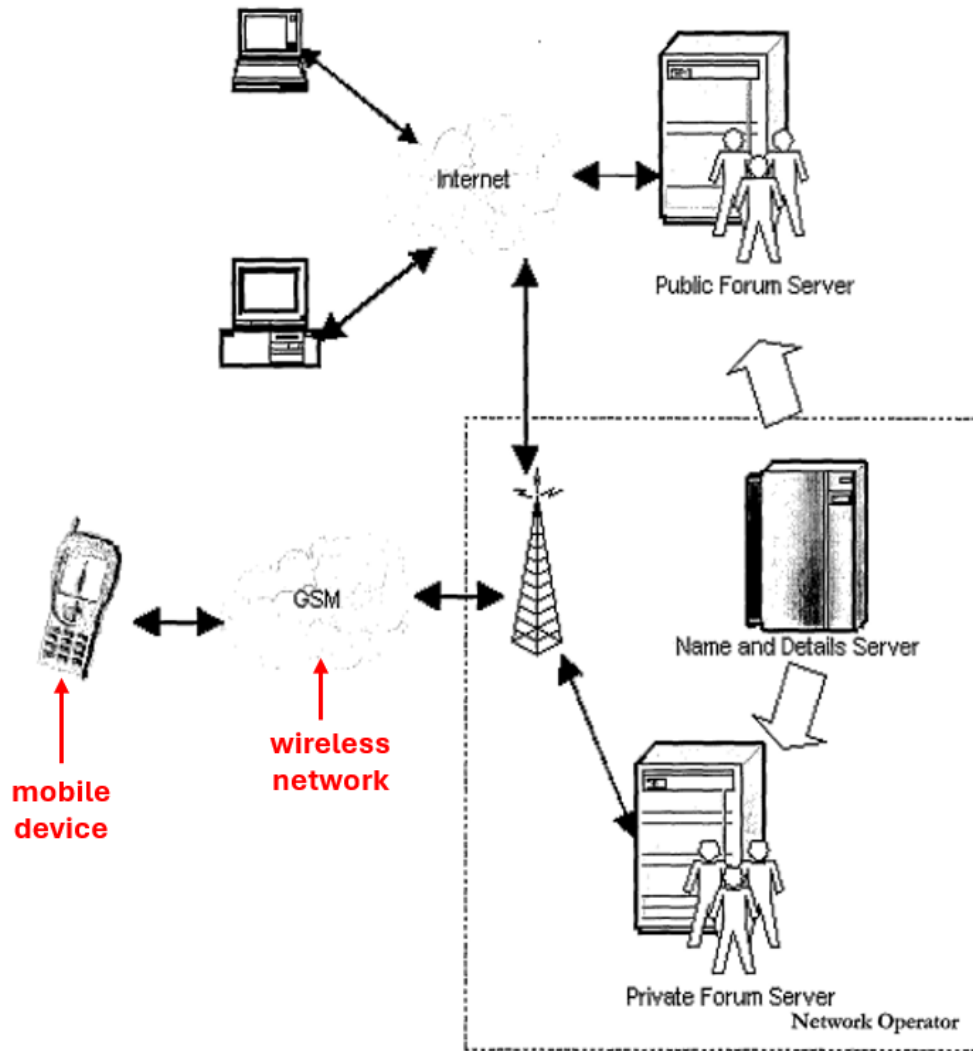
construction in the present IPR because the combination of Randall and Forsyth discloses a “*mobile device*” under both Meta and MDT’s constructions.

<b>Meta-MDT District Court Litigation</b>	
PO	plain and ordinary meaning; alternatively, “a piece of handheld equipment”
Meta	“any type of portable information processing device capable of being configured for communication over a network, including but not limited to a mobile telephone, a personal digital assistant (PDA), a palmtop computer, a hand-held computer, a laptop computer, a tablet computer, a global positioning system (GPS) receiver or other GPS-based navigational device, an MP3 player or other type of audio player, a pager, a watch or other timepiece, a camera, or a portable game player”
<b>Meta-MDT IPR</b>	
PO	“a portable device with limited display space and limited navigational capabilities that connects to a mobile site and/or mobile channel via a wireless network”
Meta	construed based on express definition: “The term ‘mobile device’ as used herein is intended to include, without limitation, any type of portable information processing device capable of being configured for communication over a network”

148. The Randall-Forsyth combination discloses a client-server network infrastructure, illustrated in Figure 4 below, including wireless information devices and servers used to implement network-based services, including Symbian Forums. (See, e.g., Randall, 40:28-30.) Specifically, Randall “relates to the use of an open, universal data infrastructure for **wireless information devices** which can be used by application developers to write new applications.” (Randall, 3:10-13.) Forsyth

“relates to a group communication method for a **wireless information device.**”

(Forsyth, 1:15-16.)



**Symbian Forums—Randall, Figure 4**

149. Randall and Forsyth both disclose that a wireless information device encompasses “any kind of device with one or two way wireless information capabilities [including] without limitation radio telephones, smart phones, communicators, personal computers, computers and application specific devices.”

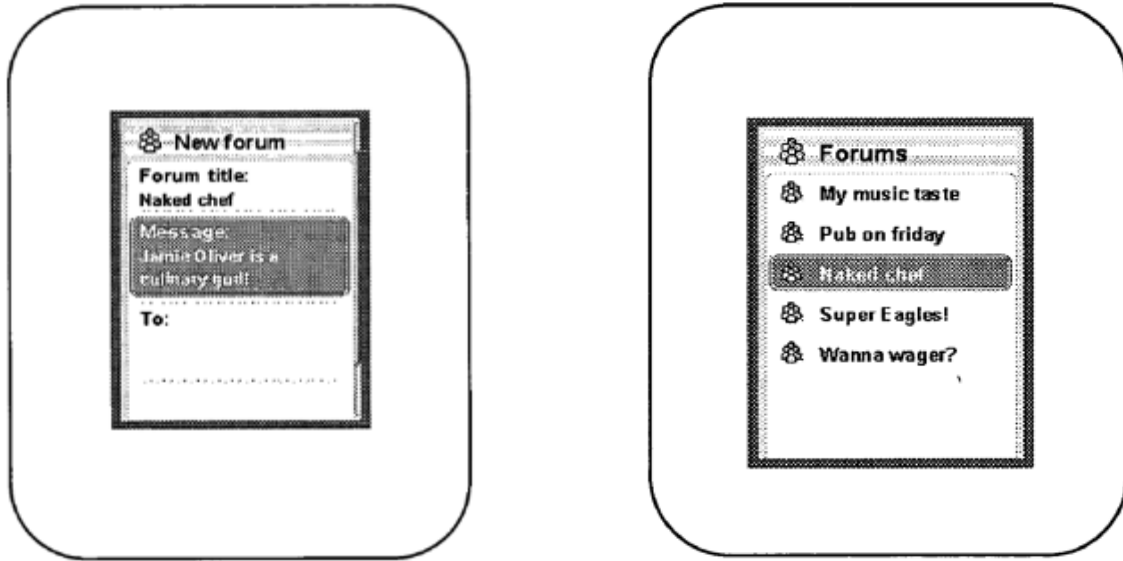
(Randall, 1:7-11; *see also*, Forsyth, 1:16-22 (same).) Each of these listed devices is portable and has a form factor allowing the device to be held in the hand (i.e., handheld). Indeed, Forsyth refers to the devices as “mobile devices.” (*See, e.g.*, Forsyth, 2:40-47 (“[a]n implementation of the present invention, called Forums<sup>TM</sup>. . . is designed specifically to allow current and very popular internet type services (e.g. chat/instant messaging between groups) to be handle effectively between **mobile devices** and to enable a new generation of group based communication services.”).)

150. Each of the wireless information devices enumerated by both Randall and Forsyth are also configured for “communicat[ion] in any manner over any kind of network, such as GSM or UMTS, CDMA and WCDMA mobile radio, Bluetooth”, 802.11, and IrDa (infrared). (Randall, 1:11-13; Forsyth, 1:16-25.) Each of these listed networks is a wireless network. Thus, the listed devices are configured to connect to and communicate via a wireless network.

151. The “wireless information devices” described by both Randall and Forsyth are each a “piece of handheld equipment” and therefore a “*mobile device*” under PO’s Meta-MDT District Court Litigation construction. These portable devices process information and are capable of being configured for communication over a network. Thus, the “wireless information devices” described by both Randall and Forsyth are each a “*mobile device*” under PO’s Meta-MDT Litigation and Meta-

MDT IPR constructions (“any type of portable information processing device capable of being configured for communication over a network”).

152. Exemplary mobile devices described by Randall and Forsyth (e.g., radio telephones, smartphones, and communicators) have limited display space and/or limited navigational capabilities. For example, as shown in Forsyth’s Figure 2 (below-left), the device has limited display space. (See Forsyth, 4:61-62; Randall, 45:23-25 (“Unfortunately, the current architecture of the Internet is not well suited for the wireless device form factor, providing an inappropriate user experience (the browser/page metaphor) for mobile devices with small displays.”).) And as shown in Forsyth’s Figure 6 (right), the user can navigate to only the listed forums—i.e., the mobile device has limited navigational capabilities. Thus, the “wireless information devices” described by both Randall and Forsyth are each a “*mobile device*” under PO’s Meta-MDT IPR construction (“a portable device with limited display space and limited navigational capabilities that connects to a mobile site and/or mobile channel via a wireless network”).



**Symbian Forums—Forsyth, Figure 2 (left), Figure 6 (right)**

153. Thus, the combination of Randall and Forsyth discloses a “*mobile device.*”

154. Numerous books and papers published prior to June 2002 (or in 2002) confirm the disclosures of Randall and Forsyth regarding wireless devices running the Symbian OS. In addition, the Symbian website available prior to June 2002 included a technology section providing papers, links to books, and other information discussion Symbian devices and client-server infrastructure supporting services/applications. (See, e.g., EX-1018) A POSITA would have been aware of the existing Symbian wireless information devices as well as the reference designs for Symbian devices made publicly available by Symbian. In this section, I primarily cite to “Wireless Java for Symbian Devices” by Allin (“Allin”; EX-1012) published in September 2001 by Symbian Press and “Symbian OS Communications

Programming” by Jipping (“Jipping”; EX-1016) published in June 2002 by Symbian Press for additional supporting evidence. Although other documents pre-dating the ’336 patent are equally applicable.

155. The Symbian OS, available prior to 2002, was intended for a range of devices. (Allin, 229; Jipping, 11.) Symbian developed three reference designs for its licensees divided into (1) “[s]martphones, primarily for voice communication, with PDA-like sophistication that allow[] information to be rapidly accessed and reviewed” and (2) “[c]ommunicators with a PDA’s form-factor and fully-integrated communications including voice.” (Allin, 4.) Communicators included two Symbian reference designs, code-named Crystal and Quartz. (Allin, 4.)

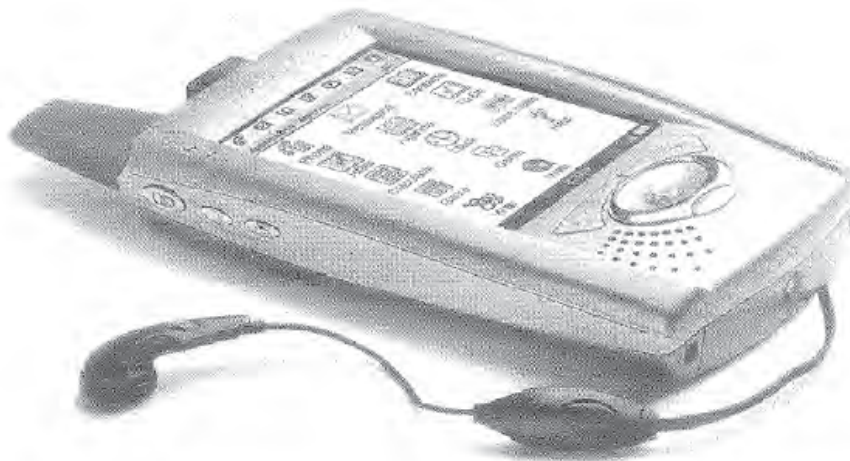
156. Allin’s Figure 3 (reproduced below) illustrates the Nokia 9210 Communicator based on the Crystal communicator reference design. (*See* Allin, 5.) The Nokia Communicator uses a 32-bit ARM9-based RISC CPU processor and has 2MB RAM plus 16MB RAM (MultiMediaCard). (Allin, 458-59.)



**Allin, Figure 3**

157. The Ericsson Communicator concept, illustrated in Allin's Figure 4 (reproduced below) is based on Symbian's Quartz communicator reference design.

“Quartz is a pen-based tablet device with integrated telephony.” (Allin, 4.)



**Allin, Figure 4**

158. Symbian’s smartphone reference design is illustrated in Allin’s Figure 5 (reproduced below). The smartphone design “puts browsing content, messaging, and access to entertainment in the forefront and other information management as a secondary goal.” (Jipping, 12.) The Nokia 7650, an example product following this design, included an integrated digital camera and was optimized for picture taking and sending, multimedia messaging, SMS, and email. (*See, e.g., EX-1019.*)



**Allin, Figure 5**

159. Table 7.1 of Allin summarizes “the principal characteristics of Symbian devices” including screen size, memory, processor, and type of input (e.g., keyboard and/or pen). (Allin, 229.)

**Table 7.1** Principal characteristics of Symbian EPOC Release 5 devices

	Revo Plus	5MX	MC218	netBook	netPad
Manufacturer	Psion	Psion	Ericsson	Psion	Psion
Format	Shirt pocket	Pocket, brief case	Pocket, brief case	Small laptop	Tablet
Screen	480 × 160, mono	640 × 240, mono	640 × 240, mono	640 × 480, color	640 × 240, color
Memory	16 MB	16 MB	16 MB	48 MB	–
Processor	36 MHz ARM 710T	36 MHz ARM 710T	36 MHz ARM 710T	190 MHz StrongArm	190 MHz StrongArm
Java	JDK1.1	JDK1.1	JDK1.1	JDK1.1	PersonalJava
Input	Keyboard, pen	Keyboard, pen	Keyboard, pen	Keyboard, pen	Pen

**Allin, Table 7.1**

**3. Claim 6—“URL”**

6. The method of claim 1 wherein  
the first web-based interface is identified by a first uniform resource locator and  
the second web-based interface is identified by a second uniform resource locator different than the first uniform resource locator.

160. Randall teaches a “wireless information device (as well as web browsers) can access an entity’s database by sending to the server an unchanging pointer or key (an ‘ADS Number’) which is unique to that entity.” (Randall, 9:13-15.) Randall’s “ADS numbers are typically constructed using text strings and can be thought[t] of as defining a namespace.” (Randall, 9:17-18.) The ADS number “in one implementation [is] an **address on a web server**—for example **www.indirect.com/Alice.**” (Randall, 64:25-26.) “This address is in effect a pointer to entity specific data held on the **web server**, in this case, Alice’s information.”

(Randall, 64:27-28.) That is, the ADS numbers used by Randall-Forsyth to webpages, such as the content management webpages, are “uniform resource locators.”

161. Although not explicit, a POSITA would have understood that the webpages associated with displayed user interfaces each have different names (different ADS names/URLs.) provided to mobile devices for displaying the first interface and the second interface used different URLs.

162. Randall describes an exemplary webpage associated with a user’s record stored in the database. Specifically, Randall teaches that “[i]nformation is placed onto the database by an entity so that it can be readily shared with other entities: the database in effect represents a web page containing information specific to that entity.” (Randall, 8:29-31.) The server presents a different webpage based on the access rights associated with the requester. For example, when a user’s device (e.g., Bob’s device) sends the ADS Number associated with another user (e.g., Alice) to the server, “the server recognises Bob’s device and allows the device to read Alice’s information held on the database which is specified as being accessible to Bob.” (Randall, 9:18-21.) Randall’s Table 3 (reproduced below) illustrates the information displayed in the view of Alice’s “website” presented to a user in the business 1 group. This view is different than the webpage presented when Alice’s device requests access. (*See, e.g.,* Randall, 66-67 (Table 1: Alice’s view of data).)

Name	Ms Alice Edwards
Title	European Marketing Manager
Company	Wireless Information Device gets R Us
ADS Number	urls.co.uk/1238947532345235
Last verified	7 <sup>th</sup> July 2000
e-mail	alice.edwards@Wireless Information Device getsrus.com
Work phone 1	0207 200 2000
Work phone 2	0207 200 2012
Mobile	0840 1234 567
Address	1 The Science Park, London, N1 9PQ
Other info	Met her at meeting with Tom Jones, August 2000.

**Randall, Table 3**

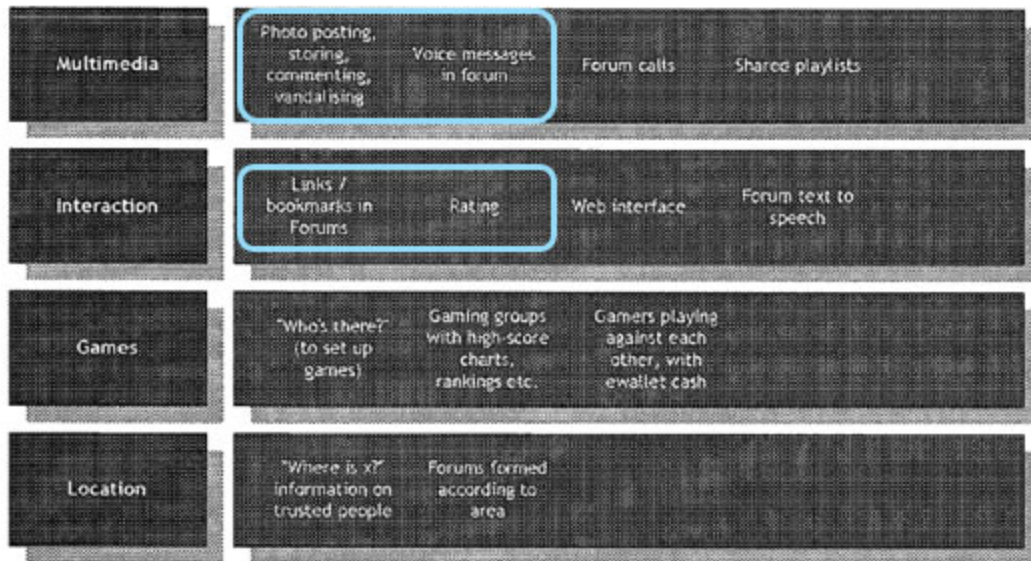
163. Thus, the combination of Randall and Forsyth discloses a “*first web-based interface is identified by a first uniform resource locator and the second web-based interface is identified by a second uniform resource locator different than the first uniform resource locator.*”

**4. Claim 7—“Shared Content”**

7. The method of claim 1 wherein the shared content is obtained from a device-captured data source of the first user, said device-captured data source comprising  
a source of at least one of device-captured video data,  
device-captured image data,  
device-captured audio data and  
device-captured location coordinates.

164. The combination of Randall and Forsyth discloses “*the shared content is obtained from a device-captured data source of the first user, said device-captured data source comprising a source of at least one of device-captured video data, device-captured image data, device-captured audio data and device-captured location coordinates*” [7].

165. Randall and Forsyth each discloses capturing multiple types of content from a “*device-captured data source.*” For example, Forsyth discloses that in Forums “**personal content** such as photographs, opinions, music playlists, music tracks etc.” is shared “amongst a pre-defined group.” (Forsyth, 4:9-11.) Forsyth’s Figure 13 (reproduced below), is a table listing applications/features “enabled using Forums.” (Forsyth, 4:66-67.) This table shows a sampling of the content supported within Forums. For example, in the “Multimedia” row, Forsyth identifies “[p]hoto posting, storing, commenting, [and] vandalising” and “voice messages.” (See Forsyth, Figure 13.) The mention of commenting on photos indicates a forum member posts a message (message content) and vandalizing indicates a forum member posts graphic content. I specifically discuss capturing a photo, a message, a music file, and a graphic at a mobile device below. However, other examples from Randall and Forsyth are equally applicable.



**Symbian Forums—Forsyth, Figure 13**

**a. Device-Captured Image**

166. Randall and Forsyth each discloses capturing a photo at a wireless information device. Randall describes a function called “Take a picture” which involves photo capture, upload, and storage. (Randall, 80.) This function is supported by “a special type of mobile phone, with a photographic lens.” (Randall, 80.) I note the Nokia 7650 wireless device that I described above is an example of a commercially available device that included digital imaging (via a digital camera). In the “Take a picture” function, Randall directs the user to “[p]oint the phone at something that interests you or makes you laugh, press the button, and it takes a digital picture which you can send to your friends.” (Randall, 80.) Randall also describes a “[p]ersonal view” feature utilizing a “[c]amera in the wireless information device” for “posting images” to the server. (Randall, 74.) Thus, the

combination of Randall and Forsyth discloses “*the shared content,*” a photo (image), is obtained from a “*device-captured data source* (camera in the phone) *comprising . . . device-captured image data.*”

167. Forsyth similarly discloses an exemplary Forum for “Discussion of Photos” (Scenario 2) which uses the function of taking a picture at the wireless device. For example, a “user is on holiday, and he takes a few photographs of the beach with his digital camera.” (Forsyth, 7:30-31.) He then “uploads them to his remote storage area”, “creates a Forum message based on the photographs” and “sends it to a group.” (Forsyth, 7:32-35.) After the group is created, “[s]ome people post their own photos back.” (Forsyth, 7:41-42.) In the exemplary Forum “A Digital Memento from a User’s Birthday” (Scenario 4), Forsyth teaches that Forum members post “photos.” (See Forsyth, 9:5-35.) As I discussed above, Randall describes a mobile device integrating a digital camera. (Randall, 80.) Thus, the combination of Randall and Forsyth discloses capturing a photo at the mobile device either via an integrated camera or via a camera interfacing with the mobile device.

168. As these examples describe, a captured photo/image is either part of the Forums message published/posted to a Forum or uploaded by the user to his/her user profile and later designated for inclusion into a Forum.

## b. Device-Captured Audio/Music File

169. Forsyth discloses capturing a music file at the wireless information device. Forsyth teaches the central server “act[s] as a store for resources which group-members may wish to discuss **and share** (e.g. personal information, personal photographs, **music**, web sites etc).” (Forsyth, 3:31-34; *see also*, Forsyth, 4:9-11 (“The group object could also be used to share, amongst a pre-defined group, personal content such as photographs, opinions, music playlists, **music tracks** etc.”).) Forsyth describes a “Radio Forums” example in which “users submit tracks to a communally-built-up playlist” which is achieved “by creating a link between the user’s store of digital music and the playlist stack.” (Forsyth, 11:41-47.) Forsyth further describes an exemplary Forum (Scenario 4) where “[p]eople post MP3s of the kind of music played at each club.” (Forsyth, 9:21-22.) While not explicit, a POSITA would have understood the shared track/MP3 (music file) is captured in some manner on the user’s device, either by recording or via data transfer from another device, so that it can be uploaded to the server.

170. Randall also mentions the function called “[s]end me something” which allows a user “to send someone pictures, words, video clips or **music** while you are talking to them.” (Randall, 80:1-5.) While mentioned in the context of an on-going communication (e.g., a voice call or chat session), Randall describes “send me something” generally as a feature that provides “[r]icher [c]onversations.” (*See*

Randall, 80) Therefore, a POSITA would have understood and been motivated to also use this function as part of Forums which supported chat and voice conversations among group members.

171. As these examples describe, a captured music/audio file is either part of the Forums message published/posted to a Forum or uploaded by the user to his/her user profile and later designated for inclusion into a Forum. A POSITA would have understood that voice comments and music files are “*device-captured audio data*” and therefore the combination discloses “*device-captured data source comprising . . . device-captured audio data.*”

### **c. Device-Captured Graphic**

172. The combination of Randall and Forsyth discloses capturing a graphic. For example, Randall describes capturing a graphic via a “[w]rite-[o]n” function. (Randall, 79.) With this function, “[i]nstead of text-messaging and keying-in your message, a new device which is a cross between a mobile phone and a palm pilot will let you write on the screen – in your own handwriting – and send the entire image as a message instead.” (Randall, 79) And as I mentioned above, Forsyth discloses “vandaliz[ing]” a picture posted in a Forum (*see* Forsyth, Figure 13), which I understand involves layering a graphic on an existing picture. Thus, the combination of Randall and Forsyth discloses “*the shared content,*” a graphic

(image), is obtained from a “*device-captured data source* (screen capture capability on phone) *comprising . . . device-captured image data.*”

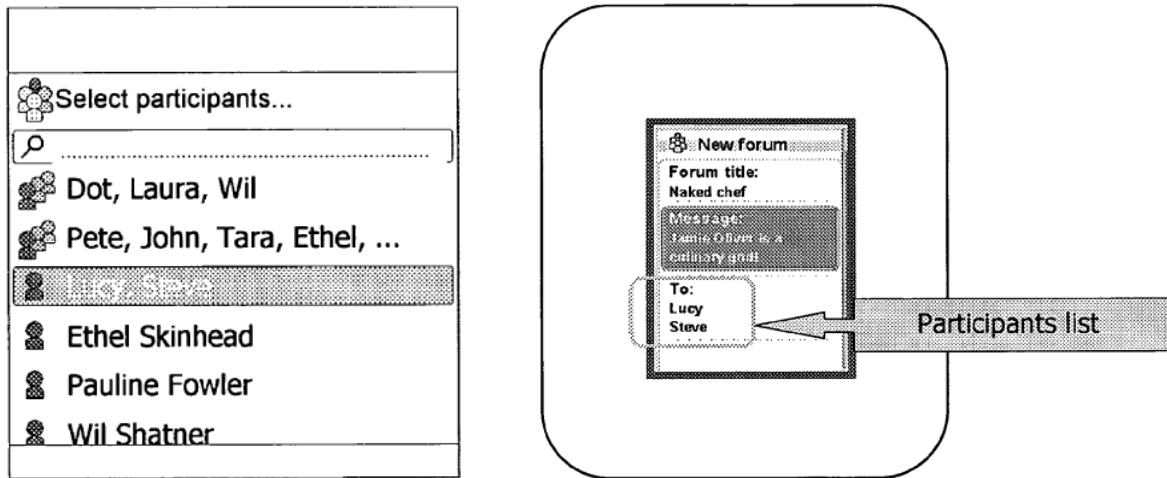
## 5. Claim 9

9. The method of claim 1 wherein the one or more additional users comprise individuals that with the first user and by mutual consent collectively comprise a group of members that have access to at least a portion of said shared content via the second web-based interface.

173. When a Forum is created, the initial message and participant list are provided “to the message server” as a message/communication object and a group object respectively. (*See Forsyth, 6:1-8.*) The server “forwards a copy of the message to each of the people on the address list, along with an abstracted version of the address list.” (*Forsyth, 6:9-14.*) The invited participants can “decline to participate” and if so are then “removed from the address list on the server.” (*Forsyth, 6:15-17.*) Therefore, the Forum is created by “*mutual consent*” of the “*first user*” creating the Forum and the “*one or more additional users*” invited to the Forum that agree to participate.

174. This is illustrated in Forsyth’s “group-based text messaging” (Scenario 1) Figures (below). In this example, when creating a Forum, the user “has to select whom he wishes to invite.” (*Forsyth, 5:50-51; Figure 3 (below-left).*) As shown in Figure 3, the user selects Lucy and Steve as participants in the Forum. (*Forsyth, 5:52-63.*) The new Forum, illustrated in Figure 4 (below-right), has the title (“Naked Chef”), the message itself (“Jamie Oliver is a culinary god”), and indicates the

Forum participants selected to receive the message (Lucy and Steve). (Forsyth, 5:64-67.)



**Symbian Forums—Forsyth, Figure 3 (left), Figure 4 (right)**

175. As shown in the Figures above from Forsyth which depict the user interface of the wireless information device, the Forum creator is the “*first user.*” (See Forsyth, 4:61-62 (“FIGS. 2-11 are screen shots of the display of a wireless information device running the Forums application.”).) The identified participants, who will become forum members if they agree to participate in the Forum, are the “*one or more additional users*” who “*by mutual consent collectively comprise a group of members.*” After the Forum is created, members can send new messages “to the server, which then forwards on the increment [i.e., the new Forum content] to all the people on the current (server-maintained) address list.” (Forsyth, 6:18-22.)

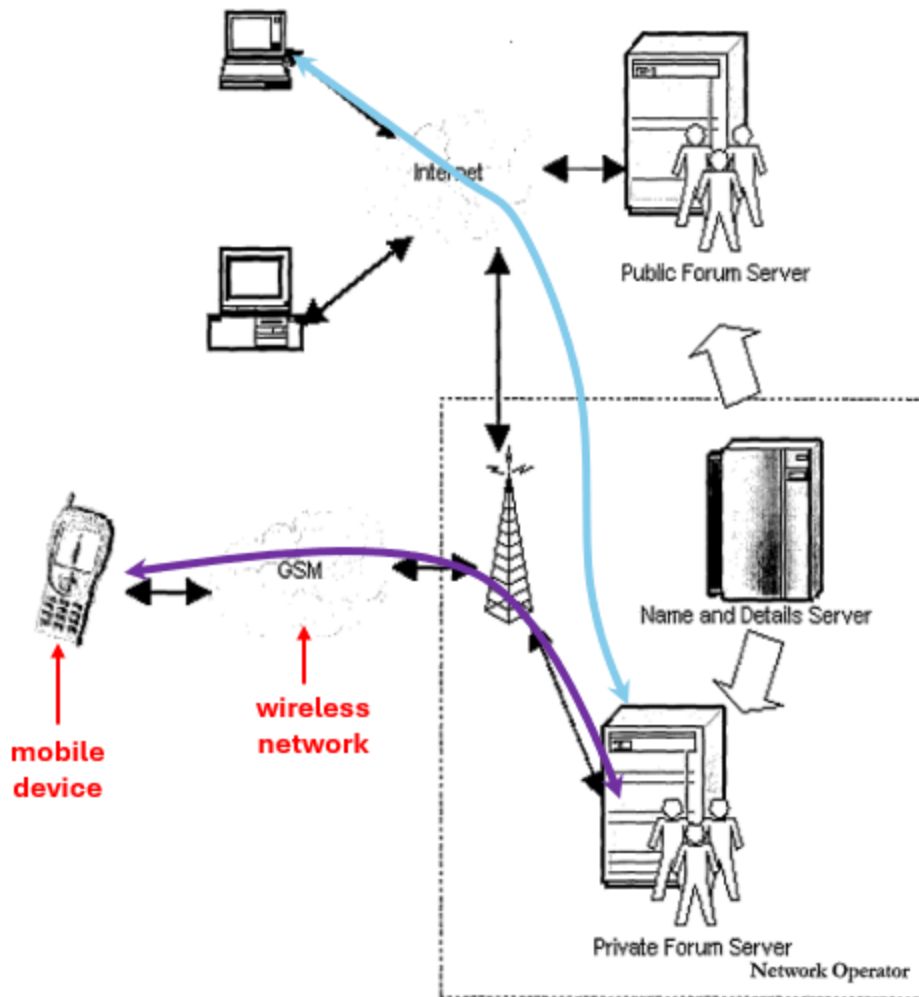
176. By agreeing to participate in a Forum, an individual user is essentially “tuning into” the Forum to receive content published to the Forum by other members

which is provided to the user's device either by a push mechanism or by a pull mechanism. (See Forsyth, 6:15-26.) Therefore, as I discussed in §IV.B.4.b, the “group of members” “have access to at least a portion of said shared content via the second web-based interface.”

**6. Claim 13-14—“Server”**

13. The apparatus of claim 11 wherein the processing element comprises at least one server.
14. The apparatus of claim 13 wherein the server is accessible over the Internet via a network interface.

177. The combination of Randall and Forsyth discloses that the server includes a “processing element” with “at least one server” [13] “accessible over the Internet via a network interface” [14]. Randall explains that the Symbian infrastructure implementing Forums includes “internet servers.” (Randall, 7:16-19.) The servers used in the infrastructure “embrace[] existing standards and initiatives” and “use[] standard data transports such as WAP or http for data access.” (Randall, 45:14-15.) That is, as illustrated in Figure 4 below, Randall uses “existing transports” (communication means) for client-server communication such as “WAP to access the services on the server side” and “standard IP formats such as MIME, SMTP and HTTP” to “enable compatibility with Internet Messaging systems.” (Randall, 58:23-27.) As stressed by Randall, “the Internet and its servers can be used by a mobile device to deliver enchanting services that far surpass the present PC-Internet model.” (Randall, 46:8-10.)

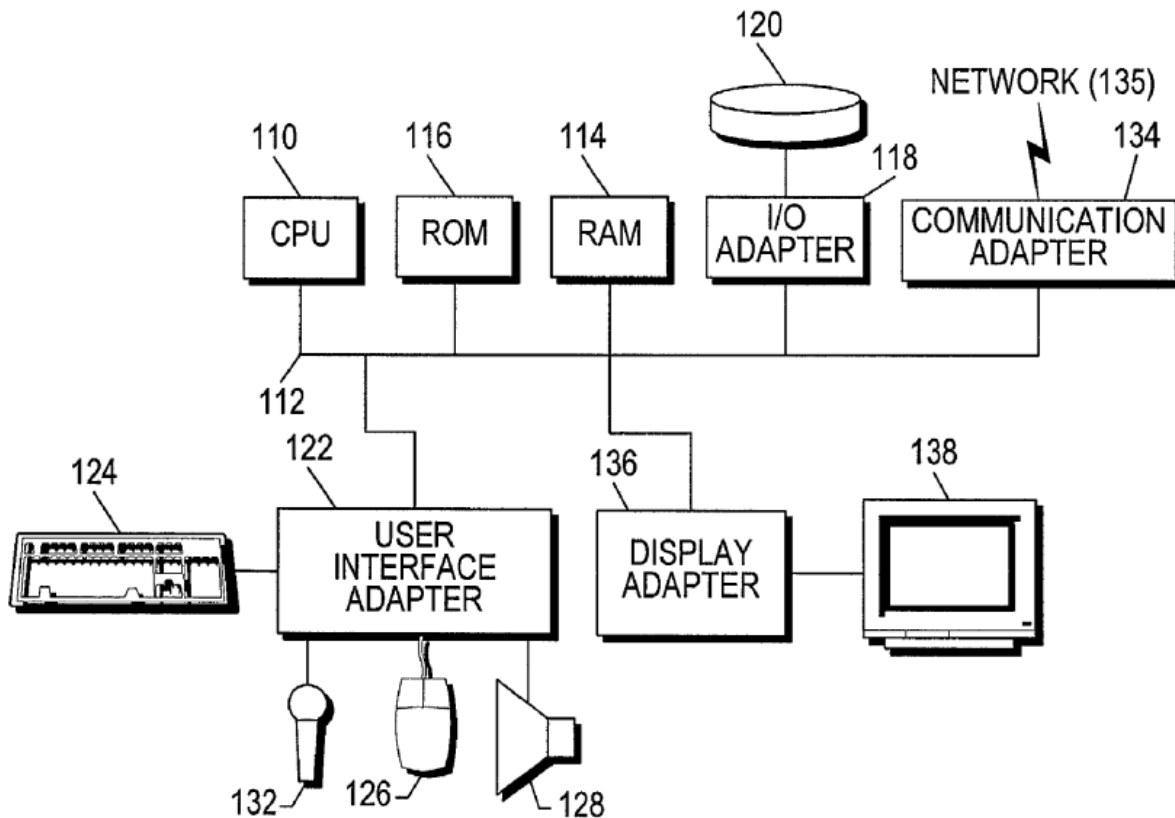


**Symbian Forums—Randall, Figure 4**

178. Randall and Forsyth each discloses or at least suggests to a POSITA the server includes “*network interface*” for communication over the Internet via protocols such as HTTP. Moreover, it would have been within the general knowledge of a POSITA that a server includes “*a network interface.*” The need for an interface to handle network communications would have been well-understood

by such an individual. I provide several examples of servers with network interfaces below.

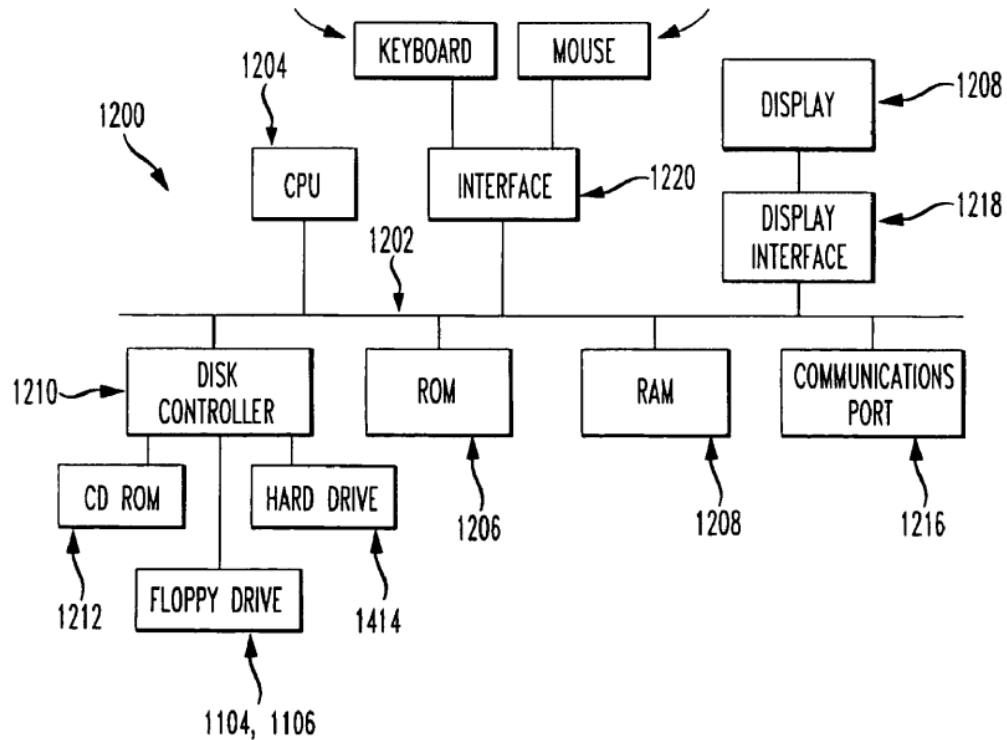
179. **U.S. Patent 7,802,207 to Agboatwalla et al. (“Agboatwalla”; EX-1024):** Agboatwalla discloses a “typical hardware configuration” of a workstation. (Agboatwalla, 5:40-42.) The configuration includes “communication adapter 134 for connecting the workstation to a communication network.” (Agboatwalla, 5:45-55.)



**Agboatwalla, Figure 1**

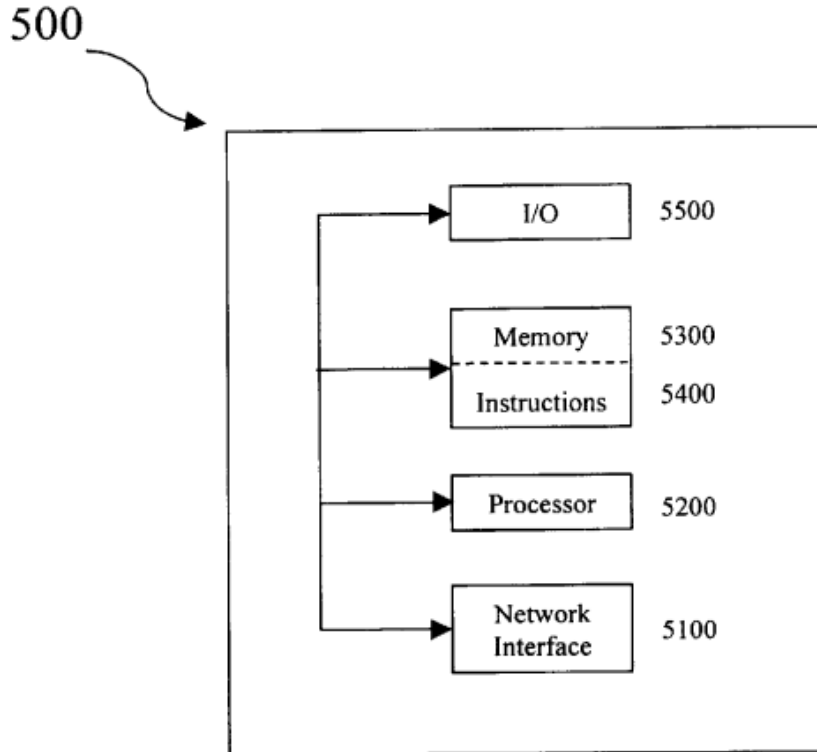
180. **U.S. Patent 7,574,486 to Cheng et al. (“Cheng”; EX-1025):** Cheng discloses “a block diagram of the internal hardware of [a] computer system”,

illustrated in Figure 12 (below). (Cheng, 23:26-27.) The computer system includes a communications port 1216 for communications with a transport medium such as wireless communication network. (Cheng, 23:29-51.)



Cheng, Figure 12

181. U.S. Patent 6,788,949 to Bansal (“Bansal”): Bansal explains that “a typical information device” which can “symbolize” a server, illustrated in Figure 5 (below), includes “well-known components such as one or more network interfaces 5100.” (Bansal, 6:66-7:5.)



**Bansal, Figure 5**

182. Additionally, Pelkey and Eck which I discuss in Ground 2 discloses a server having a network interface. (See, e.g., Eck, 3:46-47; Pelkey, 5:7-14.)

**7. Claim 16—“Contact List”**

16. The method of claim 1 further comprising maintaining a contact list for the given mobile information channel, the contact list comprising the one or more additional users.

183. Forsyth discloses that after “the creator of the Forum finishes choosing participants,” “the initial message is created; an address list for that message is created; these two are sent to the message server,” which “stores these two objects and forwards a copy of the message to each of the people on the address list, along with an abstracted version of the address list, (abstracted so that all the participants

can see the nicknames of all other participants, but not necessarily see everything about their real world details).” (Forsyth, 6:1-14.) The server then maintains the address list for the Forum. (Forsyth, 6:21-22 (referring to “the current (server-maintained) address list”).)

184. Thus, the combination of Randall and Forsyth discloses “*maintaining a contact list for the given mobile information channel, the contact list comprising the one or more additional users.*”

#### 8. Claim 20—“Chat Channel”

20. The method of claim 1 wherein the given mobile information channel comprises a chat channel.
--

185. Symbian Forums, described by Randall and Forsyth, is a group-based, two-way communication platform allowing users to interact with one another. Forums “is designed specifically to allow current and very popular internet type services (e.g., **chat/instant messaging between groups**) to be handle[d] effectively between mobile devices.” (Forsyth, 2:42-45, 5:10-14 (same).) Forsyth’s Figure 1 (reproduced below) specifies the capabilities of Forums including “creat[ing] a discussion between group members on your own device.” (See Forsyth, Table 1; see also Forsyth, 5:27-30 (“Forums ... allows multiple **chat-style** conversations to take place simultaneously.”).) As I discussed throughout, the Scenarios presented in Forsyth illustrate a Forum starting with an original post followed by replies from other Forum members.

Capability:	Can you create a discussion between group members on your own device?  (Important since it facilitates setting up a group discussion)	Push delivery?  (Push is more convenient to mobile users)	Is it possible to retain a long term record of exchanges between group members?  (An important attribute for many new kinds of services)	Can you deliver messages to all members of a group, or is it restricted to one to one?  (Clearly critical to group based messaging)	Do all group members see the same, unitary message thread, or are there instead many separate individual messages?  (A single, unitary message entity (e.g. a thread) makes message organisation and navigation far easier.)	If a recipient is off-line (e.g. messaging app not open), are they alerted anyway?  Potentially very important for mobile useage because of the high proportion of time users may not be on-line (i.e. actively using their messaging application).
Web bulletin board	No	No	Yes	Yes	Yes	No
Chat/instant messaging	Yes	Yes	No	Yes	Awkward	No
Group e-mail	Yes	No	Awkward	Yes	No	No
SMS	Awkward	Yes	No	Awkward	No	Yes
Forums	Yes	Yes	Yes	Yes	Yes	Yes

Forsyth, Figure 1

186. In addition to ability to chat simultaneously with all members of the forum, Forums “include[s] a **Private chat function**” which allows “a Forum participant to establish a private conversation (e.g., SMS or voice) with another Forum participant.” (Forsyth, 7:9-12.)

187. Accordingly, the combination of Randall and Forsyth discloses “*the given mobile information channel comprises a chat channel.*”

## 9. Claim 21—“Personalized Messaging Content”

21. The method of claim 1 wherein the messaging content comprises personalized messaging content for the first user.
--

188. As discussed in §IV.D.8, Symbian Forums is a group-based, two-way communication platform allowing users to interact with one another.

189. Forsyth is directed to a “group communication method” using a “group object” to specify identities of group members. (*See, e.g.*, Forsyth, 1:15-16, 2:17-27.) This “group object” can also be used to “share, amongst a pre-defined group, **personal content** such as photographs, opinions, music playlists, music tracks etc.” (EX-1006, 4:9-11.) Forsyth provides a detailed discussion of Forums enhanced through the use of group objects and presents numerous use scenarios of this enhanced version of Forums that can be used to share personalized content. (*See, e.g.*, Forsyth, 7:18-57 (Discussion of Photos (Scenario 2)), 9:5-35 (Digital Memento from a User’s Birthday (Scenario 4)).)

190. For example, as discussed in §IV.D.4.a, Randall and Forsyth each disclose capturing a photo at a wireless device either via an integrated camera or via a camera interfacing with the mobile device. Randall describes a function called “Take a picture” which allows a user to “take[] a digital picture” and “send [it] to [their] friends.” (EX-1005, 80.) Forsyth similarly discloses an exemplary Forum for “Discussion of Photos” (Scenario 2) where a user “takes a few photographs” that “[h]e wants some of his work colleagues to see.” (EX-1006, 7:30-35.) To create this

Forum, the user “creates a Forum message based on the photographs” and “sends it to a group.” (EX-1006, 7:35-36.) All group members receive (or are given access to) an object which incorporates or references the photographs. (EX-1006, 7:37-39.) Additionally, in the exemplary Forum “Digital Memento from a User’s Birthday” (Scenario 4), members post “photos” to a Forum. (See, EX-1006 9:5-35.) These photos are just a few examples of “personalized content” supported by Forums.

191. In addition to sharing personal content, a user has the option of initiating a private chat with another Forum member. Specifically, Forsyth discloses that Forums “include[s] a **Private chat function**” between Forum members. (EX-1006, 7:9-12.)

192. Thus, the Randall-Forsyth combination discloses “*messaging content compris[ing] personalized messaging content for the first user.*”

## 10. Claim 22

22. The method of claim 21 wherein the given mobile information channel integrates location-based service information of the wireless network with the personalized messaging content.
--

193. Randall and Forsyth also both discloses that the “*the given mobile information channel integrates location-based service information of the wireless network with the personalized messaging content*” [22]. Forsyth teaches that device location is obtained “via some onboard method such as **GPS.**” (Forsyth, 13:45-58.) Randall similarly discloses obtaining location “via a GPS wireless information

device.” (Randall, 74; *see* Randall, cl. 7 (reciting that user location “is obtained using a GPS system”).) GPS location data is stored in the database associated with the user, as shown in the excerpt of Table 1 (reproduced below).

**Table 1**

<b>Alice's iData</b>			
<b>Field/Attribute</b>	<b>Category</b>	<b>Details</b>	<b>i-Groups</b>
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all

•  
•  
•

Bluetooth	location	Bluetooth pods 1000-1020 ...Sentinel room 2...	
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

**Randall, Excerpts from Table 1**

194. Randall describes several navigation-like features. For example, in the people tracking feature, after the user has subscribed to the location service, associated groups (e.g., friends/parents) “could add a ‘map’ application to their own

devices, which could show their position on digital maps and also, by using the location attribute of the user's database, it could also show the position of the user."

(Randall, 6:1-4.)

195. Randall also describes a feature called "[y]our map and then some" where "[a]t the touch of a button, your phone can display a map of the area you are standing in." (Randall, 83.) Randall further describes a feature called "[r]endezvous" where a "service on your mobile phone [] help[s] you meet friends and family in crowded or unfamiliar places" and "you can elect to have your location visible to others - so using your phones everyone in your group can tell precisely where the other are." (Randall, 83.)

196. Because the mobile device includes a GPS component and integrates navigational features, the combination of Randall and Forsyth discloses the "*the given mobile information channel integrates location-based service information of the wireless network with the personalized messaging content.*"

## 11. Claims 19, 23 and 24—“Messaging Content”

19. The method of claim 1 wherein the second web-based interface is configured to provide at least a portion of the shared content to the one or more additional users utilizing one of a short message service (SMS) and a multimedia message service (MMS).

23. The method of claim 1 wherein the messaging content comprises at least one of an image, a video, a short message service (SMS) message and a multimedia message service (MMS) message.

24. The method of claim 1 wherein the messaging content comprises at least one of announcements, notes, surveys, promotions and contests.

197. As discussed above in connection with claims 1 and 7 (§§IV.B, IV.D.4), the combination of Randall and Forsyth discloses that the “*messaging content comprises at least one of an image.*” And for this reason alone, the combination of Randall and Forsyth discloses “*the messaging content comprises at least one of an image, a video, a short message service (SMS) message and a multimedia message service (MMS) message*” as recited in claim 23.

198. Forsyth teaches that when starting a Forum, “a user sends a short message to his chosen recipients” by entering “a SMS-style message and Forum title into the wireless communication device.” (Forsyth, 5:45-48.) Forums also “allow[s] a Forum participant to establish a private conversation (e.g., SMS or voice) with another Forum participant.” (Forsyth, 7:9-12.) For this additional reason, the combination discloses claim 23 and also discloses “*the second web-based interface is configured to provide at least a portion of the shared content to the one or more*

*additional users utilizing one of a short message service (SMS) and a multimedia message service (MMS)” as recited in claim 19.*

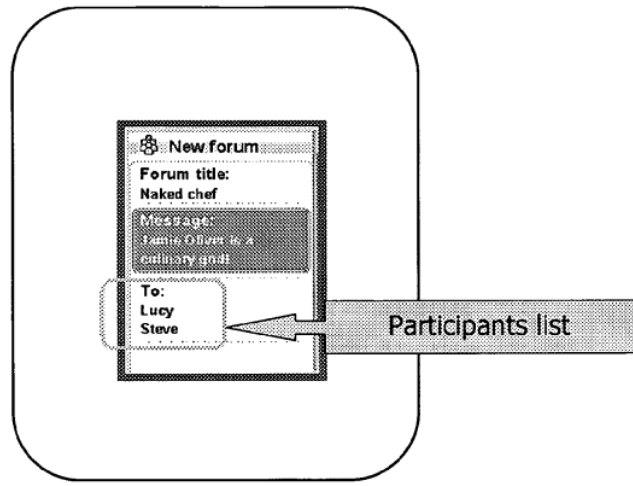
199. The Randall-Forsyth combination also discloses that “*the messaging content comprises at least one of announcements, notes, surveys, promotions and contests*” [24]. Specifically, Randall teaches that a user can share a “InstaPoll” such as “AlbumOfTheWeek” as well as a “home note” and a “work note” with individuals or groups. (Randall, 67.) Randall also discusses the use of its infrastructure to conduct “Opinion polls.” (Randall, 74.)

## **12. Claim 25**

25. The method of claim 1 wherein at least a portion of the shared content is authored by the first user.
---

200. The combination of Randall and Forsyth discloses that “*at least a portion of the shared content is authored by the first user*” [25].

201. As I discussed above in claim 1 (§IV.B), as seen in Figure 4, the “*first user*” types in the initial message (“Jamie Oliver is a culinary god!!”) (“*author[s]*” “*at least a portion of the shared content*”). (Forsyth, 5:52-63.)

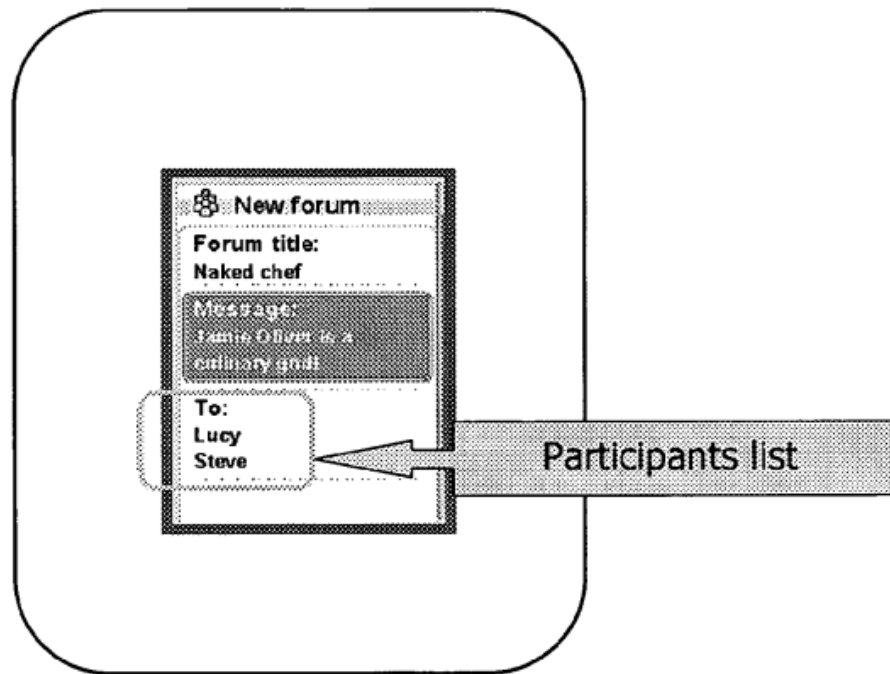


**Symbian Forums—Forsyth, Figure 4**

**13. Claim 26**

26. The method of claim 1 wherein the first web-based interface is configured to allow the first user to title the given mobile information channel.

202. As shown in Figure 4 (below), the user is presented with a “new forum” screen on the user interface through which the user creates a Forum. As shown, when creating a Forum, the user enters the Forum title (“Naked Chef”), and types in the initial message (“Jamie Oliver is a culinary god!!”). (Forsyth, 5:52-63; *see also* Forsyth, 8:44-46 (“In this Scenario, a user “creates a new Forum titled ‘Anyone fancy a trip to the cinema next week some time?’”).) Thus, the combination of Randall and Forsyth discloses “*the first web-based interface is configured to allow the first user to title the given mobile information channel*” [26].



**Symbian Forums—Forsyth, Figure 4**

**V. GROUND 2: The Combination of Pelkey and Eck Renders Claims 1, 6-11, 13-16, 20, 21, 23-25 Obvious**

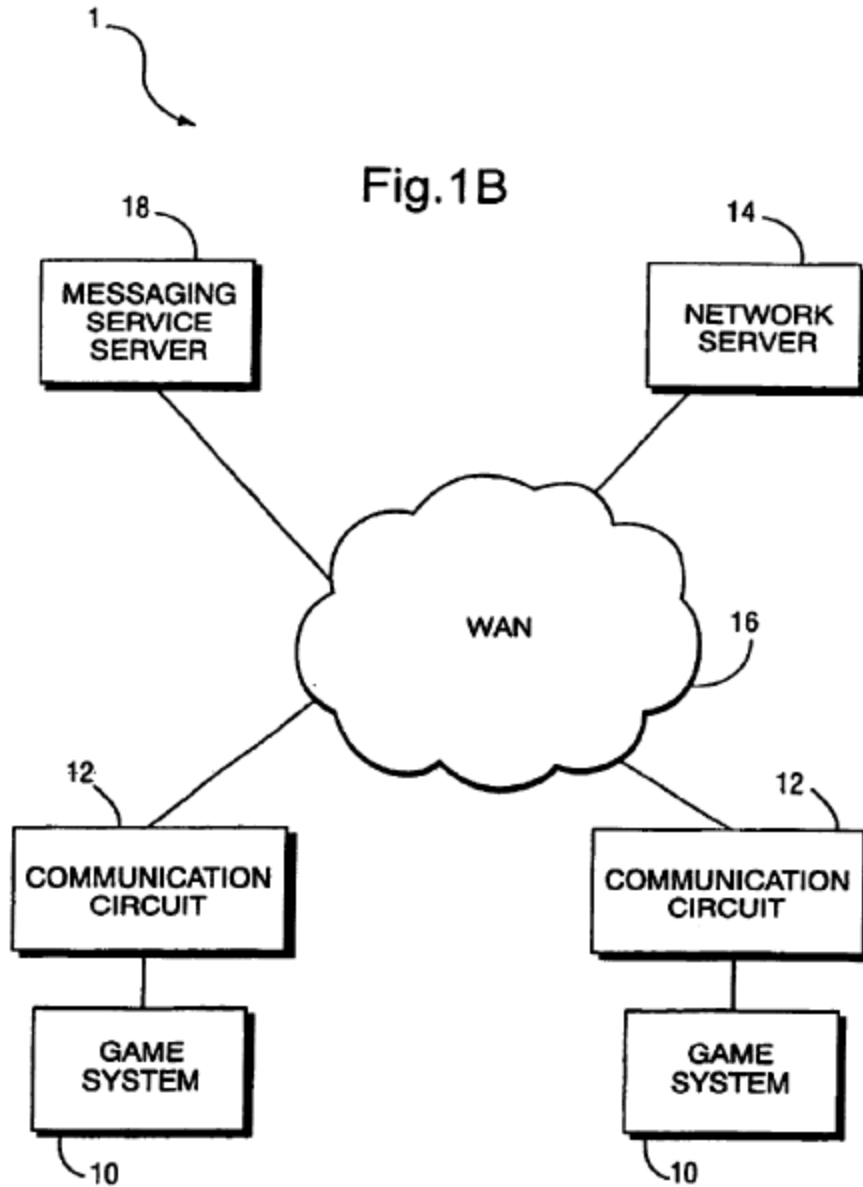
**A. Overview of the Combination**

203. U.S. Patent 7,056,217 to Pelkey et al. (“Pelkey”) and U.S. Patent 6,716,103 to Eck (“Eck”), both assigned to Nintendo Co., Ltd., relate to different aspects of a messaging system established for users of handheld Nintendo game machines, specifically the well-known Nintendo Game Boy® device.

**1. Pelkey**

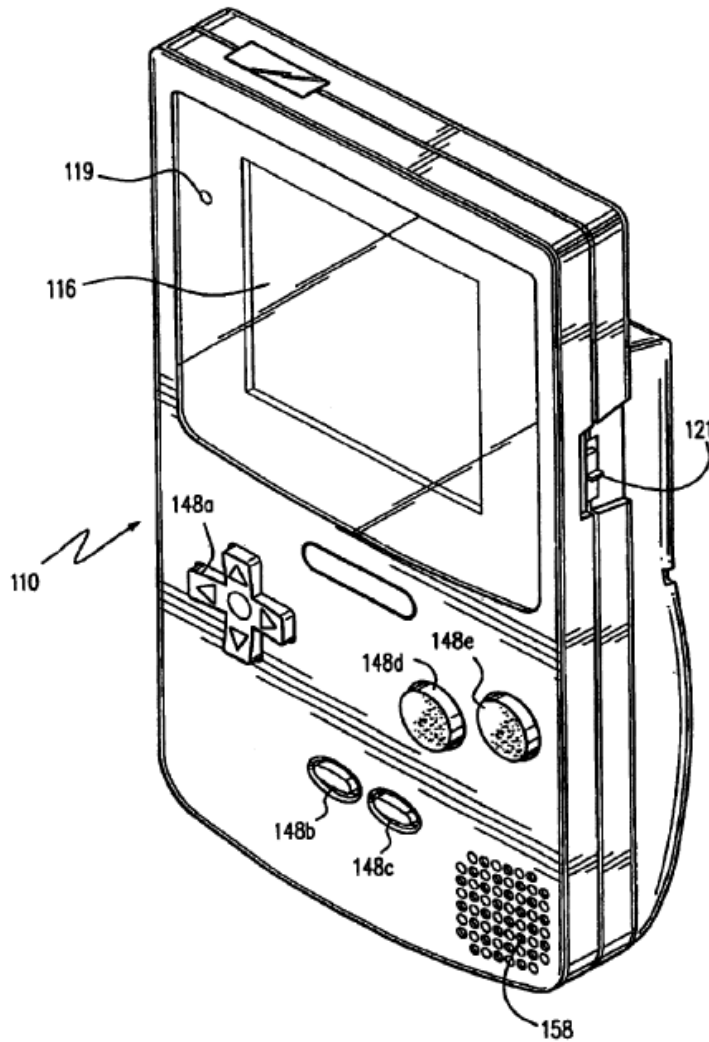
204. Pelkey was filed on November 28, 2000. Pelkey relates “to a messaging service for communicating messages between and among users of video game

systems.” (Pelkey, 1:14-16.) Figure 1B of Pelkey, reproduced below, illustrates a network “in which the messaging service described herein may be implemented.” (Pelkey, 2:58-60.) The network “includes game systems 10 connected via communications circuits (e.g., modems, network interfaces, etc.) to a wide area network.” (Pelkey, 2:60-62.) A network server 14 “stores games that may be played by users of the network.” (Pelkey, 3:4-5.) A messaging server may be included within the network server or as a standalone component. (Pelkey, 3:9-31.)



**Pelkey, Figure 1B**

205. Two game systems may be used for game system 10. (Pelkey, 3:32-33.) First, “a portable (hand-held) color-display game system,” shown, for example, in Figure 3B (below) may be used. (Pelkey, 4:55-57.) Second, a game console such as the N64 video game system may be used. (Pelkey, 3:38-48, Figure 2.)



**Pelkey, Figure 3B**

## 2. Eck

206. Eck was filed on September 11, 2000. Eck discloses a modified version of the Nintendo Game Boy® (“portable game machine”) that “provides enhanced multi-player capabilities through communications with other game machines.” (Eck, 1:48-51.) Multi-player game play is achieved using a “pager cartridge” which is inserted into the “portable game machine” which may contain “a modem or other

network interface means for establishing communications over a network such as the Internet.” (Eck, 9:43-46, 9:60-61, 27:51-53.) One class of games capable of being used with the “portable game machine” is “Multiple User Dungeon (MUD) games” which “are Internet-based on-line exploration and quest games in which an open-ended number of players simultaneously exist in the same game world, sharing experiences and adventures.” (Eck, 10:1-7.)

207. In an exemplary multi-user embodiment, Eck uses a “pager cartridge” to access “PagerWorld, a virtual community for the network of all users having pager cartridges.” (Eck, 10:20-23.) In “PagerWorld,” “[p]layers can find pen-pals” and “view message boards,” among other activities. (Eck, 10:40-42.) “Players are represented in PagerWorld by a ‘persona character’ ... that all other PagerWorld players will see.” (Eck, 10:23-25.) “The system also enables bidirectional transmission of messages with images and sound bytes to other pagers in the network using, for example, a digital camera cartridge in combination with a pager cartridge.” (Eck, 16:42-45.) Importantly, “image data obtained with a digital camera cartridge” can be used to “customize the persona character.” (Eck, 12:38-40.)

208. The “pager cartridge provides a two-way paging device that has the ability to receive messages from other users in the paging system as well as from the paging system operator.” (Eck, 9:40-43.) A user can conduct “messaging” activities within PagerWorld including “broadcasts to all pagers,” “group messages,” “digital

camera picture transmission (with/ without sound),” “messages plus sound bites,” and “messages to and from Internet.” (See Eck, 20:6-36.) Messages are read, composed and sent from the “Message Center” inside PagerWorld. (Eck, 11:27-29.) “Message Center” includes an “Address Book” that “provides a listing of other users by their handles” and “the persona character of the other user as it appeared on his/her last communication with the user.” (Eck, 11:32-35; see Eck 12:16-19.) “Messages from the paging system operator may be sent to all users in the paging system, to certain groups of users in the paging system or to a particular user in the paging system.” (Eck, 9:46-49.)

209. “PagerWorld is updated” is updated at regular intervals including “via night-time downloads when pager cartridge is in SLEEP mode.” (Eck, 13:1-5.) “When this occurs, new areas are made available for the player to ‘adventure’ within.” (Eck, 13:5-6.)

### **3. Motivation to Combine**

210. A POSITA would have been motivated to combine Eck’s teachings regarding PagerWorld with the network and message server architecture taught in Pelkey.

211. Pelkey and Eck both disclose an enhanced version of the Nintendo GameBoy® that is in the same field as the ’336 patent—“network-based communication systems.” (See EX-1001, 1:24-26; Pelkey, 1:37-42; Eck, Abstract.)

Pelkey and Eck are also reasonably pertinent to problems addressed by the '336 patent, namely “optimiz[ing]” the sharing of information content on mobile devices. (*See, e.g.*, EX-1001, 1:50-55.)

212. Eck discloses the features of a multi-player game, PagerWorld. Eck further discloses the ability to share photos and sound clips and exchange messages with other players. In the preferred embodiment, such information is exchanged using a “pager cartridge” where “message charges are generally based on the number of characters in the message.” (Eck, 16:57-60.) While Eck discloses that its “invention” can be applied to other technologies like WAP (Eck, 25:17-20), it does not specifically disclose a client-server structure as taught in Pelkey.

213. Pelkey discloses the use of a network server and message server to facilitate game play and exchanging messages amongst users. But it does not specifically disclose the integration of messaging and sharing content like photos and sound clips with other users within its client-server environment. A POSITA would be motivated to apply the network and message server architecture in Pelkey to Eck in order to avoid the charge-based system for exchanging messages and photos via pager cartridge in Eck. In addition, a POSITA would be motivated to modify the “pager cartridge” in Eck as necessary to use PagerWorld in Pelkey given the disclosed benefits of PagerWorld including “exploration and adventure,” “chat and community interaction,” and “character growth.” (Eck, 10:13-19.) Notably,

Pelkey does not describe any game play that includes in-game messaging in conjunction with the aforementioned features. In addition, the combination is nothing more than the application of a known technique (Eck's PagerWorld game) to a known method/product (Pelkey's client-server based messaging server) which was ready for further improvement to achieve predictable results. Replacing the pager system infrastructure in Eck with the client-server architecture in Pelkey is the simple substitution of a one known element for another to achieve a predictable result (internet-based functionality). As is using the PagerWorld "pager cartridge" in the Pelkey portable game machine.

214. A POSITA would have had a reasonable expectation of success in the combination and the results of the combination would have been predictable because both references are directed to the same product and activity (game play). Both Pelkey and Eck disclose the desirability of combining messaging capabilities with game play in a portable gaming system. (Pelkey, 2:20-23; Eck, 10:32-44.) And as explained below, the complimentary network architecture disclosed in Pelkey and Eck further demonstrates that such a modification could be made with a reasonable expectation of success.

## B. Independent Claims

215. The '336 patent includes four independent claims—a method claim (claim 1), a computer-program product (“CPP”)-style claim (claim 10), an apparatus claim (claim 11), and a network-based communication system claim (claim 15).

### 1. Claims 1, 11, and 15

216. Independent claims 1, 11, and 25 include substantially overlapping claim limitations. In the table below I provide a citation to the section discussing each limitation.

<b>Claim 1</b>	<b>Claim 11</b>	<b>Claim 15</b>	<b>Section</b>
[1P] A method for managing information content in a network-based communication system, the method comprising the steps of:	[11P] An apparatus for use in managing information content in a network-based communication system, the apparatus comprising:	[15P] A network-based communication system, comprising:	V.B.1.a
	[11A] a processing element comprising a processor coupled to a memory;		V.B.1.a.(2)

		[15A] a plurality of servers configured to communicate over a network;	V.B.1.a.(3)
[1A] providing a first web-based interface accessible to a first user,	[11B] the processing element providing at least a portion of a first web-based interface accessible to a first user,	[15B] at least one of the servers providing at least a portion of a first web-based interface accessible to a first user,	V.B.1.b
[1B]/[11C]/[15C] the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users; and			V.B.1.c
[1C] generating a second web-based interface different than the first web-based interface,	[11D] the processing element generating a second web-based interface different than the first web-based interface,	[15D] wherein said at least one server generates a second web-based interface different than the first web-based interface,	V.B.1.d
[1D]/[11E]/[16E] wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;			V.B.1.e
[1E]/[11F]/[16F] wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and			V.B.1.f
[1F]/[11G]/[16G] wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.			V.B.1.g

**a. Preambles [1P]/[11P]/[5P]**

**(1) Preamble [1P]**

[1P] A method for managing information content in a network-based communication system, the method comprising the steps of:

217. The Pelkey-Eck combinations discloses a method for performing the actions recited in limitation [1A]-[1F] as discussed in §§V.B.1.b-g.

**(2) Preamble [11P] and Processing Element [11A]**

[11P] An apparatus for use in managing information content in a network-based communication system, the apparatus comprising:

[11A] a processing element comprising a processor coupled to a memory;

218. The combination of Pelkey and Eck discloses a server which is an “*apparatus*” in a “*network-based communication system*” as shown in Pelkey Figure 1B above. §V.A.1 Pelkey discloses a server that is “*for use in managing information content in a network-based communication system.*” For example, Pelkey discloses a “message service” provided on a “message service server” that “enables users of video game systems to communicate with each other over the Internet or some other wide or local area network.” (Pelkey, 1:37-42, 3:18-21, Fig. 1B.)

219. The combination of Pelkey and Eck discloses a server having a “*processing element comprising a processor coupled to a memory.*” Pelkey recites, in its claim 18, a “server process for a game network server embodied on a storage device and comprising instructions executable by a server processing system.”

(Pelkey, 16:44-46.) Thus, Pelkey discloses “a processor [processing system] coupled to a memory [storage device].” While Pelkey does not discuss this structure in the detailed description, a POSITA would have understood that the hardware used for a server is a digital computing device such as a personal computer. Such a personal computer is the host 1201 shown in Pelkey’s Figure 6B below. (See Pelkey, 12:43-45.)

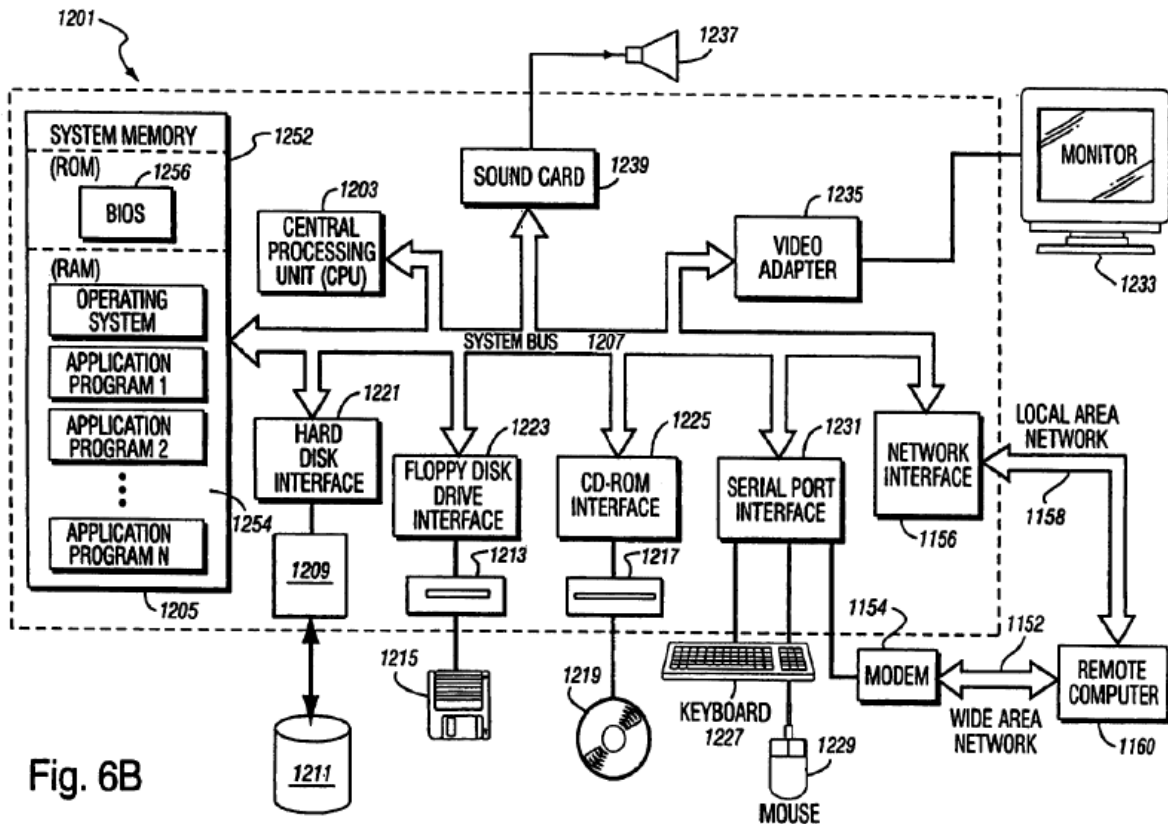


Fig. 6B

Pelkey, Figure 6B

220. Should PO contend “memory” of the “processing element” must store instructions executed by the processor, such memory would have been obvious, if

not inherent in Pelkey and Eck which both teach software running on the server. Because the software/applications executing on a processor are stored in memory and also access information stored locally in memory, a POSITA would have understood Pelkey and Eck further disclose or suggest the “*processor [is] coupled to a memory.*”

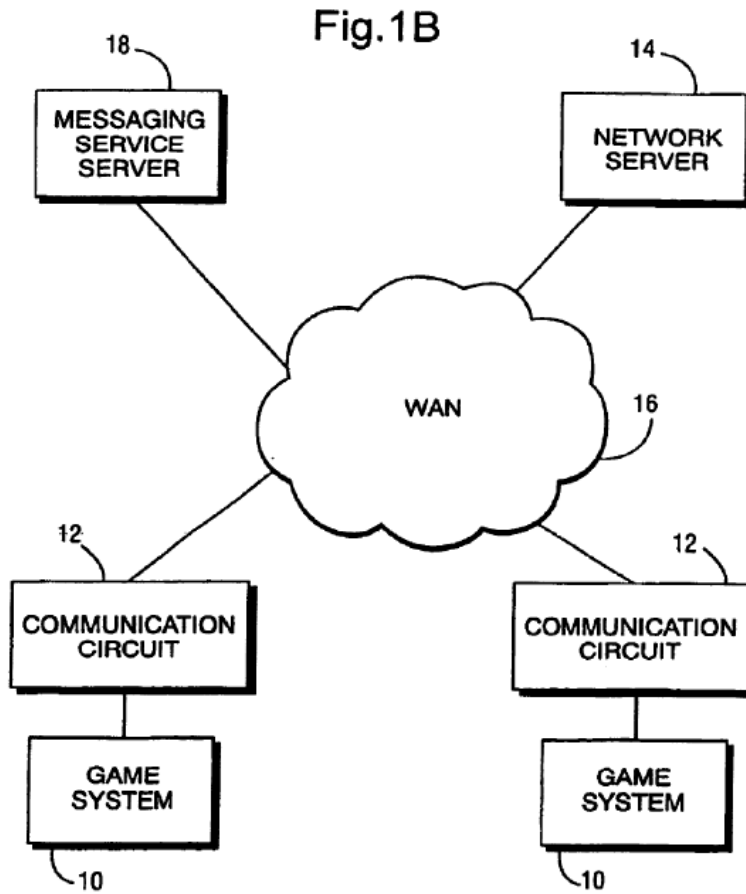
221. Moreover, it would have been within the general knowledge of a POSITA that a server includes “*a processor coupled to a memory.*” As I discussed in §III.B a POSITA has a “bachelor’s degree in electrical engineering, computer science, or similar field, with two years of experience in developing and implementing network-based computer systems that interact with mobile devices, such as systems for storing and retrieving information over the Internet or communicating using the Web using wireless mobile devices.” The high level design of a processing element shown in the ’336 patent would have been well-known to such an individual for the same reasons as above. §IV.B.2

**(3) Preamble [15P] and “Plurality of Servers” [15A]**

[15P] A network-based communication system, comprising:  [15A] a plurality of servers configured to communicate over a network;
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222. The combination of Pelkey and Eck discloses a “*network-based communication system*” [15P] comprising “*a plurality of servers configured to communicate over the network*” [15A]. For example, Figure 1B in Pelkey (below)

discloses an embodiment that includes a “Messaging Service Server” 18 and a “Network Server” 14 that communicate over the internet (depicted as “WAN” 16). The “Message Service Server” and “Network Server” together comprise a “*plurality of servers.*”



**Pelkey, Figure 1B**

**b. Limitations [1A]/[11B]/[15B]**

[1A] providing a first web-based interface accessible to a first user

[11B] the processing element providing at least a portion of a first web-based interface accessible to a first user

[15B] at least one of the servers providing at least a portion of a first web-based interface accessible to a first user,

223. The combination of Pelkey and Eck discloses “*providing [at least a portion of] a first web-based interface accessible to a first user*” [1A]/[11B]/[15B].

224. As an initial matter, the Pelkey-Eck combination discloses an “*interface accessible to a first user.*”

225. Eck discloses an first interface that appears when the PagerWorld cartridge is inserted:

FIG. 7 is a conceptual block diagram of an **interface** for pager cartridge 100 when it is connected to game machine 10. Turning on pager cartridge 100 when it is connected to game machine 10 takes the player to a main PagerWorld screen 200. This screen is the starting point for every user session.

(Eck, 10:55-60.) Figure 7 is reproduced below:

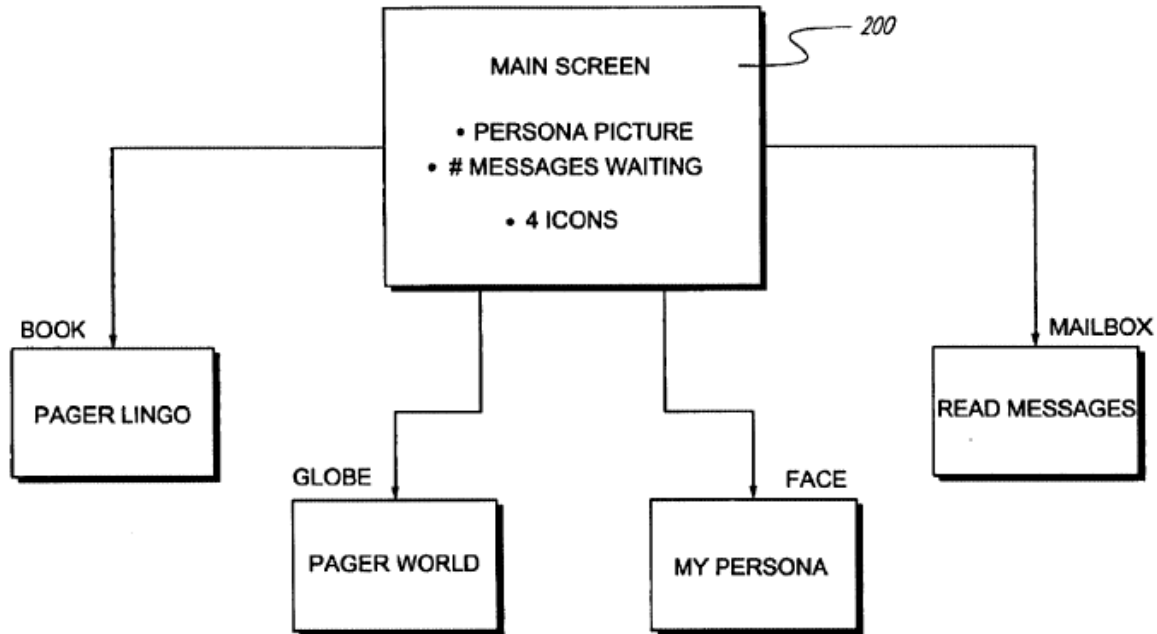


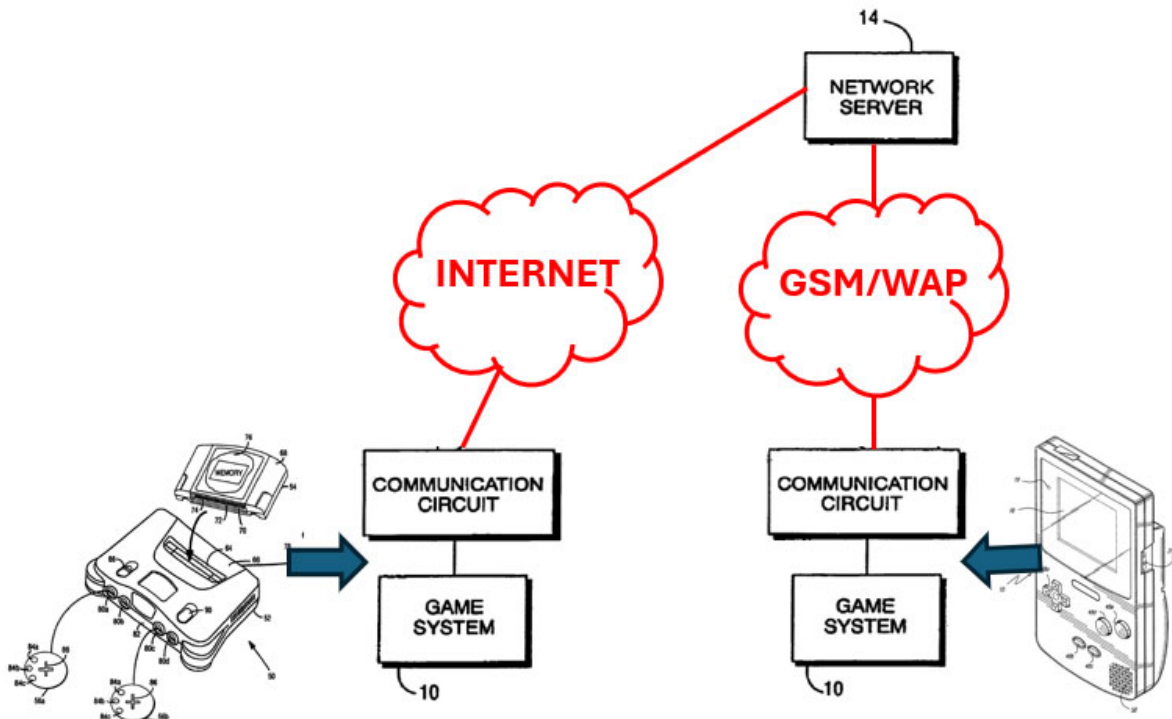
Fig.7

Eck, Figure 7

226. Once the “user session” is started, the user is taken to a “main screen” which gives the player choices including, as shown in Figure 8A, “Icon 206 (‘My Persona’) [which] is a face; icon 208 [which] is a book (‘Pager Lingo’); icon 210 [which] is an unopened envelope (‘Message Center’); and icon 212 [which] is a globe (‘PagerWorld’).” (Eck, 10:65-11:7.)

227. In the Pelkey-Eck combination, this interface is a “web-based interface accessible to a first user.” Both Pelkey and Eck are directed to a messaging service provided using a portable game machine as I have discussed above. Pelkey discloses a network “in which the messaging service” may be implemented. (Pelkey, 2:58-60.) The network “includes game systems 10 connected via communications circuits

12 (e.g., modems, network interfaces, etc.) to a wide area network 16 such as the Internet.” (Pelkey, 2:60-62.) Pelkey explains that game system 10 may be a video game system, such as the N64 video game system, connected to a television. (See Pelkey, 3:38-48.) Game system 10 may also be the portable game machine 110. (Pelkey, 4:55-57.) I reproduced Pelkey’s Figure 1A below with the game system 10 on the left using the N64 game system illustrated in Pelkey’s Figure 2 and the game system 110 on the right using the portable game machine in Eck’s Figure 1B. I have also illustrated the connection from the N64 game system to the server via the Internet as taught by Pelkey.



**Pelkey, Figure 1**

228. Pelkey does not disclose details of the wireless network used to provide wireless messaging from the game system to the server. However, while Eck mentions use of a paging network for this functionality, Eck also explicitly discloses that its “present invention” may be “applied to other wireless technologies such a GSM (Global System for Mobile Communications) and WAP (Wireless Application Protocol).” (Eck, 25:17-20.) A POSITA would have been motivated to use either GSM-SMS or WAP for the messaging service, rather than paging, to obtain the enhanced features of those protocols. Based on Eck’s disclosure, a POSITA would have understood that the portable game machine communicates with the server via messaging available via the GSM network (e.g., SMS) or messaging available via WAP.

229. GSM-SMS is functionality implementable over a wireless network and, as shown in Pelkey’s Figure 1, the GSM network is separate from the Internet connecting the N64 game system to the server. As I discussed in §IV.A.1.c.(2), the WAP protocol stack transports data over GSM’s SMS. I provided an overview of a mobile originated message in SMS in a GSM network in my analysis of this limitation in Ground 1. As discussed in that section, the SMS message includes a header with data fields indicating control and content details for the message.

230. As noted above, Eck discloses that its invention may be applied to wireless technologies including “GSM (Global System for Mobile Communications) and WAP (Wireless Application Protocol).” (Eck, 25:17-20.)

231. Use of WAP teaches or at least suggests that selection of a specific portal from the main PagerWorld screen constitutes selecting a web-based action. WAP is “based on the WWW communication protocols” and “WWW content formats.” (WAP Architecture, 13.) WAP “enables the supplying of advanced Internet services into digital mobile stations of wireless communication networks.” (Salmi, 6:63-65.) The WAP proxy “allows content and applications to be hosted on standard WWW servers.” (WAP Architecture, 14.) For example, when a user of a WAP-enabled terminal enters a URL, the WAP-enabled terminal transmits a wireless Internet service request to the WAP gateway server. (*See, e.g.*, Park, 1:66-2:4.) The WAP gateway may respond to the request if hosting the request web page or may convert the request into an HTTP request for a server on the Internet. (*See, e.g.*, Park, 2:5-10.) The Internet web server responds and the WAP gateway converts the HTTP response into a WAP response for transmission to the WAP-enabled terminal. (*See, e.g.*, Park, 2:15-25.) Thus, where PagerWorld is implemented in a WAP environment, a POSITA would understand that selecting a specific portal from the main PagerWorld screen constitutes a web-based activity.

232. The interface is provided by the server apparatus in the Pelkey-Eck combination. Pelkey discusses that the network for implementing a “messaging service” includes a game system 10 (e.g., the portable game machine) “connected via communications circuits 12 (e.g., modems, **network interfaces**, etc.) to a wide area network 16 such as the Internet.” (Pelkey, 2:59-62.) Pelkey explains that the communication circuits 12 “may be provided internally to the game system or embodied as cartridges ... removably attachable to a port or bay of the game systems.” (Pelkey, 2:65-3:2.)

233. Thus, the Pelkey-Eck combination “*provide[es] [at least a portion of] a first web-based interface accessible to a first user.*”

**c. Limitations [1B]/[11C]/[15C]**

[1B]/[11C]/[15C] the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users; and
--

234. First, The combination of Pelkey and Eck discloses a “*mobile information channel for sharing content between the first user and one or more additional users*”. Eck discloses that the messaging cartridge includes a memory “storing software used” in the messaging (e.g., pager) operations and “one or more video game programs that are executable by CPU 26 of game machine 10.” (Eck, 7:7-22.) In addition to messaging (e.g., paging functions), the messaging cartridge “can be used in game playing.” (Eck, 9:60-61.) An example of a gaming application

is “Multiple User Dungeon (MUD) games” which are “Internet-based on-line exploration and quest games in which an open-ended number of players simultaneously exist in the same game world, sharing experiences and adventures.” (Eck, 10:2-7.) “[K]ey components” of such games include “exploration and adventure,” “**chat and community interaction**,” and “character growth and perpetual, dynamic worlds that grow, adapt and change.” (Eck, 10:13-19.)

235. An exemplary MUD game described by Eck is “PagerWorld, a virtual community for the network of **all users having pager cartridges**.” (Eck, 10:20-23.) Although Eck uses the word “PagerWorld” in the MUD title to reflect the communication means is paging, a POSITA would have understood that such a MUD is equally applicable when the communication means is another messaging type such as SMS or messaging via a WAP protocol. PagerWorld includes client software in the portable game machine (client program) and corresponding software in the server (server program). (See Eck, 4:61-5:7, 9:40-59.) As such, PagerWorld is persistent—it remains in existence after individual users exit the world. PagerWorld is therefore a “*mobile information channel*” under any of the proposed constructions in the MDT-Meta-Litigation or the Meta-MDT-IPR. For example PagerWorld is “a medium for transferring information that allows mobile device users to author content” under the construction proposed by Patent Owner in the MDT-Meta-Litigation and by Meta in the Meta-MDT-IPR. For example, users can import images

taken using the digital camera that is part of the “portable game machine” when a camera cartridge is inserted into PagerWorld and use such images to customize their persona. (See Eck, 12:38-40.) The combination of Pelkey and Eck also discloses “a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site” under Meta’s proposed construction in the MDT-Meta-Litigation. And the Message Center and persona characters within PagerWorld are each a “component of a mobile site configured to permit a wide variety of mobile devices to send and receive content over a wireless network” under Patent Owner’s proposed construction in the Meta-MDT-IPR.

236. A variety of content can be shared amongst a first user and one or more additional users in PagerWorld including messages, photos, and sound clips.

237. PagerWorld includes a “Message Center” that “permits users, among other things, to read their messages and to compose and send new messages. The Message Center screen features a window **232** that lists unread messages.” (Eck, 11:27-31.) “When a message is selected from Message Center screen, the contents of the message appear, along with the user’s persona character and ‘handle’ of the person that sent the message.” (Eck, 11:53-57; *see also* Eck. 12:36-38 (“Any time the user sends a message, his/her persona character appears alongside the message on the other user’s screen.”).)

238. PagerWorld supports transmission of messages “with images and sound bytes to other pagers in the network using, for example, a digital camera cartridge in combination with a pager cartridge.” (Eck, 16:42-45, 24:30-36 (“the images stored in the read/write memory of digital camera cartridge 300 may be transmitted to other [sic] using the radio circuitry of pager cartridge 100”), 2:15-23 (inputs “cause the image captured by the digital camera to be transmitted as part of a message”).) In addition to photos/images, the message can include sounds (audio file). (Eck, 20:12-14 (discussing messages containing “digital camera picture transmission (with/without sound)” and “messages plus sound bites”), 21:47-48 (“Digital images can be exchanged and optionally supplemented by sound bites from a sound dictionary”).)

239. Another way photos can be shared amongst a first user and one or more additional users in PagerWorld occurs when a user personalizes their persona character. Players in PagerWorld are represented “by a ‘persona character’ and it is this character that all other PagerWorld players will see.” (Eck, 10:23-25.) As I discussed above, the user’s persona is a feature element on the PagerWorld screens and “function[s] as a sort of ‘pager’ tour guide.” (Eck, 10:62-64.) A user’s persona is shared with other members of the PagerWorld community: “the contents of the message appear, along with the user’s persona character and ‘handle’ of the person that sent the message.” (Eck, 11:54-57.) The user’s address book is a list of “other

users by their handles,” and next to the user’s handle “is the persona character of the other user as it appeared on his/her last communication with the user.” (Eck, 12:16-19.)

240. A user can customize their persona. The messaging service client (PagerWorld client program) “provides the user with an opportunity to create a user profile that is stored in memory of network server 14.” (Pelkey, 7:9-11.) The users may be “provided with the capability of including in their profiles customized faces (images) made up of various user-selected features” or “digital images of their own faces” to “enhance the ‘persona’ of the user.” (Pelkey, 7:20-27.) For example, in Eck, the “persona character” can be “customize[d] ... using image data obtained with a digital camera cartridge.” (Eck, 12:38-40.) The persona character is stored, in the Pelkey-Eck combination at the network server. In addition to including the persona character in messages, in the PagerWorld game universe, players “walk their persona characters in a world featuring attractions and sideshows.” (Eck, 10:38-40, 13:29-31 (during game play “the player may control his/her persona character to fight, flee or use some item in the player’s possession”).) Thus, the image (persona) is inserted into PagerWorld for inclusion in the virtual world and message exchanged between players.

241. In the example above, the “*first web-based interface*” is the PagerWorld main screen. The main screen permits users to activate the content sharing features

in PagerWorld (e.g., messages, customizing persona using photos) when the user selects such features from the mains screen. The Pelkey-Eck combination thus discloses “*the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users.*”

**d. Limitations [1C]/[11D]/[15D]**

[1C] generating a second web-based interface different than the first web-based interface,

[11D] the processing element generating a second web-based interface different than the first web-based interface,

[15D] wherein said at least one server generates a second web-based interface different than the first web-based interface,

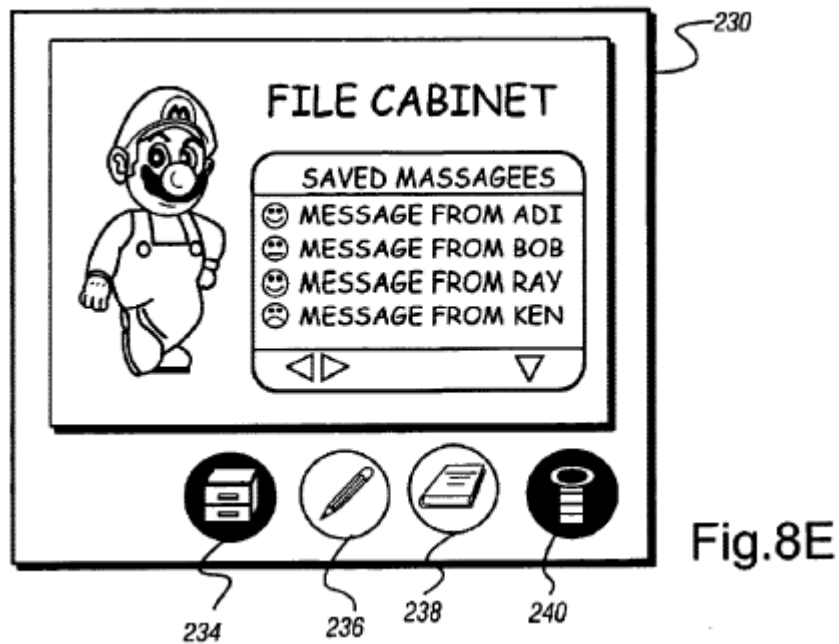
242. The Pelkey-Eck combination also discloses “*generating a second web-based interface different than the first web-based interface.*”

243. Exemplary “second interfaces” that are “different from the first web-based interface” include any of the locations in PagerWorld where users store content, such as the address book or file cabinet. The user’s address book is a list of “other users by their handles,” and next to the user’s handle “is the persona character of the other user as it appeared on his/her last communication with the user.” (Eck, 12:16-19.) In the address book in the Pelkey-Eck combination, content, such as photos, are integrated into a web-based shared information channel (PagerWorld)

through, e.g., customization of a user's persona, and such images are made accessible to users in an address book.

244. In addition, as noted above, PagerWorld users have access to a File Cabinet which “ displays a list of saved messages. In some implementations, the saved messages may be organized by topic” (Eck, 11:66-12:3) as shown in Figure 8E. The sent and received message and sender persona (e.g., when customized using a photo) are examples of shared content that is available in the file cabinet to users.

245. In the Pelkey-Eck combination, these second interfaces are “web-based” for the same reasons set forth above. §V.B.1.c.



Eck, Figure 8E

**e. Limitations [1D]/[11E]/[15E]**

[1D]/[11E]/[15E] wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;

246. The combination of Pelkey and Eck discloses “*wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users.*”

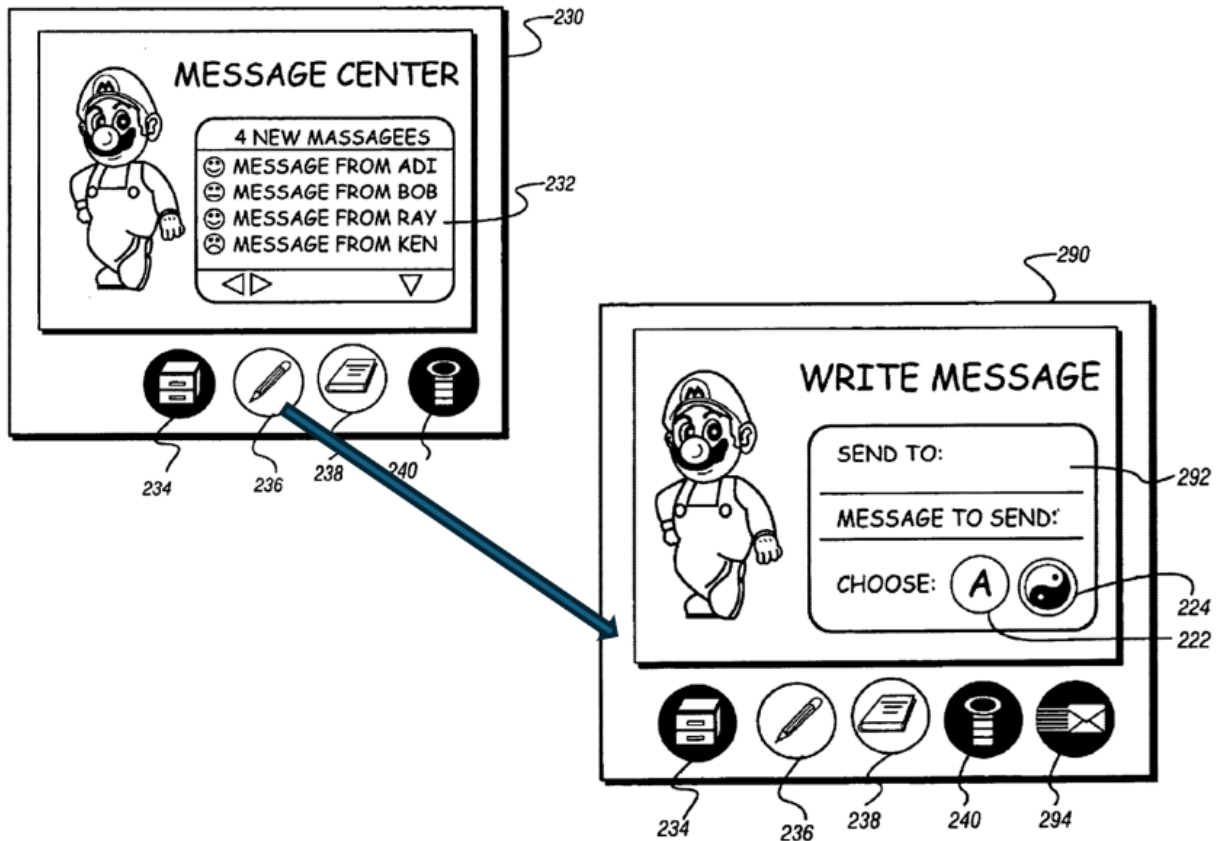
247. In the address book example in the Pelkey-Eck combination, content, such as photos, are integrated into a web-based shared information channel (PagerWorld) through, e.g., customization of a user’s persona, and such images are made accessible to users in an address book. And as noted above, the file cabinet provides a user access to messages sent by another user which may or may not contain photos or sound clips. Sharing messages, photos or sound clips “*facilitate[s] interaction between the first user and the one or more additional users.*”

**f. Limitations [1E]/[11F]/[15F]**

[1E]/[11F]/[15F] wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and

248. In the Pelkey-Eck combination, the “*given mobile information channel*” (PagerWorld) “*supports messaging between the first user and the one or more additional users.*”

249. While in the Message Center (e.g., screen illustrated in Figure 8C (below-left)), a user activates the quill icon 236 to navigate to the “Compose Message screen 290” of Figure 8F. (Eck, 11:37-38.) The “send to” window 292 “allows the user to choose to whom the message will be sent.” (Eck, 12:10-11.) A user can opt to send the message to an individual, to a pre-defined group (e.g., a buddy list), (Eck, 20:9), or as a broadcast to all messaging devices in PagerWorld, (Eck, 20:8, 9:46-49 (“messages from the paging system operator may be sent to all users in the paging system, to certain groups of users in the paging system or to a particular user in the paging system”)). For group messaging, Pelkey teaches that the messaging service client “allows the user to create a list (‘buddy list’) of other users (‘buddies’) with whom he/she wishes to remain in contact.” (Pelkey, 7:33-35.) The buddy list “is stored by the network server.” (Pelkey, 7:35-36.) In the combination of Pelkey and Eck, the PagerWorld user can identify a “buddy list” in the “send to” window to send a “carbon copy” of the message.



Eck, Figure 8C (left), Figure 8F (right)

250. PagerWorld includes a “Message Center” that “permits users, among other things, to read their messages and to compose and send new messages. The Message Center screen features a window 232 that lists unread messages.” (Eck, 11:27-31.) “When a message is selected from Message Center screen, the contents of the message appear, along with the user’s persona character and ‘handle’ of the person that sent the message.” (Eck, 11:53-57; *see also* Eck, 12:36-38 (“Any time the user sends a message, his/her persona character appears alongside the message on the other user’s screen.”).)

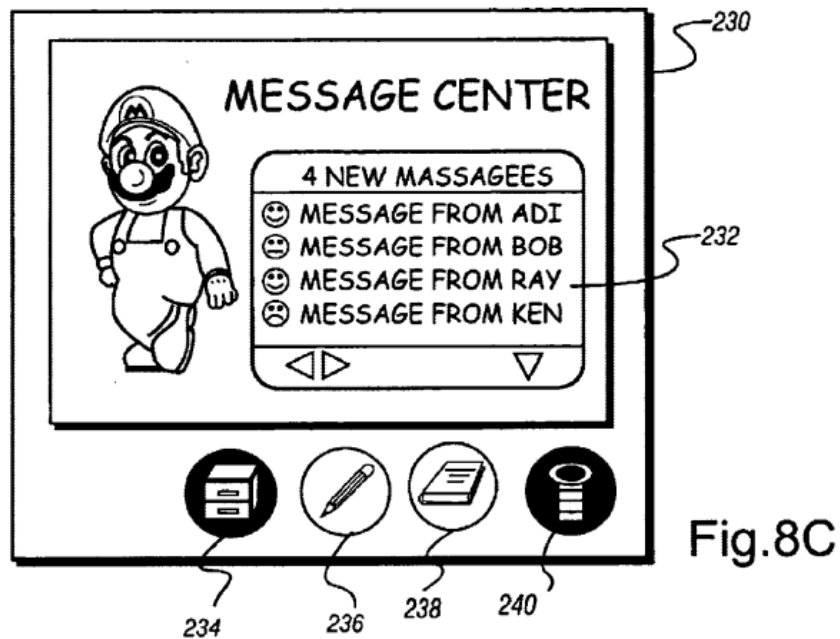
251. In the Pelkey-Eck combination, the messages discussed herein are transferred over a “*wireless network*” under either of the proposed constructions in the Meta-MDT-IPR.

252. As noted above, Pelkey does not disclose details of the wireless network used to provide wireless messaging from the game system to the server. While Eck mentions use of a paging network for this functionality, Eck also explicitly discloses that its “present invention” may be “applied to other wireless technologies such a GSM (Global System for Mobile Communications) and WAP (Wireless Application Protocol).” (Eck, 25:17-20.) A POSITA would have been motivated to use either GSM or WAP for the messaging service, rather than paging, to obtain the enhanced features of those protocols. Based on Eck’s disclosure, a POSITA would have understood that the portable game machine communicates with the server via messaging available via the GSM network (e.g., SMS) or messaging available via WAP.

253. GSM-SMS is implementable over a “*wireless network*” and as shown in my modified Figure 1 of Pelkey, the GSM network is a network separate from the Internet that facilitates connection to the internet by a mobile device as required by Patent Owner’s proposed construction in the Meta-MDT-IPR. As I discussed in §IV.A.1.c.(2), the WAP protocol stack transports data over GSM’s SMS. I provided an overview of a mobile originated message in SMS in a GSM network in my

analysis of this limitation in Ground 1. As discussed in that section, the SMS message includes a header with data fields indicating control and content details for the message.

254. Thus, to send a message, the portable game machine determines this information to construct the GSM-SMS message. Figure 8C from Eck confirms that this information is determined. Specifically, this figure depicts the Message Center user interface screen presented to the player which shows a list of unread received messages with each message including the sending user's name and associated persona image. The Pelkey-Eck combination thus discloses a network that allows a device to communicate wirelessly over a network under Meta's proposed construction in the Meta-MDT-IPR.



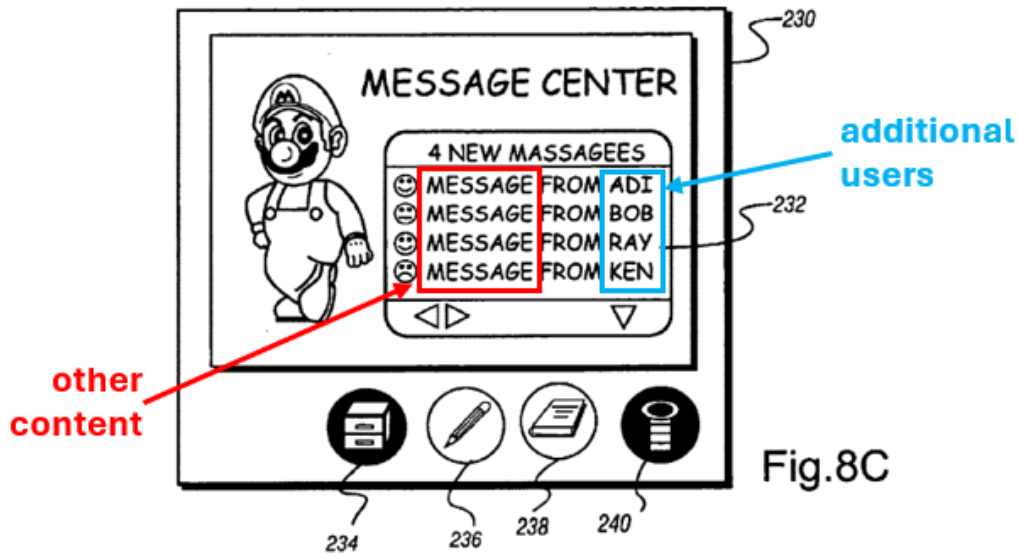
Eck, Figure 8C

**g. Limitations [1F]/[11G]/[15G]**

[1F]/[11G]/[15G] wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.

255. In the Pelkey-Eck combination, “*the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.*”

256. Messages are read, composed and sent from the “Message Center” inside PagerWorld. (Eck, 11:27-29.) “Message Center” includes an “Address Book” that “provides a listing of other users by their handles” and “the persona character of the other user as it appeared on his/her last communication with the user.” (Eck, 11:32-35; *see* Eck, 12:16-19.) “Messages from the paging system operator may be sent to all users in the paging system, to certain groups of users in the paging system or to a particular user in the paging system.” (Eck, 9:46-49.) Figure 8C in Eck depicts the Message Center user interface screen presented to the player which shows a list of unread received messages with each message including the sending user’s name and associated persona image.



Eck, Figure 8C

257. In addition, as disclosed in Eck:

Players read and send messages from the main PagerWorld screen, this screen serving as “communication central.” From this screen, the player can choose a portal and actually step into a nation-wide or world-wide community of other PagerWorld players. PagerWorld is the hub for communications, becoming a central meeting place to find friends and share messages. Visually, it can be thought of as a carnival midway where players walk their persona characters in a world featuring attractions and sideshows.

(Eck, 10:32-40.)

## 2. Claim 10

10. A non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs for use in managing information content in a network-based communication system, wherein said executable program code when executed by a processing element of the communication system implements the steps of the method of claim 1.

258. The combination of Pelkey and Eck discloses this limitation.

259. Eck explains that a cartridge including messaging functionality (e.g., a pager cartridge) “is provided for use with a game machine having a game program executing processing system including a microprocessor.” (Eck, 1:61-63.) The messaging cartridge “includes a memory 145 for storing software used in the pager operations.” (Eck, 7:7-9.) Pelkey similarly discloses “[a] messaging service client is implemented by program code contained in an application (e.g., a video game, a web browser) executed by the game system.” (Pelkey, 1:42-44.)

260. The inserted messaging cartridge includes ROM 42 which “contain[s] instructions” pertaining to, e.g., the messaging function. (*See, e.g.*, Eck, 4:5-6, 7:7-12 (“[p]ager cartridge 100 includes a memory 145 for storing software used in the pager operations ... [i]t is of course possible to store the software for implementing at least some of these operations in the memory of game machine 10”).) When inserted, the “game machine circuitry [] access[es] information contained with ROM 42 (and read/write memory 46), which information controls the game machine ... under control of the ROM game program information.” (Eck, 4:9-20.) The game machine 10 then “automatically activates a display of messages on the display thereof in accordance with the operating software stored in the memory of the pager.” (Eck, 22:10-14.)

261. Therefore, the combination of Pelkey and Eck discloses “*A non-transitory computer-readable storage medium having embodied therein executable*

*code of one or more software programs for use in managing information content in a network-based communication system, wherein said executable program code when executed by a processing element of the communication system implements the steps of the method of claim 1.”*

### **C. Dependent Claims**

#### **1. Claim 6 – “URL”**

6. The method of claim 1 wherein  
the first web-based interface is identified by a first uniform resource locator and  
the second web-based interface is identified by a second uniform resource locator different than the first uniform resource locator.

262. The combination of Pelkey and Eck discloses a “*first web-based interface . . . identified by a first uniform resource locator*” and a “*second web-based interface . . . identified by a second uniform resource locator different than the first uniform resource locator.*”

263. As noted above, Eck discloses that its invention may be applied to wireless technologies including “GSM (Global System for Mobile Communications) and WAP (Wireless Application Protocol).” (Eck, 25:17-20.)

264. Use of WAP teaches or at least suggests that selection of a specific portal from the main PagerWorld screen constitutes selecting a “*first uniform resource locator*” and a “*second uniform resource locator.*” WAP is “based on the WWW communication protocols” and “WWW content formats.” (WAP

Architecture, 13.) WAP “enables the supplying of advanced Internet services into digital mobile stations of wireless communication networks.” (Salmi, 6:63-65.) The WAP proxy “allows content and applications to be hosted on standard WWW servers.” (WAP Architecture, 14.) For example, when a user of a WAP-enabled terminal enters a URL, the WAP-enabled terminal transmits a wireless Internet service request to the WAP gateway server. (*See, e.g.,* Park, 1:66-2:4.) The WAP gateway may respond to the request if hosting the request web page or may convert the request into an HTTP request for a server on the Internet. (*See, e.g.,* Park, 2:5-10.) The Internet web server responds and the WAP gateway converts the HTTP response into a WAP response for transmission to the WAP-enabled terminal. (*See, e.g.,* Park, 2:15-25.) Thus, where PagerWorld is implemented in a WAP environment, a POSITA would understand that selecting a specific portal from the main PagerWorld screen constitutes selecting a “*first uniform resource locator*” and a “*second uniform resource locator.*”

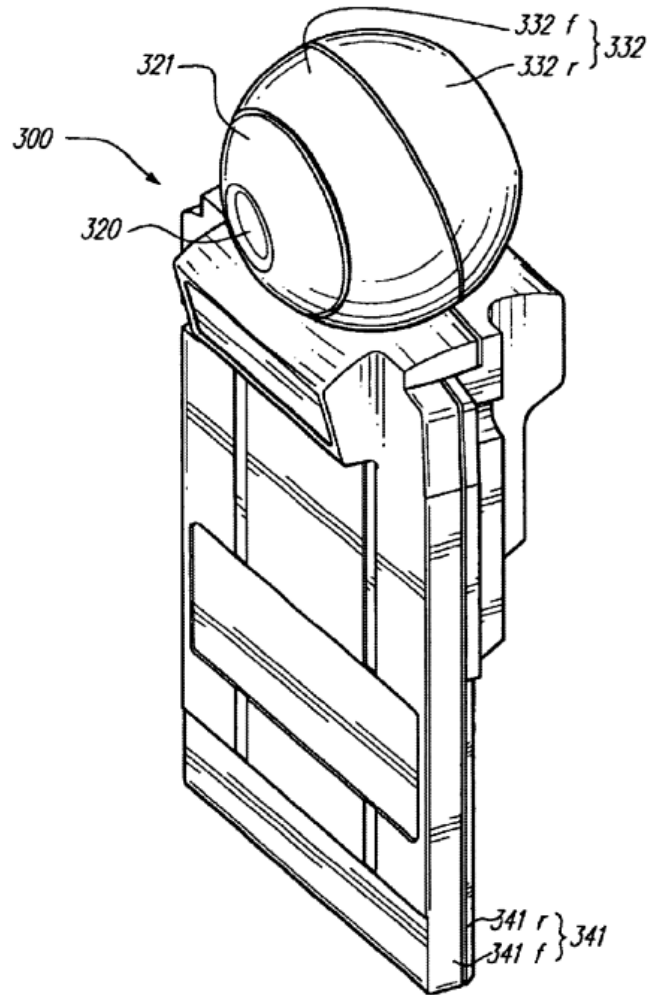
## 2. Claim 7 – “Shared Content”

<p>7. The method of claim 1 wherein the shared content is obtained from a device-captured data source of the first user, said device-captured data source comprising a source of at least one of device-captured video data, device-captured image data, device-captured audio data and device-captured location coordinates.</p>
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265. As I discussed in §V.B.1.c for limitation [1B], the combination of Pelkey and Eck describes “*sharing content*” including messages, photos and sound clips.

266. The Pelkey-Eck combination also discloses “*shared content [] obtained from a device-captured data source.*”

267. Eck discloses “a game machine is provided with ... digital camera circuitry configured to capture an image.” (Eck, 2:16-18.) For example, Eck discloses that a messaging cartridge (e.g., pager cartridge), “is itself provided with a slot for receiving” another cartridge. (*See, e.g.*, Eck, 5:23-25.) One example of a “piggy-backed” cartridge is a “digital camera cartridge,” illustrated in Figure 14 (below): “pager cartridge 1000 itself includes a built-in cartridge slot to accept game cartridges or other accessories (such as read/write memory cartridges, a digital camera, etc.), thereby enabling game play or digital camera operations while pager cartridge 100 is attached to game machine 10.” (Eck, 22:14-20, 23:36-38 (“digital camera cartridge is also selectively insertable ... into the slot of another cartridge such as pager cartridge 100”).)



**Eck, Figure 14**

268. The portable game machine having an inserted messaging cartridge and an inserted camera cartridge “*captur[es] content.*” Eck’s digital camera cartridge “is usable to **capture images**, which images may then be transmitted to others via an operation using” the messaging cartridge into which the camera cartridge is inserted. (Eck, 23:38-41; *see also* Eck, 2:15-18 (“a game machine is provided with ... digital camera circuitry configured to capture an image”).) The “digital camera cartridge” may also be “configured to **capture sounds** [and] these captured sounds may be

used by game machine 10 and/or transmitted as a message using pager cartridge.” (Eck, 9:20-23.)

269. In addition to the camera cartridge, Eck discloses other cartridges that can be piggybacked with the messaging cartridge to “*captur[e] content.*” For example, Eck discloses that “a separate ‘sound card’ may be ‘piggy-backed’ to game machine 10” via the messaging cartridge. (Eck, 9:23-25.) Eck further discloses a “global positioning system (GPS) cartridge” that captures “user portion information” (i.e., user location). (See Eck, 22:28-29.)

270. Pelkey likewise discloses that a digital camera can be attached to its portable game machine. (Pelkey, 7:26-31.) Indeed, both Pelkey and Eck incorporate by reference the same Nintendo patent disclosure describing the camera in detail. (Pelkey, 7:26-31 *citing* U.S. Patent 6,435,969; Eck, 23:41-48 *citing* Ser. No. 09/430,169.)

271. The Pelkey-Eck combination thus discloses “*[t]he method of claim 1 wherein the shared content is obtained from a device-captured data source of the first user, said device-captured data source comprising a source of ... device-captured image data, device-captured audio data and device-captured location coordinates.*”

### 3. Claim 8

8. The method of claim 1  
wherein the first web-based interface permits the first user to upload at least one information item, and  
wherein the second web-based interface provides said one or more additional users with access to said at least one uploaded information item in accordance with accessibility rules established by the first user via the first web-based interface.

272. The Pelkey-Eck combination discloses this combination. As noted above, the Pelkey-Eck combination discloses a “*first web-based interface*” that “*permits the first user to upload at least one information item*” such as a message, photo or sound clip. §V.B.1.b.

273. The Pelkey-Eck combination also discloses “*wherein the second web-based interface provides said one or more additional users with access to said at least one uploaded information item in accordance with accessibility rules established by the first user via the first web-based interface.*” Both Eck (persona) and Pelkey (user profile) disclose ways a user presents themselves to other messaging users. (Eck, 11:53-57, 12:36-38.) (Pelkey, 7:8-30.) Pelkey discloses settings that permit a user to “determine whether (1) everyone can see his/her user profile, (2) only buddies can see his/her user profile, (3) or no one can see his/her user profile.” (Pelkey, 8:51-57.) Thus, in the Pelkey-Eck combination, a user would only be given access to a fellow user’s persona (which may be customized using a

photo taken with the portable game machine) if such access has been given by a first user.

#### 4. Claim 9

9. The method of claim 1 wherein the one or more additional users comprise individuals that with the first user and by mutual consent collectively comprise a group of members that have access to at least a portion of said shared content via the second web-based interface.
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274. The Pelke-Eck combination discloses “[t]he method of claim 1 wherein the one or more additional users comprise individuals that with the first user and by mutual consent collectively comprise a group of members that have access to at least a portion of said shared content via the second web-based interface.” As noted above, an exemplary “second web-based interface” is an address book or filing cabinet in Eck. (*Supra* §V.B.1.d.) And as noted above, the combination of Pelkey and Eck teaches the ability of a user to opt-out of a “buddy list” or address book (which, according to Eck, may contain photos used to customize persona images). (Pelkey, 8:35-45.)

275. In addition, Eck discloses that the pager cartridge can “receive messages that turn off (disable) the cartridge and/or prohibit or limit access to certain features such as PagerWorld. Such messages may be sent for example, to problem users.” (Eck, 19:53-56.) A user shows their lack of consent to sharing a message or persona information, for example, when they report a problem user and their access to PagerWorld is shut off.

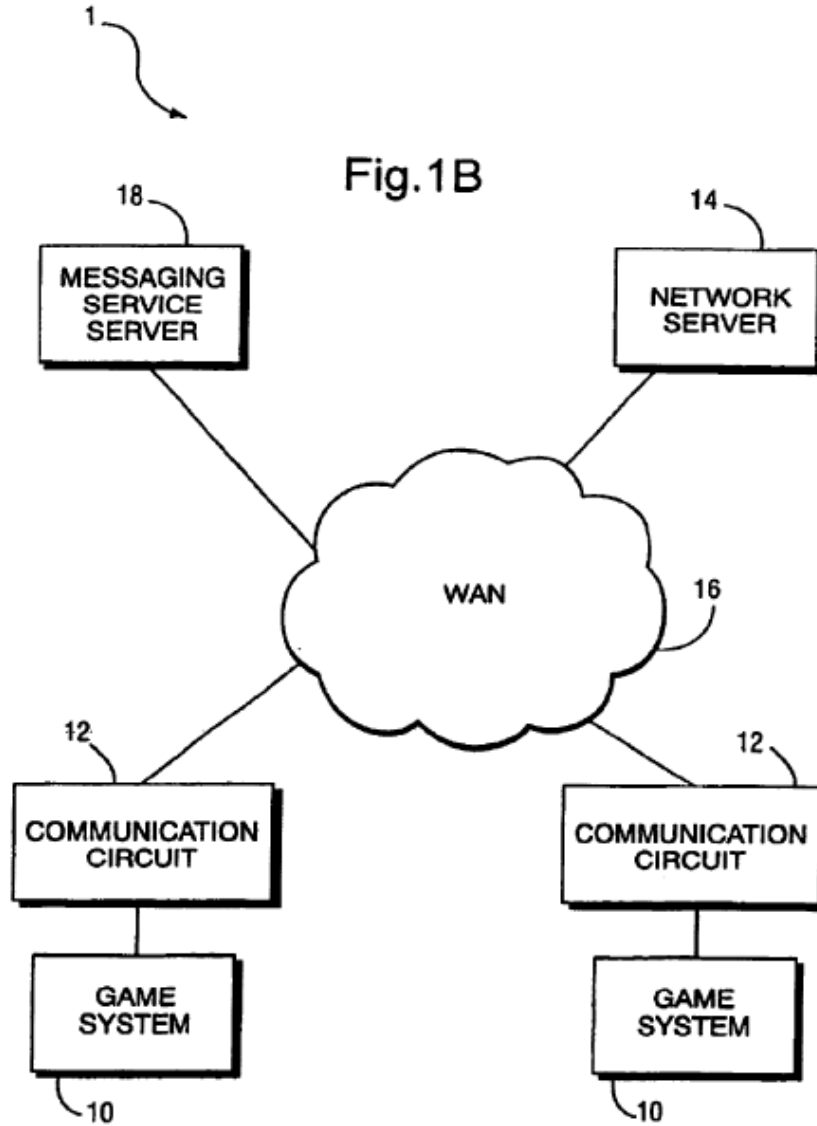
**5. Claim 13-14—“Server”**

13. The apparatus of claim 11 wherein the processing element comprises at least one server.

14. The apparatus of claim 13 wherein the server is accessible over the Internet via a network interface.

276. The combination of Pelkey and Eck discloses “*at least one server accessible over the Internet via a network interface.*”

277. Pelkey discloses in Figure 1B (below) an exemplary embodiment showing a plurality of servers accessible over the internet (depicted as WAN 16).



**Pelkey, Figure 1B**

278. Figure 1B of Pelkey illustrates a network “in which the messaging service described herein may be implemented.” (Pelkey, 2:58-60.) The network “includes game systems 10 connected via communications circuits (e.g., modems, network interfaces, etc.) to a wide area network.” (Pelkey, 2:60-62.)

279. Pelkey explains that the communication circuits 12 “may be provided internally to the game system or embodied as cartridges ... removably attachable to a port or bay of the game systems.” (Pelkey, 2:65-3:2.) Eck discloses the embodiment of a network interface in a cartridge. As shown in Eck’s Figure 5A, the pager cartridge includes “an antenna 130 connected to a conventional radio section 132 for receiving and sending messages.” (Eck, 6:34-36; *see also* Eck, 7:36-53 (describing a pager cartridge includes a codec/DSP section, bandpass filter, RF mixer and dual PLL section, crystal, transmitter, receiver and antenna).) The radio section and/or antenna is a “*network interface*.”

**6. Claim 16—“Contact List”**

16. The method of claim 1 further comprising maintaining a contact list for the given mobile information channel, the contact list comprising the one or more additional users.
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280. The combination of Pelkey and Eck discloses “[*t*]he method of claim 1 further comprising maintaining a contact list for the given mobile information channel, the contact list comprising the one or more additional users.” For example, “Message Center” includes an “Address Book” that “provides a listing of other users by their handles” and “the persona character of the other user as it appeared on his/her last communication with the user.” (Eck, 11:32-35; *see* Eck, 12:16-19.)

**7. Claim 20—“Chat Channel”**

20. The method of claim 1 wherein the given mobile information channel comprises a chat channel.
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281. The combination of Pelkey and Eck discloses “*the given mobile information channel comprises a chat channel.*” Eck discloses that multiple user games, such as PagerWorld, include the feature of “Chat and community interaction.” (Eck, 10:15-19, *see also* Eck, 16:55-63, Figs. 11A-B (disclosing chat codes to “reduce[] the number of characters in a message, thereby reducing message charges”).) Pelkey similarly discloses that the server “set[s] up text-based chat sessions between two or more logged-in players.” (Pelkey, 17:6-10.)

282. Eck also discloses that “PagerWorld is the hub for communications, becoming a central meeting place to find friends and share messages.” (Eck, 10:36-38.) One feature provided within PagerWorld is the ability to “view message boards.” (Eck, 10:40-42.) A POSITA would have understood that message boards provide another avenue for members of the PagerWorld community to chat.

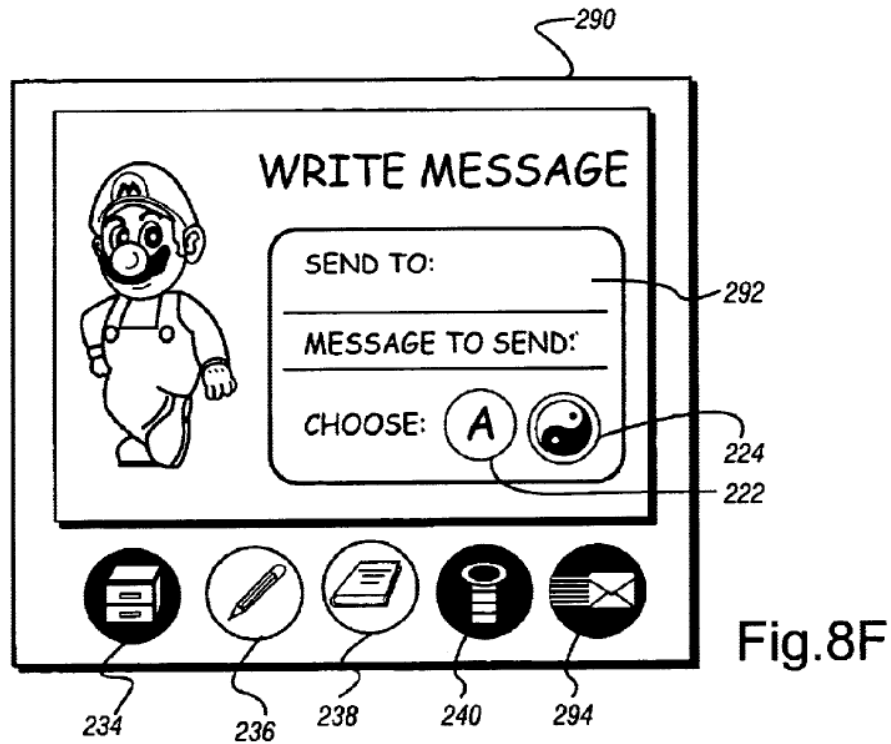
#### **8. Claim 21—“Personalized Messaging Content”**

21. The method of claim 1 wherein the messaging content comprises personalized messaging content for the first user.
--

283. As with Forums in Ground 1, the Pelkey-Eck combination discloses “*wherein the messaging content comprises personalized messaging content for the first user*” because a user can personalize the content included in the message to another user. “Compose Message screen 290 is shown in FIG. 8F and permits a user to construct a message by choosing letters or by selecting symbols from his/her dictionary of lingo symbols using icons 222 and 224.” (EX-1008, 12:5-8.) These are

each ways that the “messaging content” can “*comprise[] personalized messaging content for the first user.*”

284. The “main PagerWorld screen 200,” illustrated in Figure 7 (below-left), is “the starting point for every user session.” (Eck, 10:57-60.) Figure 8A is “an illustrative, but non-limiting, implementation of the main screen 200.” (Eck, 10:65-66.) The main screen presents the user’s persona character, shown in Figure 8A as the character Mario, from the Mario Bros Nintendo game. (See Eck, 10:60-61.) The main screen also includes a set of icons including a book (“Pager Lingo”), an unopened envelope (“Message Center”), a globe (“PagerWorld”), and a face (“My Persona”). (Eck, 11:2-7.)



Eck, Figure 8F

## 9. Claims 23 and 24—“Messaging Content”

23. The method of claim 1 wherein the messaging content comprises at least one of an image, a video, a short message service (SMS) message and a multimedia message service (MMS) message.
24. The method of claim 1 wherein the messaging content comprises at least one of announcements, notes, surveys, promotions and contests.

285. The Pelkey-Eck combination discloses “[t]he method of claim 1 wherein the messaging content comprises ... an image.” In Eck, “[t]he system also enables bidirectional transmission of messages with images and sound bytes to other pagers in the network using, for example, a digital camera cartridge in combination with a pager cartridge.” (Eck, 16:42-45.) “A user interface enables a user to provide inputs to the game machine and a processing system is operable in response to user inputs to cause the image captured by the digital camera to be transmitted as part of a message via the paging system.” (Eck, 2:18-22.) PagerWorld supports transmission of messages “with images and sound bytes to other pagers in the network using, for example, a digital camera cartridge in combination with a pager cartridge.” (Eck, 16:42-45; *see also* Eck 24:30-36 (“the images stored in the read/write memory of digital camera cartridge 300 may be transmitted to other [sic] using the radio circuitry of pager cartridge 100”), 2:15-23 (inputs “cause the image captured by the digital camera to be transmitted as part of a message”).) In addition to photos/images, the message can include sounds (audio file). (Eck, 20:12-14

(discussing messages containing “digital camera picture transmission (with/without sound)” and “messages plus sound bites”), 21:47-48 (“Digital images can be exchanged and optionally supplemented by sound bites from a sound dictionary”).)

286. Among the type of messages that can be sent in Eck are “broadcasts to all pagers.” (Eck, 20:8.) A “broadcast” is a type of “*announcement*.”

#### **10. Claim 25**

25. The method of claim 1 wherein at least a portion of the shared content is authored by the first user.
---

287. The Pelkey-Eck combination discloses “[t]he method of claim 1 wherein at least a portion of the shared content is authored by the first user.” As noted above, while in the Message Center (e.g., screen illustrated in Figure 8C (below-left)), a user activates the quill icon 236 to navigate to the “Compose Message screen 290” of Figure 8F. (Eck, 11:37-38.) The “send to” window 292 “allows the user to choose to whom the message will be sent.” (Eck, 12:10-11.) A user can opt to send the message to an individual, to a pre-defined group (e.g., a buddy list), (Eck, 20:9), or as a broadcast to all messaging devices in PagerWorld, (Eck, 20:8, 9:46-49 (“messages from the paging system operator may be sent to all users in the paging system, to certain groups of users in the paging system or to a particular user in the paging system”)).

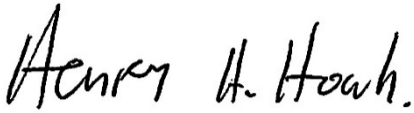
## **VI. Conclusion**

288. In signing this Declaration, I recognize that the Declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in this proceeding. If required, I will appear for cross-examination at the appropriate time. I reserve the right to offer opinions relevant to the invalidity of the challenged claims at issue and/or offer testimony in support of this Declaration.

289. I hereby declare that all statements made herein of my own knowledge are true and that all statements are 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 18 U.S.C. § 1001.

Dated: February 7, 2025

Respectfully submitted,

A handwritten signature in black ink that reads "Henry H. Houh." The signature is written in a cursive style with a period at the end.

---

Henry Houh, Ph.D.

## APPENDIX

Exh.	Reference
1001	U.S. Patent 8,793,336 to Harper (“the ’336 patent”)
1002	File History of U.S. Patent 8,793,336
1005	WO 02/17652 to Randall, et al. (“Randall”)
1006	U.S. Patent 7,047,030 to Forsyth (“Forsyth”)
1007	U.S. Patent 7,056,217 to Pelkey, et al. (“Pelkey”)
1008	U.S. Patent 6,716,103 to Eck, et al. (“Eck”)
1009	Joint Claim Construction Statement from <i>Mobile Data Techs. LLC v. Meta Platforms, Inc.</i> , No. 7:22-cv-00244-ADA-DTG (E.D. Tex.)
1010	Patent Owner’s Response to Petition (Paper 27) from <i>Mobile Data Techs. LLC v. Meta Platforms, Inc.</i> , IPR2024-00246
1011	Petitioner’s Reply (Paper 34) from <i>Mobile Data Techs. LLC v. Meta Platforms, Inc.</i> , IPR2024-00246
1012	“Wireless Java for Symbian Devices” by Allin (September 2001) (“Allin”)
1013	WAP Architecture (Version 12): “Wireless Application Protocol Architecture Specification, WAP-210-WAPArch-20010712” (July 12, 2001) (“WAP Architecture”)
1014	Wireless Datagram Protocol (Version 14): “Open Mobile Alliance, WAP-259-WDP-20010614-a” (June 14, 2001) (“WDP”)
1015	ETSI TS 123 040—Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Technical realization of the Short Message Service (SMS) (3GPP TS 23.040 version 3.6.0) (September 2001) (“GSM SMS Standard”)
1016	“Symbian OS Communications Programming” by Michael J. Jipping (June 2002) (“Jipping”)

Exh.	Reference
1017	“Symbian Home Page,” (January 24, 2002), <a href="https://web.archive.org/web/20020124070457/http://www.symbian.com:80/">https://web.archive.org/web/20020124070457/http://www.symbian.com:80/</a>
1018	“Symbian: OS Technology,” (February 2, 2002), <a href="https://web.archive.org/web/20020202090443/http://www.symbian.com/technology/technology.html">https://web.archive.org/web/20020202090443/http://www.symbian.com/technology/technology.html</a>
1019	“Symbian: OS Technology – Symbian OS phones and PDAs,” (February 2, 2002) <a href="https://web.archive.org/web/20020202133445/http://www.symbian.com/technology/symbos-phones.html">https://web.archive.org/web/20020202133445/http://www.symbian.com/technology/symbos-phones.html</a>
1020	U.S. Patent 6,947,396 to Salmi (“Salmi”)
1021	RESERVED
1022	RESERVED
1023	U.S. Patent 6,788,949 to Bansal (“Bansal”)
1024	U.S. Patent 7,802,207 to Agboatwalla, et al. (“Agboatwalla”)
1025	U.S. Patent 7,574,486 to Cheng, et al. (“Cheng”)
1026	“Operating System Concepts” (Fourth Edition) by Silberschatz et al. (January 1994) (“Silberschatz”)
1027	U.S. Patent 6,937,588 to Park (“Park”)
1028	Excerpt from Webster’s Dictionary of Computer Terms (page 98)
1030	RESERVED
1031	RESERVED
1032	File History of <i>Ex Parte</i> Reexamination of U.S. Patent 8,793,336