UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

MOBILE DATA TECHNOLOGIES LLC,
Patent Owner

IPR2025-00542
U.S. Patent No. 9,922,348

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,922,348

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1002	File History of U.S. Patent 9,922,348
1003	Declaration of Dr. Henry Houh in Support of Petition for *Inter Partes* Review of U.S. Patent 9,922,348
1004	Curriculum Vitae of Dr. Henry Houh
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")
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1009	Joint Claim Construction Statement from *Mobile Data Techs. LLC v. Meta Platforms, Inc.,* No. 7:22-cv-00244-ADA-DTG (E.D. Tex.)
1010	Patent Owner's Response to Petition (Paper 26) from *Mobile Data Techs. LLC v. Meta Platforms, Inc.,* IPR2024-00250
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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);

Exh.	Reference
	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")
1017	"Symbian Home Page," (January 24, 2002), https://web.archive.org/web/20020124070457/http://www.symbian.com:80/
1018	"Symbian: OS Technology," (February 2, 2002), https://web.archive.org/web/20020202090443/http://www.symbian.com/technology/technology.html
1019	"Symbian: OS Technology – Symbian OS phones and PDAs," (February 2, 2002) https://web.archive.org/web/20020202133445/http://www.symbian.com/technology/symbos-phones.html
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)
1029	MDT v. Samsung - MDT's '348 Patent Infringement Contentions

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1030	RESERVED
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I. Introduction

Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. ("Petitioners") petition for *inter partes* review of claims 1-2, 6-9, 12-14, and 17-18 of U.S. Patent 9,922,348 ("the '348 patent," EX-1001).

II. Grounds for Standing

Petitioners certify the '348 patent is available for IPR and Petitioners are not barred or estopped.

III. Identification of Challenge

A. Prior Art

The '348 patent, filed March 2, 2017, claims priority through six continuations to U.S. Patent 7,599,983[1], filed June 18, 2003, which claims priority to Provisional 60/389,430 filed June 18, 2002. Petitioners do not acquiesce the '348 patent is entitled to priority of the provisional or any listed priority patent. Regardless, each applied reference was filed or published before June 18, 2002.

1. **WO 02/17652 to Randall, et al.** ("Randall"; EX-1005), published February 28, 2002, is prior art under 35 U.S.C. §102(a).

[1] PO filed 9 continuations over 17 years from the 18-column '983 patent specification, with the last patent filed in October 2020.

2. **U.S. Patent 7,047,030 to Forsyth** ("Forsyth"; EX-1006) is a National Stage Entry of PCT/GB02/02046, filed May 2, 2002, and is prior art under 35 U.S.C. §102(e).

3. **U.S. Patent 7,056,217 to Pelkey** ("Pelkey"; EX-1007), filed November 28, 2000, is prior art under 35 U.S.C. §102(e).

4. **U.S. Patent 6,716,103 to Eck** ("Eck"; EX-1008), filed September 11, 2000, is prior art under 35 U.S.C. §102(e).

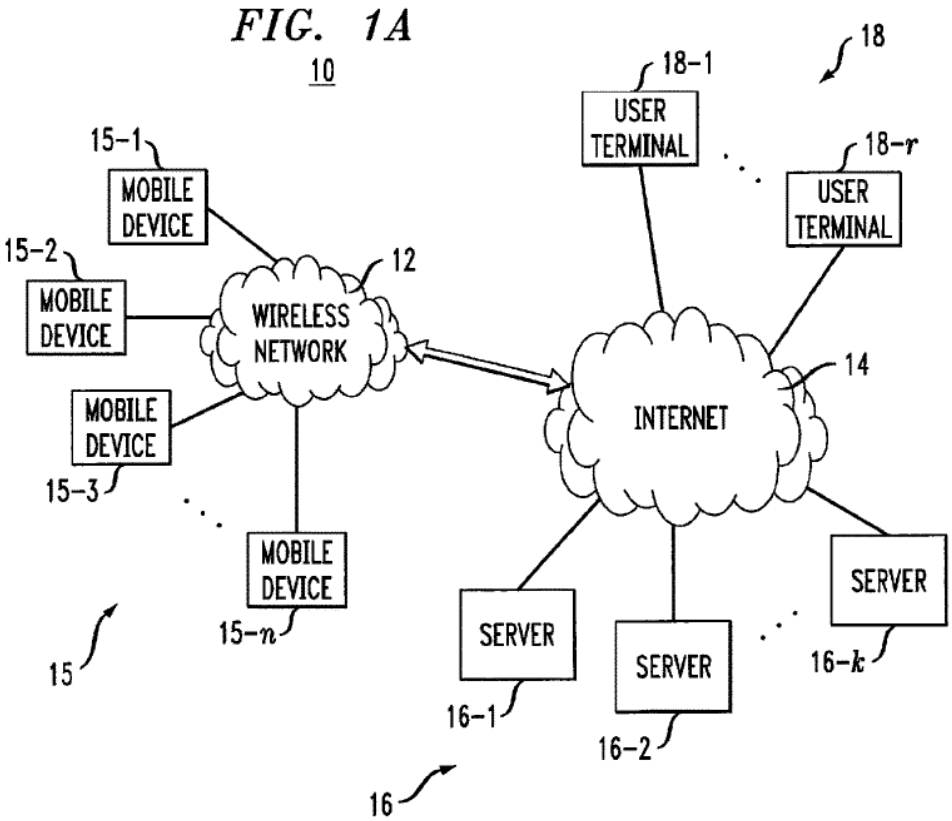
B. Grounds For Challenge

Ground		Claims	Prior Art
1	103	1-2, 6-9, 12-14, 17-18	Randall, Forsyth
2	103	1-2, 6-9, 12-14, 17-18	Pelkey, Eck

IV. The '348 Patent

A. Patent Overview

The '348 patent "relates generally to network-based communications systems, and more particularly to techniques for information content management in such systems." (EX-1001, 1:29-31.) Figure 1A (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, 3:60-65.)



'348 Patent, Figure 1A

System 10 "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, 5:27-29, 8:30-36.) Such mobile sites may be associated with "a group comprising multiple members having a common interest" (EX-1001, 6:39-41), "an event" (EX-1001, 6:60-61), "a game," (EX-1001, 7:42-43), or "a user of IM, SMS, MMS, email or other type of

messaging service" (EX-1001, 7:54-56), among other associations. (EX-1001, 6:39-8:25.)

B. Level of Ordinary Skill

A person of ordinary skill in the art ("POSITA") would have had 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. Additional education might compensate for less experience and vice versa.[2] (EX-1003, ¶¶31-32.)

C. Claim Construction

In *Mobile Data Techs. LLC v. Meta Platforms, Inc.*, No. 3:24-CV-00896-WHA (N.D. Cal.) (transferred from No. 7:22-cv-00244-ADA-DTG (E.D. Tex.)) ("MDT-Meta-Litigation") and *Meta Platforms, Inc. v. Mobile Data Techs. LLC*, IPR2024-00250 ("Meta-MDT-IPR"), the parties identified the following terms for construction. (EX-1009, 2-3; EX-1010, 8-16; EX-1011, 2-5.) The Board need not expressly construe any term for purposes of this proceeding because Petitioners establish the challenged claims are unpatentable under the constructions proposed

[2] PO did not dispute this POSITA definition in the Meta-MDT-IPR.

in these proceedings and the claims' plain meaning, where different. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

1. "Mobile Device"

Petitioners dispute PO's narrow Meta-MDT-IPR construction which is contrary to the express definition in the specification. (*See, e.g.,* EX-1001, 4:45-48.) Petitioners apply the plain meaning which is consistent with Meta's Meta-MDT-IPR and MDT-Meta-Litigation constructions. (EX-1003, ¶37.)

MDT-Meta-Litigation	
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"

Meta-MDT-IPR	
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"

2. "Web-Based Shared Information Channel"

In the Meta-MDT-IPR, Meta and PO agreed to the construction "a medium for transferring information accessible to more than one user via the web" which is consistent with the plain meaning of this term. (*See* EX-1010, 16, 63-64; EX-1011, 25.)

V. GROUND 1: Randall-Forsyth Combination Renders Claims 1-2, 6-9, 12-14, and 17-18 Obvious

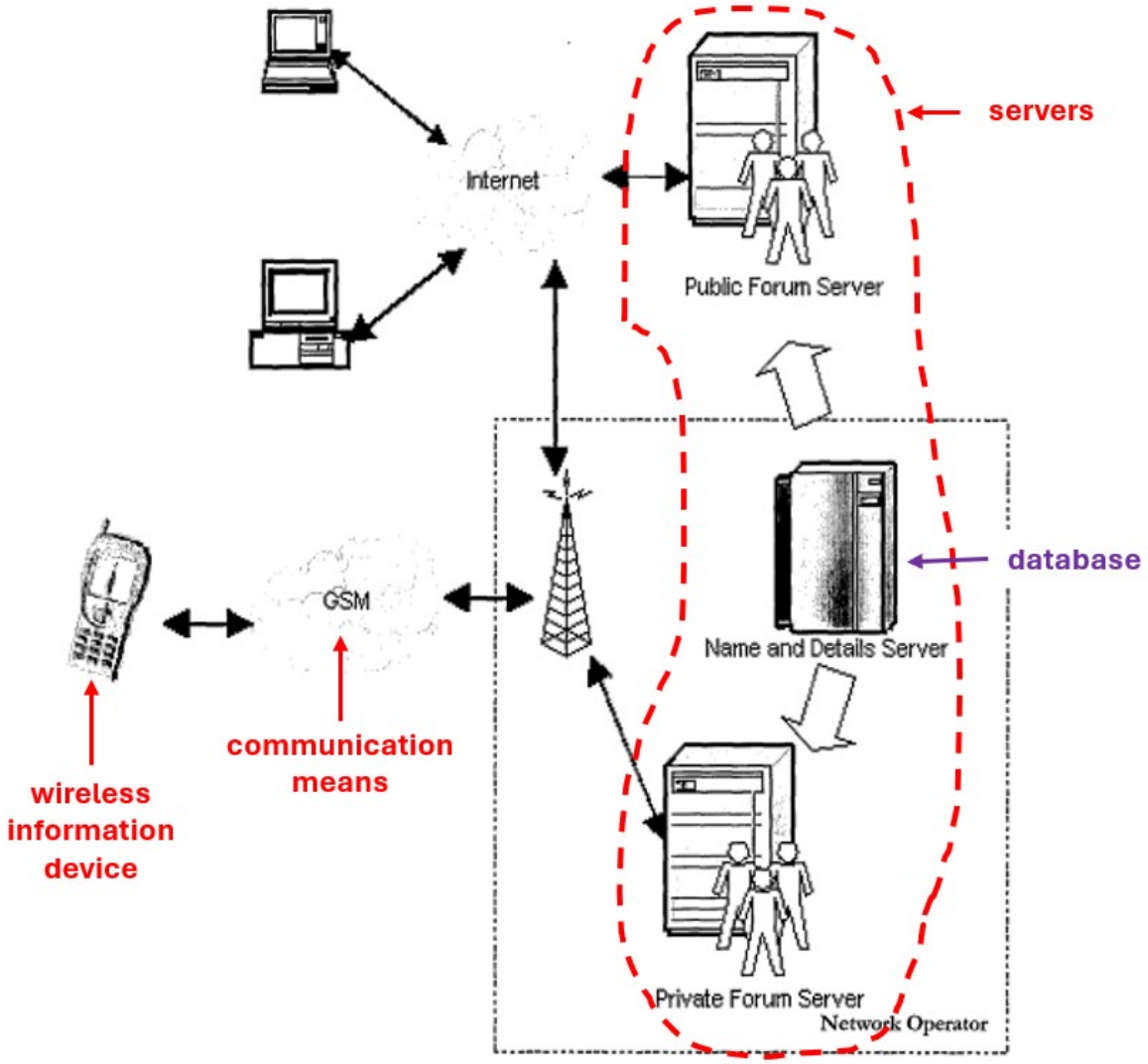
A. Combination Overview

Randall and Forsyth, both originally assigned to Symbian Limited ("Symbian"), describe the Symbian Forums service and different aspects of the network infrastructure supporting Forums. (*See* EX-1003, ¶¶39-68.) Forums at its most basic provides "chat rooms", "allow[ing] 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." (EX-1005, 40:16-19.)

1. Randall

Randall describes the Forums' network infrastructure used, illustrated below in Randall's Figure 4[3]. The network includes wireless information devices coupled to servers. (EX-1005, 7:16-19.) Forums uses a client/server model with a program component on the wireless device and a program component on the server. Randall's servers "use standard data transports such as WAP or http for data access" within Forums; meaning wireless devices access servers via WAP, which is based on WWW protocols and content formats, and non-mobile computing devices access servers via HTTP over the Internet. (*See* EX-1003, ¶¶49-59.) Randall introduces into this network "an open, universal data infrastructure for wireless information devices" which "extend[s] the attributes of the database using a *standard protocol*." (EX-1005, 3:10-13 (italics in original).)

[3] All emphasis by bold and figure annotations added unless otherwise noted.



Symbian Forums—Randall, Figure 4

Randall's extensible database "contains information from or relating to many different entities" and "is organised into information fields which an entity can complete or have completed." (EX-1005, 8:26-28.) The database is structured so its information "can be readily shared with other entities: the database in effect represents a web page containing information specific to that entity." (EX-1005,

8:29-31.) The infrastructure allows users to view, personalize, and/or manage access rights to their shared data through a view (e.g., via a website). (*See* EX-1005, 66:19-20, 66:25-26 (associating Alice's view to www.indirect.com/Alice).) Each piece of stored data, illustrated in Table 1 for a user's (Alice) record, is associated with a tag and a listing of groups "allowed access to the data." (EX-1005, 66:3-10.)

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

Randall introduces Forums as a service utilizing its extensible data infrastructure. (EX-1005, 40:28-41:2.) Forsyth further enhances Forums, as discussed below.

2. Forsyth

Forsyth introduces application-independent group objects which provide "a group communication method for a wireless information device." (EX-1006, 1:15-16.) Forsyth's group objects, created by a first application, can be used by other, unrelated, applications running on a device. (EX-1006, 2:10-16.) Forsyth specifically describes enhancements to the Forums service achievable through the use of these group objects. (EX-1003, ¶¶65-68.) Forsyth describes several Scenarios illustrating the operation of group-object enhanced Forums: Group Based Text Messaging, (EX-1006, 5:35-7:13), Discussion of Photos (EX-1006, 7:18-57), Social Scheduling (EX-1006, 7:58-9:4) and Digital Memento from a User's Birthday (EX-1006, 9:5-35) as well as numerous features and functions that can be used within Forums to further enhance the user experience.

3. Motivation to Combine

A POSITA would have been motivated to combine Forsyth's teachings regarding use of group objects and additional features and functions to enhance the Forums service taught by Randall which uses Randall's network infrastructure with extensible database. (EX-1003, ¶¶69-75.) Randall and Forsyth are both in the

same field of the ’348 patent—“network-based communication systems.” (*See* EX-1001, 1:28-30; EX-1005, 40:16-18; EX-1006, 1:15-16; EX-1003, ¶70.) Randall and Forsyth are also reasonably pertinent to problems addressed by the ’348 patent, namely “overcom[ing] one or more of the drawbacks of” conventional techniques for content sharing for mobile devices. (*See, e.g.*, EX-1001, 1:45-2:9; EX-1003, ¶70.)

A POSITA would have been motivated to make the above combination because Forsyth explicitly motivates the combination. (EX-1003, ¶¶71-72.) 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.” (EX-1006, 2:24-27.) As such, “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).” (EX-1006, 2:27-37.) Forsyth further describes “strengths” of a Forums application utilizing group objects “over conventional communications,” as summarized in Table 1 (below). (EX-1006, 2:54-57.)

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**

Table 1

Forsyth, Figure 1

Therefore, a POSITA would have been motivated to combine Randall and Forsyth to obtain the advanced capabilities provided by Forsyth. (EX-1003, ¶¶71-72.) Moreover, a POSITA, when considering Randall's Forums service, would have been motivated to search for references describing Forums and its enhancements, particularly those published by or associated with Symbian and

would have been led to Forsyth. (EX-1003, ¶73.) 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. (EX-1003, ¶74.)

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. (EX-1003, ¶75.) The Symbian operating system was well-known and Symbian offered many technical developer resources prior to the earliest possible priority date of the '348 patent. (*See, e.g.,* EX-1017; EX-1012, EX-1016, EX-1018.)

B. Independent Claims 1, 13, and 17

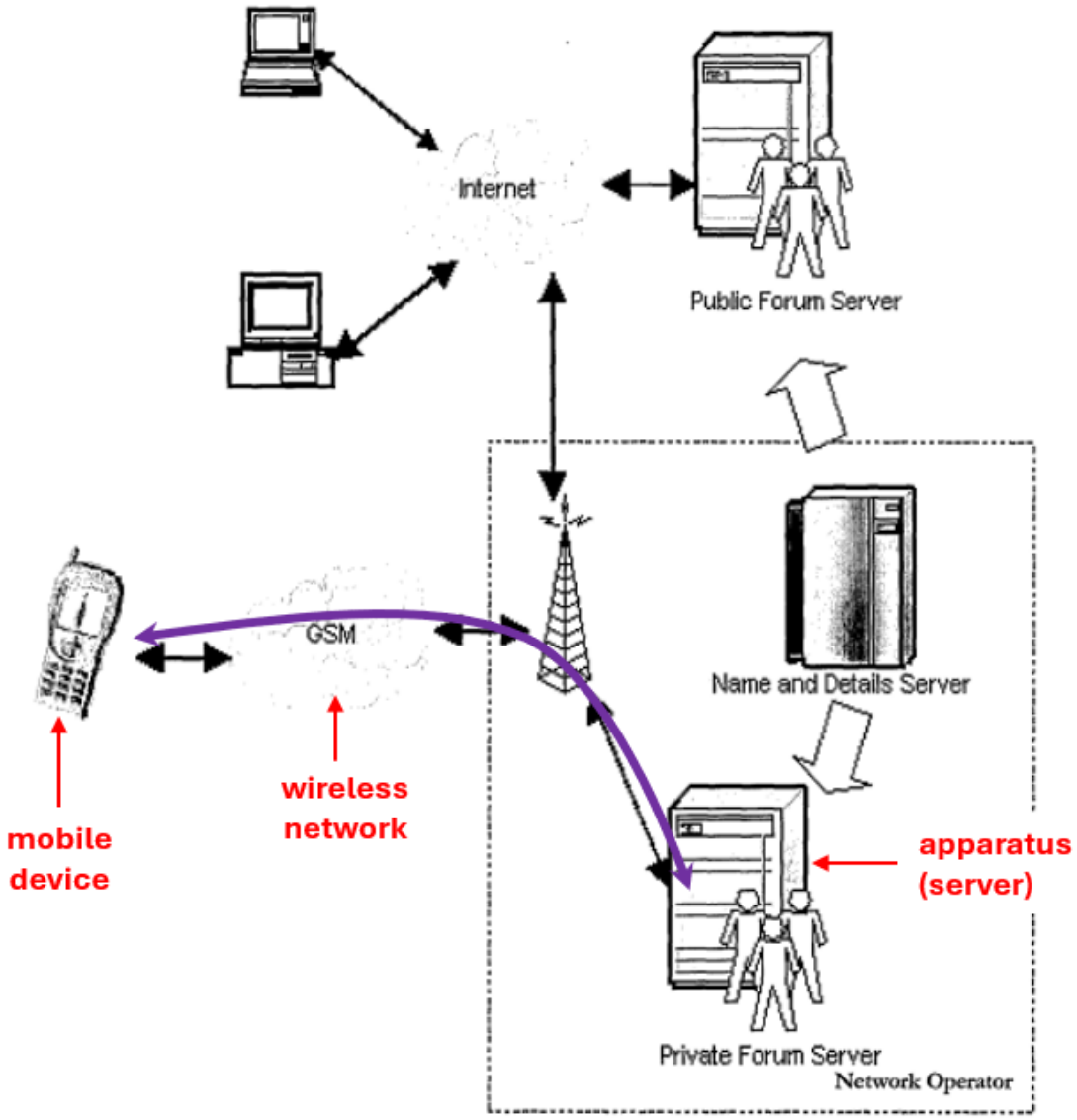
Claims 1, 13, and 17 include substantially overlapping processing limitations ([1C]-[1E]/[13A]-[13C]/[17A]-[17C]). Petitioners therefore address the claims together in this section.

1. Preambles [1P]/[13P]/[17P]

a. [1P]: "apparatus"

The Randall-Forsyth combination discloses a server which is an "*apparatus*" [1P]. (EX-1003, ¶77.) As illustrated in Randall's Figure 4, the Forums network

infrastructure includes a server hosting Forums such as Private Forums. In Forums, the server "handles contacting each group member, storing messages, allowing message to be read, sending, receiving and distributing messages." (EX-1006, 3:28-33.)



Forums—Randall, Figure 4

b. [13P]: "method"

The Randall-Forsyth combination discloses a method for performing the steps of limitations [13A]-[13C] discussed in §V.B.2.

c. [17P]: "non-transitory computer-readable storage medium"

The Randall-Forsyth combination suggests "*non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs, wherein said executable program code when executed by a processing element causes said processing element to*" perform the processing steps set forth in §V.B.2. (EX-1003, ¶¶79-85.)

In §V.B.1.a, both Randall and Forsyth disclose the server performs processing and therefore has a server-side program component of Forums. (*See* EX-1006, 3:28-31; EX-1005, 57:4 ("server side software"), 38:24 ("server side message handling applications").) And although Randall depicts multiple servers hosting individual Forums and hosting the extensible database, a POSITA would have been motivated to implement the functionalities for hosting a Forum and a database on a single server to achieve cost savings and to obtain efficiency of maintenance and updates. (EX-1003, ¶79.)

Although not explicit, a POSITA would have understood from these disclosures the server-side Forums program is an "*executable code of one or more*

software programs" which "*when executed*" by a processor cause the server to perform the recited actions of claim 17. (EX-1003, ¶¶79-80.)

Neither Randall nor Forsyth explicitly states that the server-side program is stored in 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. (EX-1003, ¶80, *citing* EX-1026, 29-30, 37.) To the extent PO argues this is not inherent in a computing device running software, it would have been obvious to a POSITA and well within the POSITA's general knowledge as evidenced by the server disclosures of Agboatwalla (EX-1034, 3:7-9, 42:1-38), Cheng (EX-1025, 23:63-24:1), Bansal (EX-1023, 7:23-24) and Pelkey and Eck (§VI.B.2). (EX-1003, ¶¶81-85.)

2. Server Architecture Limitations [1A]-[1B]

The Randall-Forsyth combination, as informed by general knowledge of a POSITA, teaches or at least suggests an "*apparatus"* (server) includes "*a processing element comprising a processor coupled to a memory*" [1A] and "*a network interface coupled to the processing element and configured to communicate with a plurality of mobile devices over at least one network*" [1B] (EX-1003, ¶¶86-95); *Philips v. Google,* 948 F.3d 1330, 1337-38 (Fed. Cir. 2020) (finding claims obvious in view of a reference "in light of the general knowledge of a skilled artisan").

a. Processing Element and Network Interface

The Forums server performs processing and therefore has a "*processing element*." (EX-1003, ¶88.) Forsyth teaches the server "handles contacting each group member, storing messages, allowing message[s] to be read, sending, receiving and distributing messages." (EX-1006, 3:28-31.) Randall specifically mentions "server side **software**" (EX-1005, 57:4) and "server side message handling **applications**" (EX-1005, 38:24). A POSITA would have understood that software and applications execute on "*a processor*" within the "*processing element.*" (EX-1003, ¶88.)

Both Randall and Forsyth also disclose or suggest the "*processing element*" in the server includes "*a memory.*" (*See* EX-1003, ¶88.) Specifically, the Forums 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.)." (EX-1006, 3:31-34.) The storage at the server is a "*memory*." (EX-1006, 3:31-34.) Additionally, a POSITA would have understood the applications and software running at the server are stored in a memory. (EX-1003, ¶¶88-89; EX-1001, 4:60-63 (memory includes "any other type of storage device").)

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 in memory, a POSITA would have understood Randall and Forsyth further disclose or suggest the "*processor* [is] *coupled to a memory.*" (EX-1003, ¶89; §V.B.1.c.)

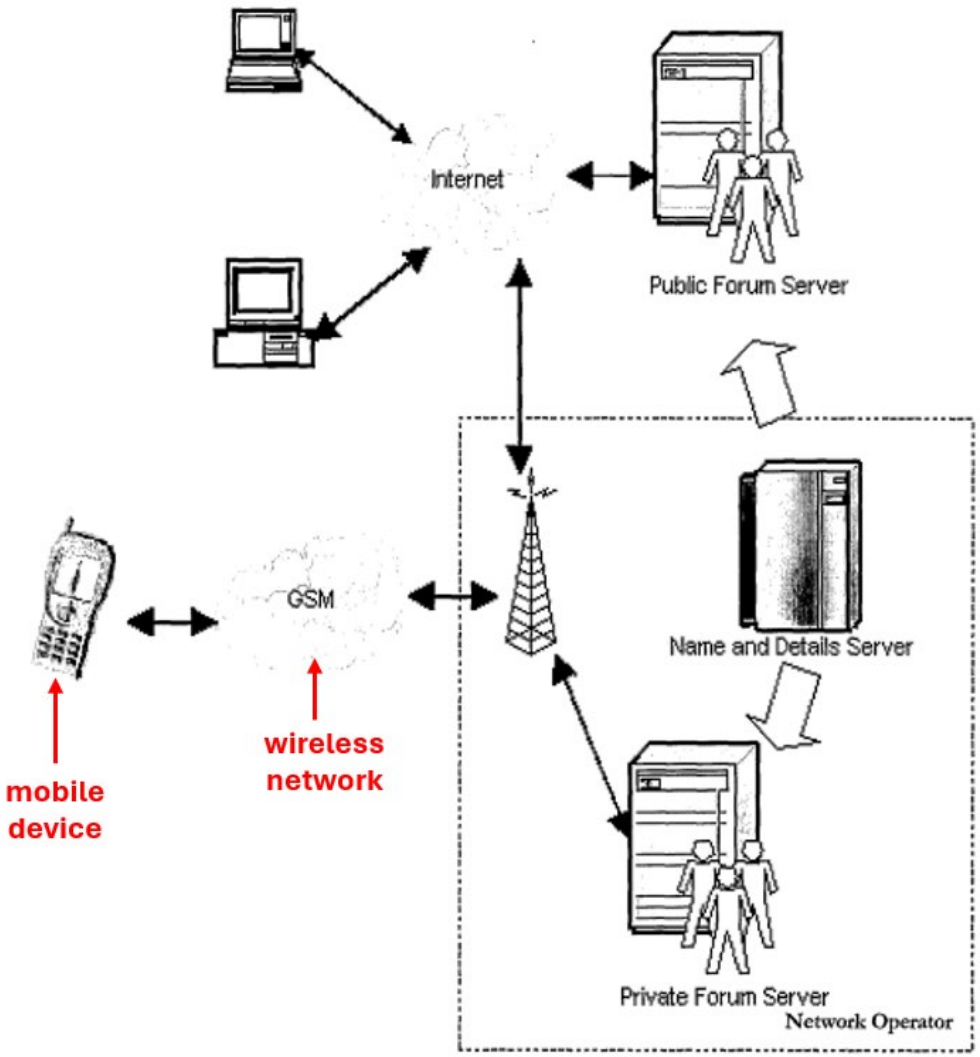
The Randall-Forsyth combination also discloses or suggests the "*processing element*" includes a "*a network interface coupled to the processing element and configured to communicate with a plurality of mobile devices over at least one network.*" (EX-1003, ¶90.) Both Randall and Forsyth disclose servers communicate with mobile devices "over any kind of network, such as GSM." (EX-1005, 1:11-13; *see* EX-1006, 1:22-25.) To access these networks, the server requires an interface to the network—a "*network interface.*" (EX-1003, ¶90; *see also*, EX-1001, 4:64-65 (network interface "provide[s] an interface … to the wireless network").) Indeed, Randall specifically refers to a "GSM/GPRS interface." (EX-1005, 40:1-2.) The server in the Forums infrastructure "handles contacting each group member, storing messages, **allowing message to be read, sending, receiving and distributing messages**." (EX-1006, 3:28-31.) That is, the "*network interface*" is "*coupled to the processing element*" and "*communicate[s] with a plurality of*" wireless devices "*over at least one network* [e.g., GSM network]." The wireless devices of Randall and Forsyth are the recited "*mobile devices*," as discussed below.

Moreover, the general architecture of a server (processor coupled to memory and a network interface) was within the general knowledge of a POSITA by June 2002. (EX-1003, ¶¶91-95.) For example, Agboatwalla (EX-1024, 5:40-42), Cheng (EX-1025, 23:26-51), Bansal (EX-1023, 6:66-7:5), Pelkey and Eck (§VI.D.2) each discloses the claimed arrangement.

b. "Mobile Devices"

The Randall-Forsyth combination discloses a "*mobile device*" under the MDT-Meta-Litigation and Meta-MDT-IPR constructions. (EX-1003, ¶¶96-97.)

The Randall-Forsyth combination describes a client-server network infrastructure, illustrated in Figure 4 below, used to offer the Forums service that includes wireless information devices and servers. (*See, e.g.,* EX-1005, 40:28-30, 3:10-13 (Randall "relates to the use of an open, universal data infrastructure for **wireless information devices"**); EX-1006, 1:15-16 (Forsyth "relates to a group communication method for a **wireless information device**").)



Symbian Forums—Randall, Figure 4

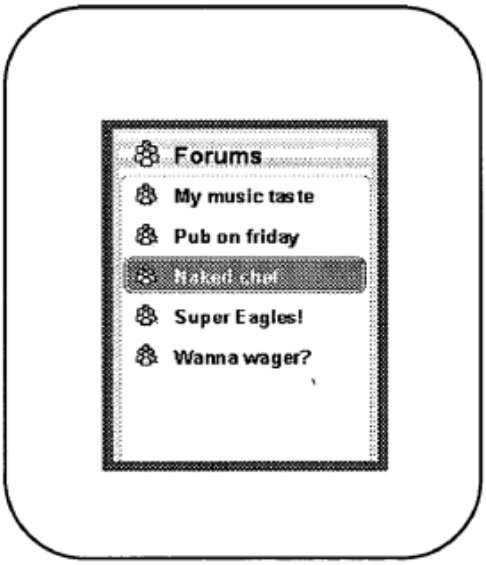
The wireless information devices disclosed in both Randall and Forsyth encompass "any kind of device with one or two way wireless information capabilities [including] without limitation radio telephones, smart phones, communicators, personal computers, computers and application specific devices." (EX-1005, 1:7-11; EX-1006, 1:16-22.) Each listed wireless information devices is portable, capable of being held in the hand, and 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). (EX-1005, 1:11-13; EX-1006, 1:16-25.) That is, these portable/handheld devices process information and are configured to connect to and communicate via a wireless network and therefore meet Meta's MDT-Meta-Litigation/Meta-MDT-IPR and PO's MDT-Meta-Litigation "*mobile device*" constructions. (EX-1003, ¶¶98-99.)

Although Randall's Figure 4 only depicts a single wireless information device, a POSITA would have understood that multiple wireless information devices would be present in the Forums network, because Randall and Forsyth both discuss groups having multiple members and because, for example, Forsyth teaches that content is "sent and received between **several** wireless information devices" in a group. (EX-1006, 1:64-2:1; *see* EX-1006, 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).) Accordingly, the combination discloses "*a plurality of mobile devices.*" (EX-1003, ¶100.)

Randall and Forsyth also teach wireless information devices (e.g., radio telephone and smartphone) that have limited display space and/or limited navigational capabilities. (*See* EX-1006, 4:61-62, Figures 2-11; EX-1005, 45:23-25 ("current architecture of the Internet is not well suited for the wireless device form

factor … for mobile devices with small displays.”).) For example, as shown in Forsyth’s Figure 6 (below), the wireless information device has a small display and the interface permits the user to navigate to only the listed forums—i.e., the mobile device has limited navigational capabilities. (EX-1003, ¶101.) Thus, the Randall-Forsyth combination discloses a “*mobile device*” even under PO’s overly narrow Meta-MDT-IPR construction. (*Id*.)



Symbian Forums—Forsyth, Figure 6

3. Processing Limitation [1C]-[1D]/[13A]-[13B]/[17A]-[17B]

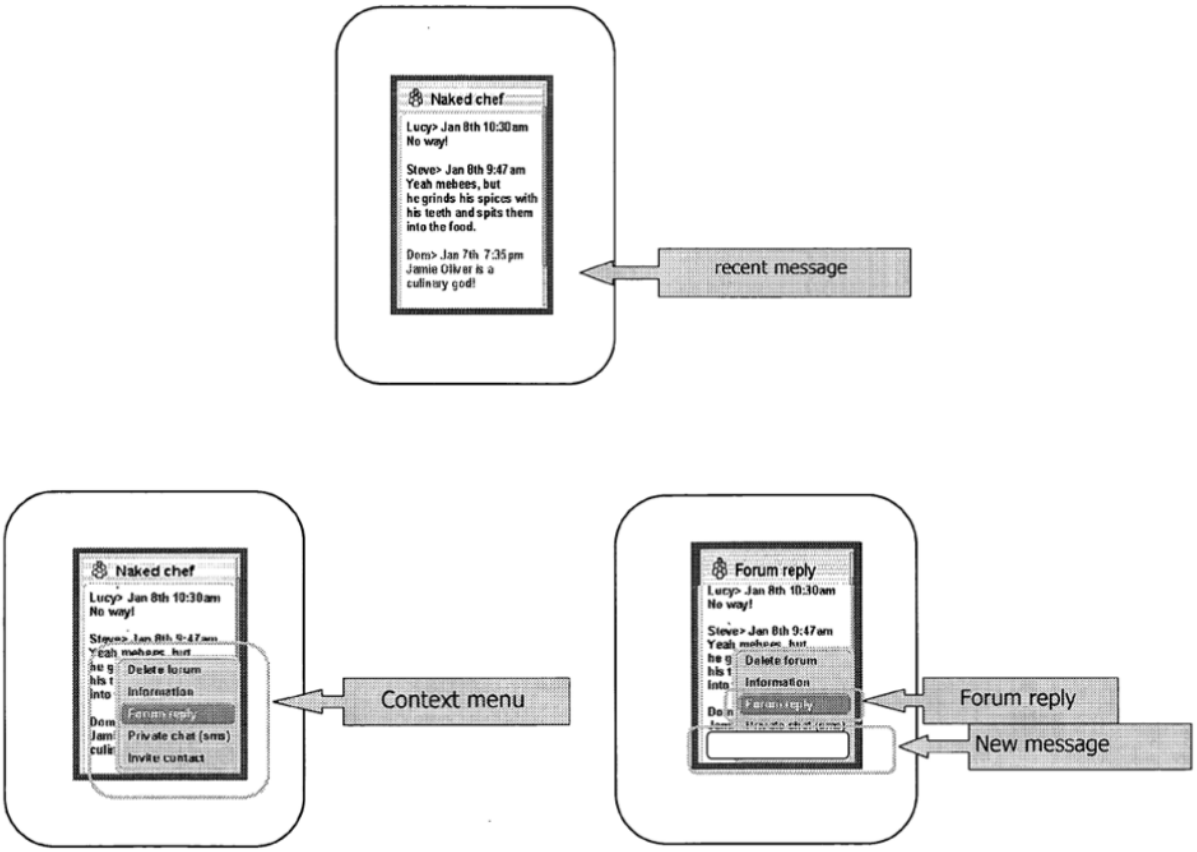
The Randall-Forsyth combination discloses “*reciev[ing] first device-captured data from a first one of the mobile devices via the network interface*” [1C] and “*reciev[ing] second device-captured data from a second one of the mobile devices via the network interface*” [1D]. (EX-1003, §IV.B.3.a.) The Randall-Forsyth combination also discloses “*receiv[e]/[ing] first device-captured*

data from a first mobile device over at least one network" [13A]/[17A] and "*receiv[e]/[ing] second device-captured data from a second mobile device over said at least one network*" [13B]/[17B]. (*Id.*)

a. "Device-Captured Data"

Randall and Forsyth each discloses capturing multiple types of data at the mobile device. (EX-1003, ¶¶109-16.) 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." (EX-1006, 4:9-11; Figure 13.) For example, Randall and Forsyth each discloses capturing a photo at a wireless device. (EX-1003, ¶¶110-11.) Randall describes a function called "Take a picture" which "takes a digital picture which [a user can] send to [their friends … and chat about it." (EX-1005, 80.) Such functionality involves photo capture, upload, and storage, and is supported by "a special type of mobile phone, with a photographic lens." (EX-1005, 80.) Forsyth similarly discloses an exemplary Forum where a user "takes a few photographs" and sends them to the group. (EX-1006, 7:30-35.) In another exemplary Forum, members post "photos" to a Forum. (*See,* EX-1006 9:5-35.) Thus, the Randall-Forsyth combination discloses capturing a photo at the mobile device either via an integrated camera or via a camera interfacing with the mobile device—"*device-captured data*." (EX-1003, ¶111.)

Randall and Forsyth each discloses capturing a text message at a wireless device. (EX-1003, ¶¶112-13.) Forums is a "**messaging** tool that facilitates open discussion amongst a group" including through "group based text messaging" and "group based multi-media messaging." (EX-1006, 5:27-29, 3:36-4:1.) For example, in "group based text messaging" (Scenario 1), when a Forum selects "Forum Reply" from the menu shown in Figure 8 (bottom-right), the user is provided a user interface with a field (box) to input a text message. The text message entered into the user interface is captured at the wireless device and "posted to the Forum." (EX-1003, ¶113; EX-1006, 6:54-56, Figure 9 (bottom-right).) Thus, the Randall-Forsyth combination discloses capturing a text message at the mobile device via keystrokes entered into text entry fields—"*device-captured data*." (EX-1003, ¶113.)



Symbian Forums—Forsyth, Figure 7 (top); Figure 8 (bottom-left)
Figure 9 (bottom-right)

Forsyth discloses capturing a music file at the wireless information device. (EX-1003, ¶¶114-15.) 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)." (EX-1006, 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 **music tracks** etc.").) Forsyth further describes an exemplary Forum where "[p]eople post MP3s of the kind of music played at each club." (EX-1006, 9:21-22.) While not explicit, a POSITA would

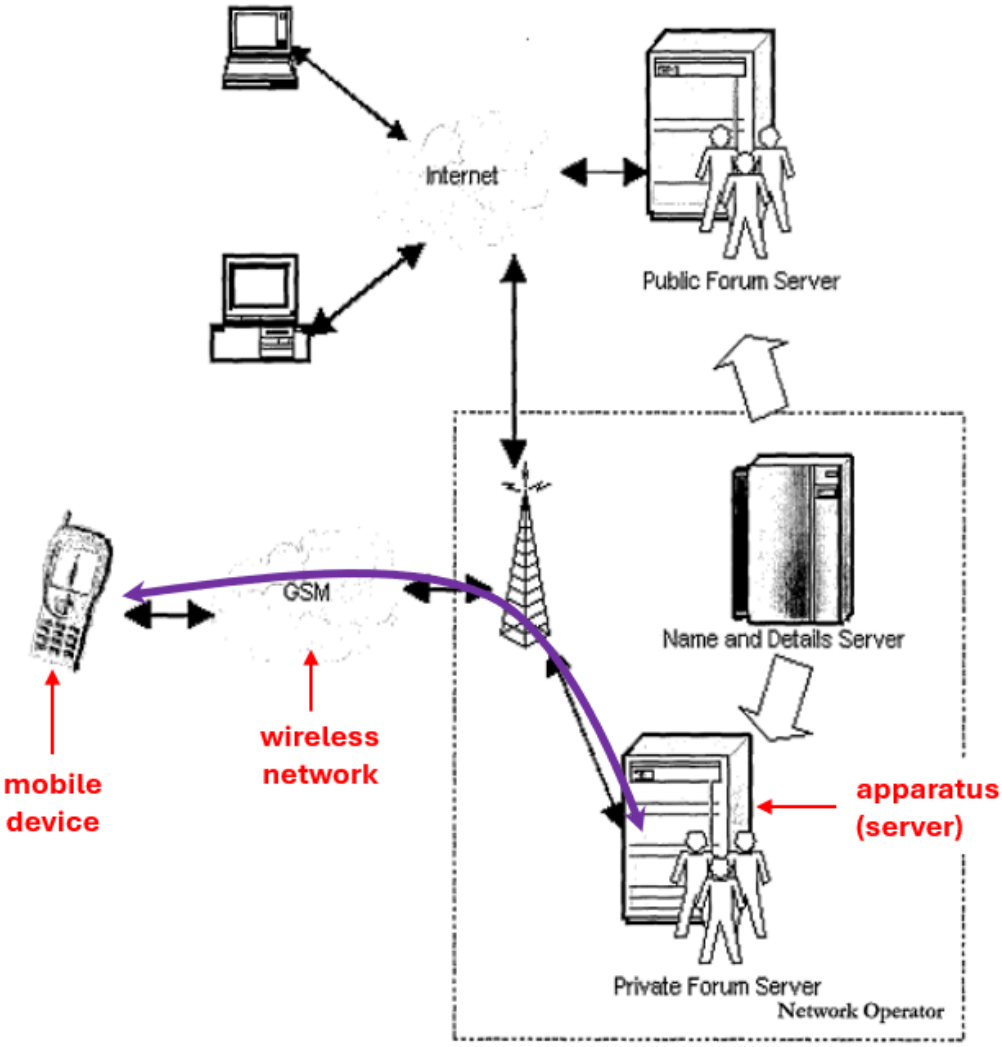
have understood the shared track/MP3 (music file) is captured in some manner on the user's device, either by recording or via data transfer from another device, so that it can be uploaded to the server. (EX-1003, ¶114.) Thus, the Randall-Forsyth combination discloses capturing a music/audio data at the mobile device—"*device-captured data*." (EX-1003, ¶115.)

Finally, Randall and Forsyth discloses capturing a graphic via a "[w]rite-[o]n" function of the mobile device. (EX-1005, 79.) Thus, the Randall-Forsyth combination discloses capturing graphic data at the mobile device—"*device-captured data*." (EX-1003, ¶116.)

b. "Receive First" and "Second" Device-Captured Data

Forums 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). (EX-1006, 1:64-2:1.) Each of Forsyth's Scenarios illustrates that a mobile device shares data (text messages, photos, graphics, music files, etc.) with other Forum members within a Forum. (EX-1006, 5:35-7:13 (Scenario 1), 7:18-57 (Scenario 2), 7:58-9:4 (Scenario 3), 9:5-35 (Scenario 4).) Thus, a first mobile device sends its content for inclusion in the Forum discussion, including "first captured data" and a second mobile device also

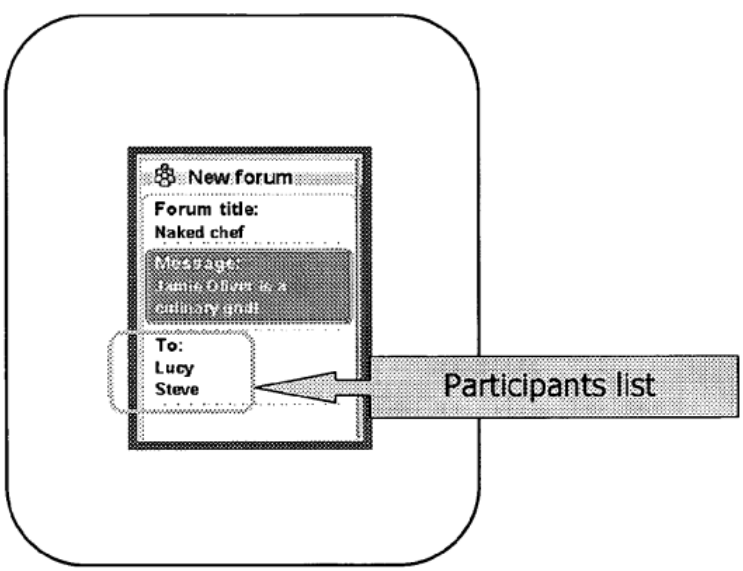
sends its content for inclusion in the Forum discussion including its "second captured data." (EX-1003, ¶117.) The server, illustrated in Randall's Figure 4 below, "handles contacting each group member, storing messages, **allowing message to be read, sending, receiving and distributing messages**." (EX-1006, 3:28-31; EX-1005, 57:4 (describing "server side software"), 38:24 (describing "server side message handling applications").) That is, the wireless devices (clients) send their messages containing content data to the server for storage and distribution to other Forum members and these messages are received over the wireless network via the network interface.



Symbian Forums—Randall, Figure 4

Forsyth's "group based text messaging" Scenario 1 describes an example of creating a Forum (channel) and exchanging messages among Forum members. When creating a Forum (e.g., Naked Chef), the mobile device, via the New Forum user interface displayed on the mobile device screen, captures the initial message entered by the user (including text data content) and sends this text content "to the message server" as part of a "message/communication object." (EX-1006, 6:1-8,

Figure 4 (below).) The wireless device associated with the Forum creator is "*a first one of the mobile devices*" and the text captured through the New Forum user interface is "*first device-captured data*" which is received at the Forums server "*from [the] first one of the mobile devices via the network interface.*" (EX-1003, ¶118.) Thus, the server "*receive[s] first device captured data from*" first mobile devices over the network and "*via the network interface*" [1C]/[13A]/[17A]. (*Id.*)

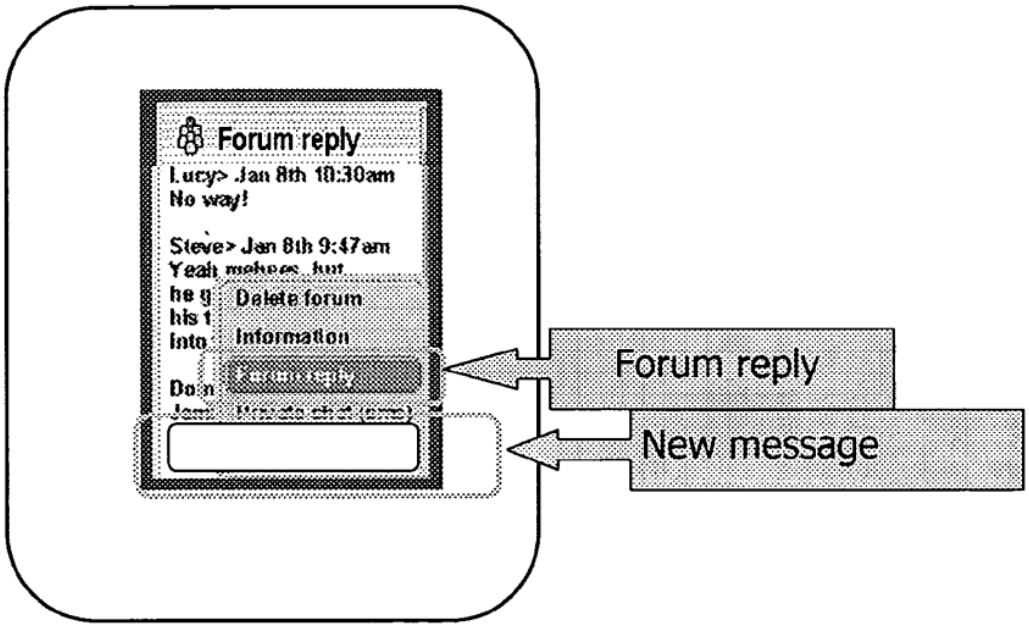


Forums—Forsyth, Figure 4

The server stores the message/communication object, which acts as the store for all communications within the Forum. (EX-1006, 6:9-10, 4:18-24 (message can "be treated as a single communication object" and "[a]ll linked (e.g. threaded) communications, such as replies and comments, then become part of the same communication object and, like any object are treated as a discrete entity").) The

server then "forwards a copy of the message to each of the people on the address list, along with an abstracted version of the address list." (EX-1006, 6:10-14.)

Subsequent responses to the initial message "are of the form that the new message is sent to the server, when then forwards on the increment to all the people on the current (server-maintained) address list." (EX-1006, 6:18-22.) For example, when "a user clicks on 'Forum reply,'" via the user interface shown in Figure 9 (below), "then a new message is posted to the Forum." (EX-1006, 6:54-55.) The mobile device sending the response to the server over the wireless network is "*a second one of the mobile devices*" and the data contained in the response is the "*second device-captured data.*" (*Id.*) Thus, the server "*receive[s] second device captured data from*" a second mobile device over the network "*via the network interface*" [1D]/[13B]/[17B]. (EX-1003, ¶120.)



Forums—Forsyth, Figure 9

A similar process is followed for messages containing captured photos, captured audio files, captured graphics, etc. (EX-1003, ¶121-23.)

4. Limitations [1E], [13C], and [17C]

The Randall-Forsyth combination discloses "*integrat[e]/[ing] the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via a respective personalized content applications of the first and second mobile devices.*"

a. "Personalized Content Applications"

The Forums service is an "application" with a program component at the wireless device and a program component on the server. (EX-1006, 4:62-63

("FIGS. 2-11 are screen shots of the display of a wireless information device running the Forums application."), 4:64-65 ("FIG. 12 is a table showing typical features of three generations of Forums applications."), EX-1005, 40:15-41:14 (describing Forums application).) Forums is also a "*personalized content application*", consistent with the PO's allegations in its Infringement Contentions (EX-1029, 14), because a user manages her profile and can personalize her Forums experience. (EX-1003, ¶¶126-28.) For example, through Forums, a user enters "basic identity data about themselves" including setting her current mood, hobbies, and preferences. (EX-1005, 23:14-17, Table 1; EX-1006, 7:20-25.) Forums further provides a user with the capability of creating a personalized Forum which is also a "*personalized content application*" operating within Forums. (EX-1003, ¶128.) For example, Forsyth describes the ability to create a private Forum where a user can "share, amongst a pre-defined group, **personal content** such as photographs, opinions, music playlists, music tracks etc." (EX-1006, 4:9-11.)

b. "Web-Based Shared Information Channel"

The Randall-Forsyth combination discloses a "*web-based shared information channel*" under the agreed upon Meta-MDT-IPR construction. (EX-1003, ¶¶129-38; §IV.C.) Within Forums, a user has the ability to create an individual Forum opened to members of a specified group (Private Forum) or to all (Public Forum). (EX-1006, Appendix 1, 13:60-18:18; EX-1005, 24:13-17.) The

individual Forum scenarios presented in Forsyth, "group based text messaging" (EX-1006, 5:35-7:13), "Discussion of Photos" (EX-1006, 7:18-57), "Social Scheduling" (EX-1006, 7:58-9:4), "Digital Memento from a User's Birthday" (EX-1006, 9:5-35), as well as the other scenarios discussed, provide examples of how a Forum permits communication and information sharing among its members.

Each individual Forum is a "*channel*" that is "*accessible to first and second users of the respective first and second mobile devices*" through information (e.g., content) sharing. (EX-1003, ¶¶129-30.) Specifically, Randall describes that "a forum allows **several people** to be part of a '**channel**' or room." (EX-1005, 40:17-19; *see also* EX-1005, 82:5-10, 82:10-83:5.) Thus, a Forum created in and available Forums (computer program) provides a means to share content (information) with identified members of the Forum—i.e., it is a mechanism through which content/information is transferred to Forum members. (EX-1003, ¶¶131.) 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* EX-1006, 6:15-26.) Therefore, an individual Forum is "a medium for transferring information accessible to more than one user" and is therefore an "*shared information channel.*" (EX-1003, ¶131.)

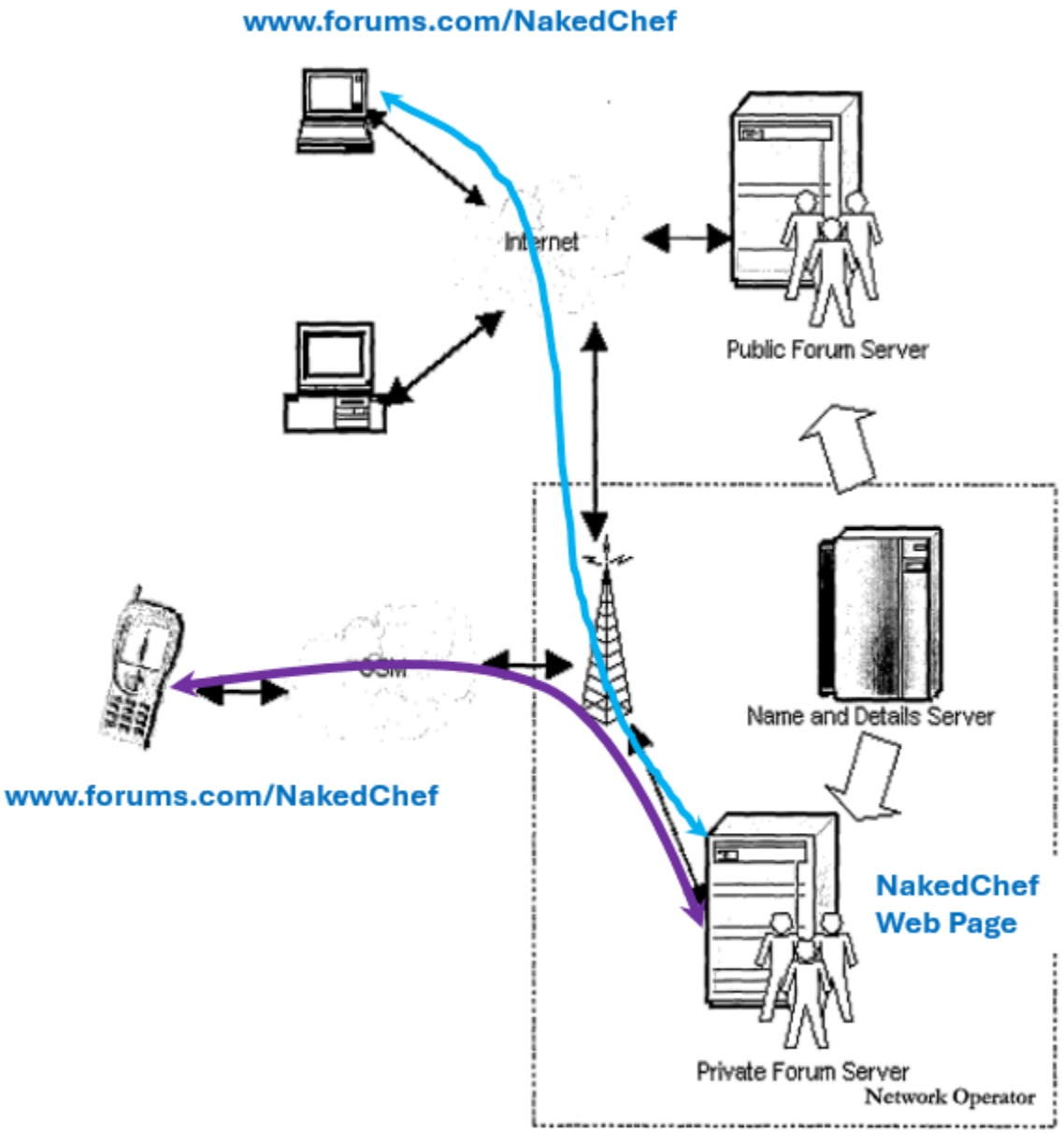
Randall and Forsyth both disclose, or suggests, to a POSITA that an individual Forum is also a "***web-based*** *shared information channel*" under the agreed upon Meta-MDT-IPR construction ("a medium for transferring information accessible to more than one user via the web"). (EX-1003, ¶132-38.) The Forums infrastructure, illustrated in Randall's Figure 4, "acts in effect like a fully personalized **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." (EX-1005, 13:22-24.) Forums establishes "web portals" (websites) for users of wireless devices through the use of "standard data transports such as WAP or http for data access" to the server (EX-1005, 45:14-15) and through the use of Randall's ADS naming scheme which uses web server addresses.

Use of WAP teaches or at least suggests Forums user interface pages are provided from the server over "the web" (e.g., via a website download). WAP, as discussed in §VI.B.3.b, is "based on the WWW communication protocols" and "WWW content formats." (EX-1013, 13; EX-1003, ¶¶55-59.) The WAP proxy "allows content and applications to be hosted on standard WWW servers." (EX-1013, 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.,* EX-1027, 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.,* EX-1027, 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.,* EX-1027, 2:15-25.) That is, Forums hosted on or accessible via WAP-enabled server are "web-based." (EX-1003, ¶133.)

Randall's naming convention further underscores that Forums are designed to be mobile websites accessible "via the web." (EX-1003, ¶¶134-35.) 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." (EX-1005, 9:13-15.) Randall's ADS number is "an **address on a web server**–for example **www.indirect.com/Alice**." (EX-1005, 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." (EX-1005, 64:27-28.) Indeed, Forsyth confirms the Forums are "*web-based*", 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." (EX-1006, 11:23-31; EX-1003, ¶136.)

For example, with the web-based Forums architecture, a user connected to the Internet enters the ADS number associated with the Forum, Naked Chef (e.g., www.forums.com/NakedChef) and connects to the server hosting that Forum via HTTP; the server processes the request and responds with the webpage (blue line). (EX-1003, ¶137.) A mobile device user similarly enters (directly or via a local application) the Forum's ADS number (e.g., www.forums.com/NakedChef) and connects to the server over GSM-WAP (purple). If the WAP server hosts the Forum (as shown below), it processes the request and responds with a webpage. If not, the WAP server contacts the hosting server via HTTP to retrieve the webpage which is returned to the mobile device via GSM-WAP. (*Id*.).



Symbian Forums—Randall, Figure 4

Thus, the Randall-Forsyth combination discloses a "*web-based shared information channel*" that is "*controllably accessible to first and second users of the respective first and second mobile devices*" via the Forums service running on the "*first and second mobile devices.*" (EX-1003, ¶¶129-38.)

c. "Integrate First/Second Device Capture Data Into Web Information Channel"

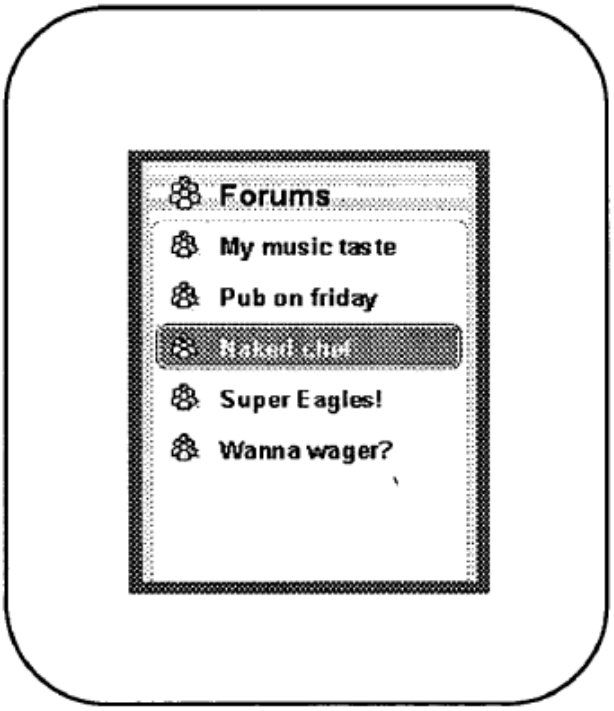
The Randall-Forsyth combination discloses "*integrat[e]/[ing] the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices*" [1E]/[13C]/[17C]. (EX-1003, ¶¶139-43.)

Forums achieves integration of messages from multiple Forum members within a Forum through use of a single communication object associated with a Forum. (EX-1006, 4:19-20, 4:20-26, 7:6-8.) Forsyth discloses that when a Forum is created, the original message posted to the Forum is "treated as a single 'communication object.'" (EX-1006, 4:19-20.) "All linked (e.g. threaded) communications, such as replies and comments, then become part of the same communication object and, like any object are treated as a discrete entity." (EX-1006, 4:20-24.) "Hence, the entire communication object can be sent to a new person, or be archived etc." (EX-1006, 4:25-26, 7:6-8 ("The contents of a Forum can be forwarded-on, for example, to contacts who are not participating in the Forum, or to the Jotter application.").)

For example, in group based text messaging Scenario 1, a communication object is created for the Forum "Naked Chef" which holds the initial message and all subsequent messages in the Forum. (EX-1003, ¶¶118-19.) When new response

messages are sent to the server, the server stores these messages in the communication object thereby "maintaining [the] m[e]ssage thread" for the Forum. (*See* EX-1006, 3:19-22, 3:28-30.) That is, the server "integrates" the received messages into the Forum object.

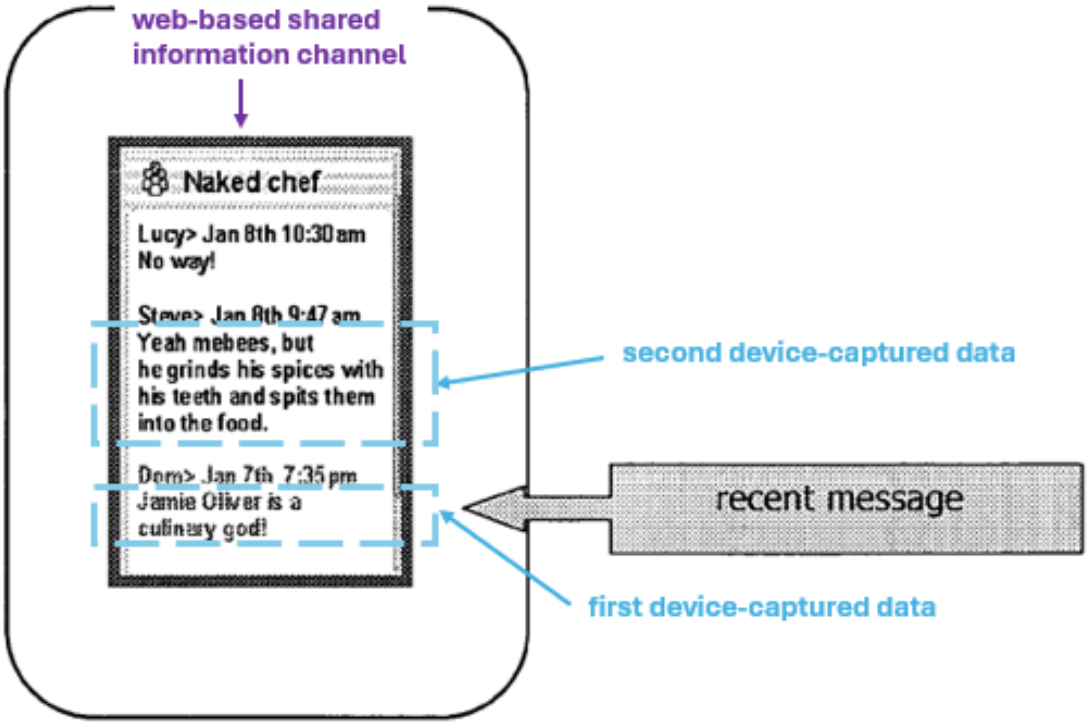
The integration of content (device-captured data) into a Forum ("*web-based information channel*") that is "*controllably accessible to first and second users of the respective first and second mobile devices*" is further illustrated by this exemplary scenario. (EX-1003, ¶¶141-42.) As shown in Forsyth's Figure 6 (below), the user interface of the Forums application displays a listing of established Forums of which the user is a member (e.g., "Pub on [F]riday", "Naked chef", "Super Eagles!", "Wanna wager?"). (EX-1006, 6:28-35.) This screen is customized to list the Forums to which the user is a member and therefore varies from user to user. The view shown in Figure 6 "distinguishes Forums with unread (new) messages from those with read (old) ones." (*See* EX-1006, 6:29-32.) That is, the messages associated with a specific Forum are accessible "via respective personalized content applications of the first and second mobile devices." (EX-1003, ¶¶139-43.)



Symbian Forums—Forsyth, Figure 6

When the user selects a Forum from the list, the display associated with that Forum is shown, as illustrated in Forsyth's Figure 7 below. Such a display is available to all Forum members including the first and second user. That is, the Forum ("Naked Chef") is "*controllably accessible*" to users of the Forums server (e.g., "*to first and second users of the respective first and second mobile devices*"). Through this user interface, "the user is shown the messages posted to that Forum." (EX-1006, 6:38-40.) "Messages appear in date order, i.e. newest messages appear at the bottom." (EX-1006, 6:40-42.) As shown, captured data from multiple users is presented on a single "*integrated*" display. (EX-1003, ¶142.) Thus, the "*first and*

second device capture data" are integrated into the forum ("web-based shared information channel").

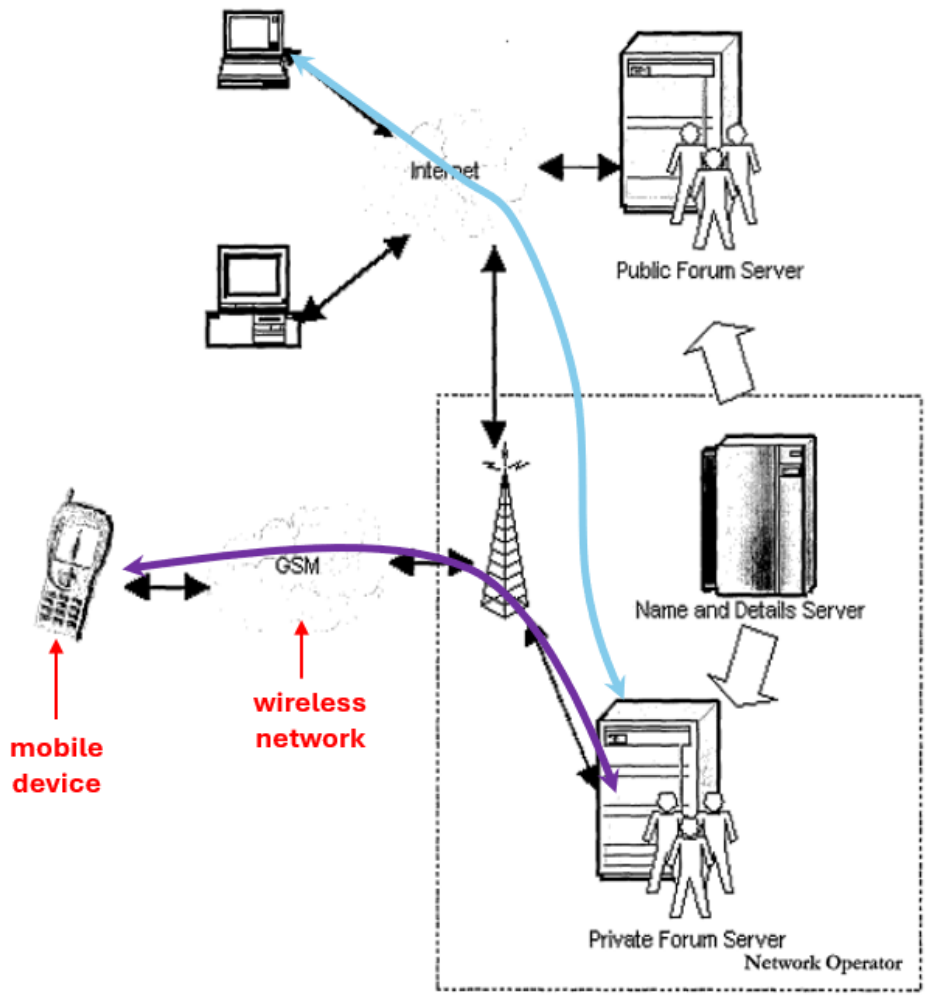


Forums—Forsyth, Figure 7

C. Claim 12

The Randall-Forsyth combination discloses a "*network-based communication system*" comprising "*a plurality of servers configured to communicate said at least one network, a given one of the servers comprising the apparatus of claim 1.*" (EX-1003, ¶144.) The 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). (EX-1005, 7:16-19.) As shown,

wireless devices access these servers/databases via the wireless network and non-mobile devices access these servers via Internet. (EX-1003, ¶144.) A POSITA would have been motivated to implement the functionality associated with providing Forums and the functionality of hosting a database on a single server to obtain, e.g., the benefits of more efficient maintenance as well as cost savings of reduced amount of network equipment. (*Id.*) Therefore, one of these plurality of servers, e.g., the server hosting the Private Forum and the user extensible database, is the apparatus described above in §V.B.1.a and one or more servers hosts other forums (e.g., Public Forum server). (*Id.*)



Forums—Randall, Figure 4

D. Dependent Claims

1. Claim 2

As discussed in §V.B.3.a for limitation [1C]/[13A]/[17A], "*device-captured data*" (e.g., photo/image) comprises "*image data*." (EX-1003, ¶¶145-47.)

2. Claim 6

The Randall-Forsyth combination discloses the "*mobile device*" is a "*mobile telephone*": wireless information device encompasses "any kind of device with two way wireless information capabilities and includes without limitation radio telephones, smart phones …." (EX-1005, 1:7-10; EX-1006, 1:16-22; EX-1003, ¶148.)

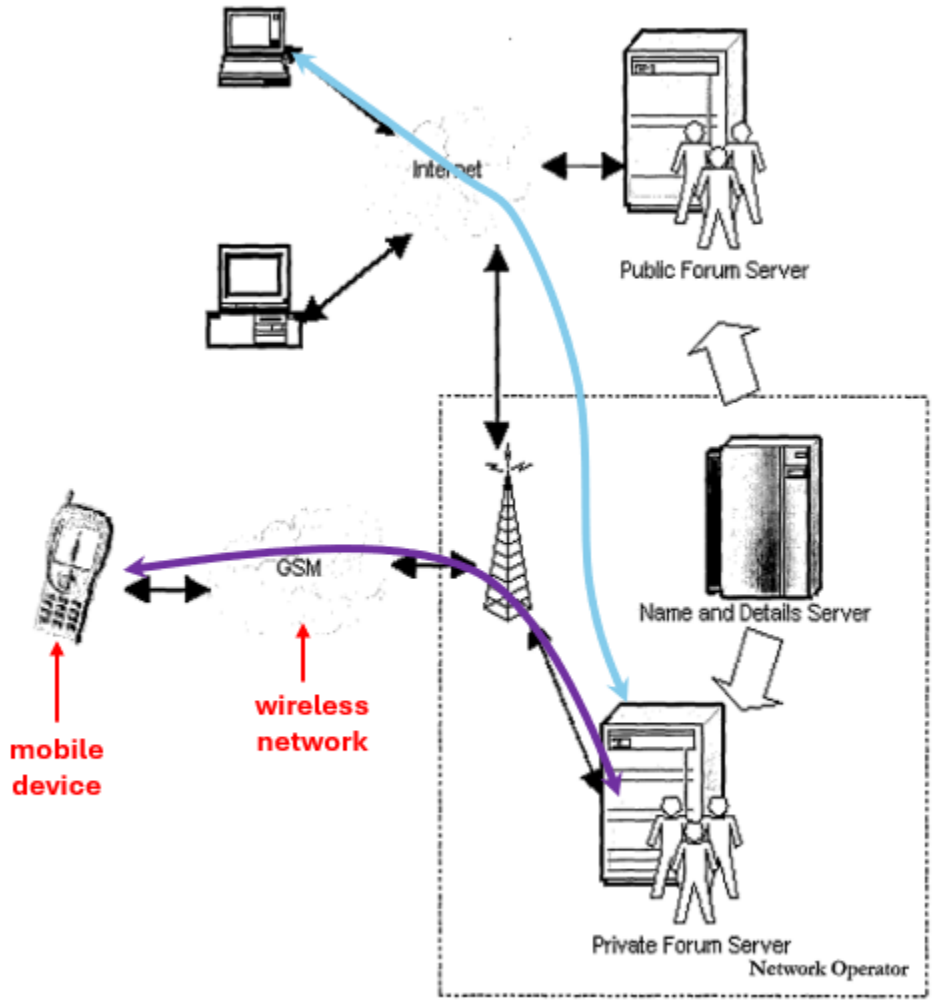
Randall and Forsyth also both disclose or suggest that the "*mobile device*" is a "*tablet computer.*" Both teach that a wireless information device includes a "communicator." (EX-1005, 1:7-11; *see also*, EX-1006, 1:16-35.) A POSITA would have known one communicator designed by Symbian is based on the Quartz design which "is a pen-based tablet device with integrated telephony." (EX-1003, ¶148; EX-1012, 4.) Randall suggests such a product design in the discussion of the "[w]rite-[o]n" function that I described above. (EX-1005, 79.)

Both Forsyth and Randall teach that a "*mobile device*" includes "some onboard method" for determining location "such as **GPS**." (EX-1006, 13:45-58; EX-1005, 74, claim 7 (user location "is obtained using a GPS system"), Table 1 (listing GPS location).) Randall describes use of GPS location in navigation-like features including people tracking, your map, and rendezvous. (EX-1005, 6:1-4, 83.) Because the mobile device includes a GPS component and navigation features,

the Randall-Forsyth combination discloses the "*mobile device*" is a "*GPS-based navigational device*" [6]. (EX-1003, ¶¶150-53.)

3. Claim 7

The Randall-Forsyth combination discloses "*a web server that includes the network interface and the processing element and wherein the web server is accessible to the first and second mobile devices over the Internet via the network interface.*" (EX-1003, ¶¶154.) The network infrastructure implementing Forums includes "internet servers." (EX-1005, 7:16-19.) 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." (EX-1005, 58:23-27, 45:14-15.) As discussed in §V.B.2, the server includes a "network interface" supporting one or more of these access protocols. (EX-1003, ¶154.) 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." (EX-1005, 46:8-10.) As discussed in §V.B.4.b, because Randall teaches the servers hosting Forums are accessible via the WAP and/or http protocols, the servers are "*web servers* [] *accessible to the first and second mobile devices over the Internet via the network interface*." (EX-1003, ¶154.)



Symbian Forums—Randall, Figure 4

4. Claims 8, 14, and 18

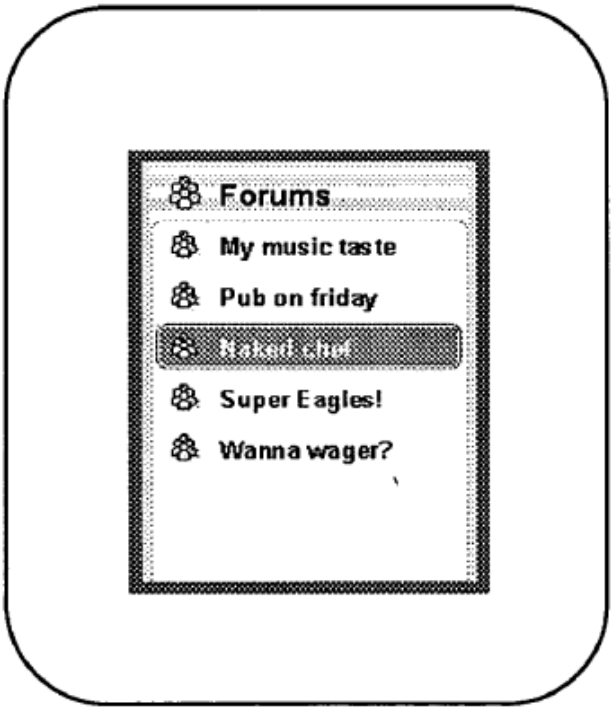
Claims 8, 14 and 18 recite substantially overlapping subject matter. Petitioners therefore address claims together in this section.

a. Limitation [8A]

The Randall-Forsyth combination discloses "*the web-based shared information channel is configured to allow a given one of the first and second*

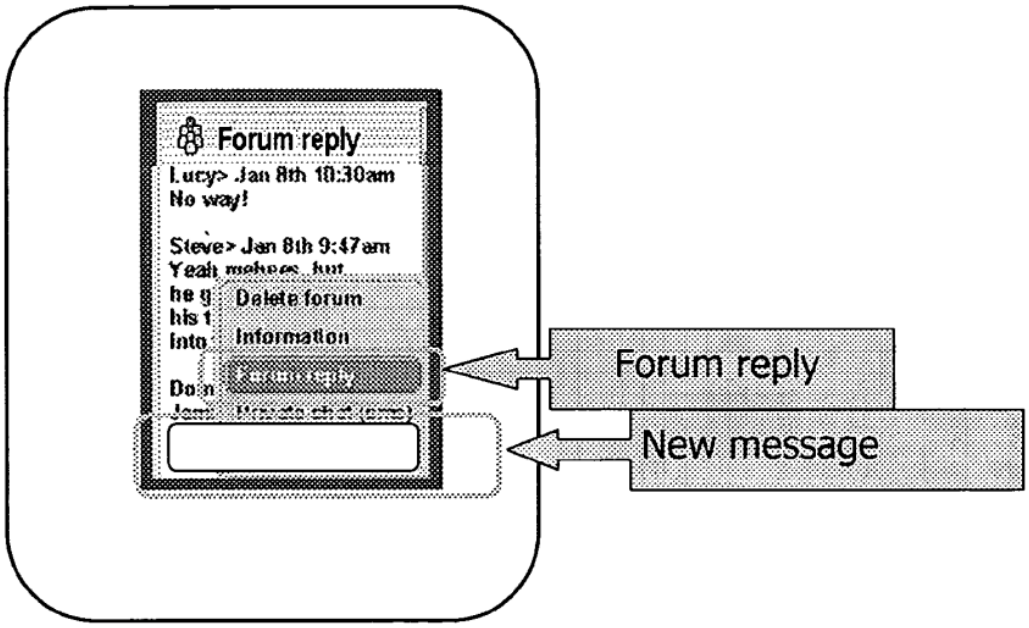
users to enter a message via the personalized content application of its corresponding mobile device" [8A]. (EX-1003, ¶156-59.)

The Forums service ("*the personalized content application*") uses a client/server model with a program component running on a wireless information device which communicates over the wireless network to a program component on the server. Through the Forums service running on a mobile device, an individual Forum ("*web-based shared information channel*") allows a user "*to enter a message.*" (EX-1003, ¶¶156-59; *supra* §VI.B.3.a.) Forsyth's group text message scenario illustrates the operation of the Forums service and an individual Forum. Within Forums, a 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 (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.,* EX-1006, 6:28-35.)



Forums—Forsyth, Figure 6

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." (EX-1006, 6:54-55.) A new message is then "posted to the Forum" when the mobile device sends the Forums message to the server.



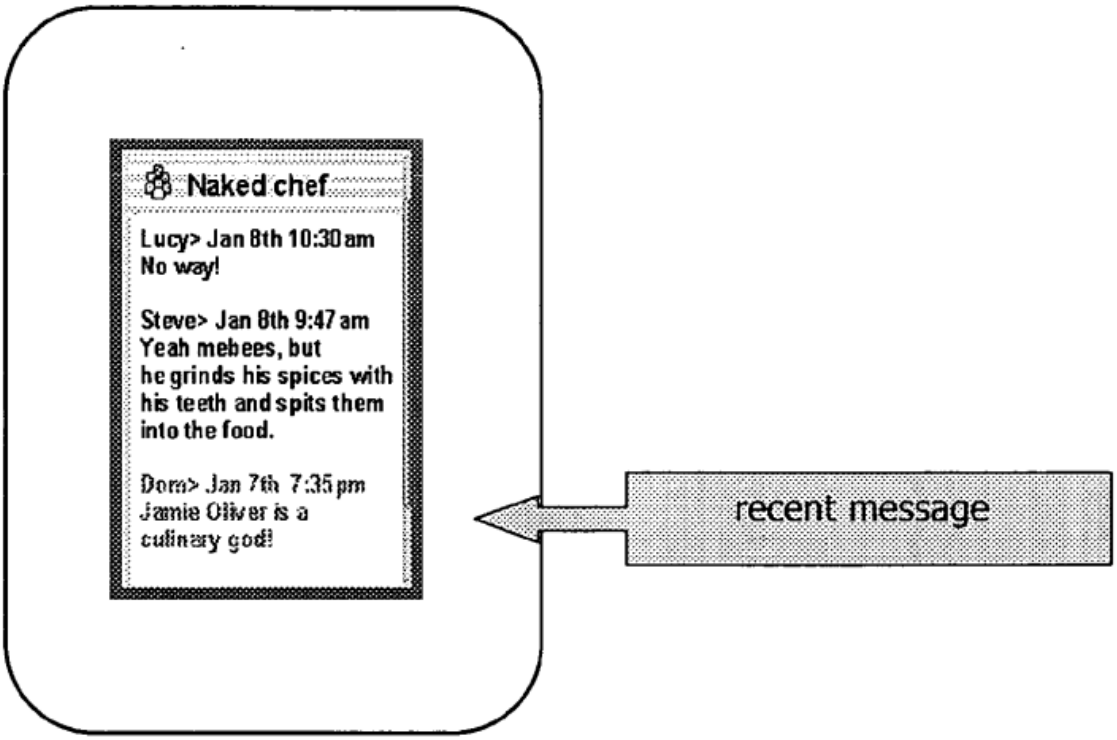
Symbian Forums—Forsyth, Figure 9

The user interface listing Forum communications and providing options to reply is displayed to each Forum member. Thus, the Randall-Forsyth combination discloses that the "*web-based shared information channel* [individual Forum; Naked Chef] *is configured to allow a given one of the first and second users* [e.g. Lucy] *to enter a message* [e.g., No way!] *via the personalized content application* [Forums service] *of its corresponding mobile device*" [8A]. (EX-1003, ¶156-59.)

b. Limitations [14A]-[14B]/[18A]-[18B]

The response messages entered by a user through the user interface displayed by Forums on the mobile device "are of the form that the **new message is sent to the server, which then forwards on** the increment to all the people on the current (server-maintained) address list." (EX-1006, 6:18-22.) For example,

when "a user clicks on 'Forum reply,'" via the user interface shown in Figure 9 (below), "then a new message is posted to the Forum." (EX-1006, 6:54-55.) That is, the server receives the message from the user in the Forum ("web based shared information channel"). The message is then forwarded to other members of the Forum delivered to "*another one of the first and second users*" over the wireless network for display via the Forums application on their mobile device. Specifically, as shown in Figure 7, Forum members are "shown the messages posted to that Forum." (EX-1006, 6:38-40.) "Messages appear in date order, i.e. newest messages appear at the bottom," confirming delivery of the messages to the members. (EX-1006, 6:40-42.)



Symbian Forums—Forsyth, Figure 7

Thus, the combination of Randall and Forsyth discloses that the server "*receiv[es] in the web-based shared information channel* [Forum; Naked Chef] *a message from one of the first and second users* [e.g. Lucy and Steve] *via the personalized content application* [Forums Service] *of its corresponding mobile device*" [14A]/[18A] and "*deliver[s] the message over said at least one network* [wireless network] *to another one of the first and second users* [e.g. Dom] *via the personalized content application* [Forums Service] *of its corresponding mobile device*" [14B]/[18B]. (EX-1003, ¶161.)

c. Limitations [8B]/[14C]/[18C]

A Forum persists after its creation so that members can continue to share information/content. (EX-1003, ¶¶162-64; EX-1006, 3:6-9 ("Being able to make such groups persistent (i.e., group members can still be reached even if they are not sitting at their desks and working on their PCs) using wireless information devices again increases the importance of the group."); s*ee also* EX-1006, 9:37 (discussing creating a "permanent community" via a Forum), 9:40-45; EX-1005, 41:1-2.)

Because a Forum is persistent, the communication object storing its messages is also "*persistent.*" In Forums, "[a]ll linked (e.g. threaded) communications, such as replies and comments, then become part of the same communication object and, like any object are treated as a discrete entity." (EX-1006, 4:20-24.) And the communication object is persistent, "the entire communication object can be sent to a new person, or be archived etc." (EX-1006, 4:25-26, 7:6-8 ("The contents of a Forum can be forwarded-on, for example, to contacts who are not participating in the Forum, or to the Jotter application.").)

The Randall-Forsyth combination discloses "integrating the first and second device captured data" received in messages from mobile devices through the use of the single communication object for the Forum. (EX-1003, ¶164.) Thus, for the above reasons and the reasons in that section, the Randall-Forsyth combination discloses "*the message is integrated with the first and second device-captured data*

into a persistent version of a given set of shared information content of the web-based shared information channel so as to be accessible with the first and second device-captured data to the first and second users of the respective first and second mobile devices via the respective personalized content applications of the first and second mobile devices." (*Id*.)

5. Claim 9

The Randall-Forsyth combination discloses "*the message is delivered to one or more of the mobile devices over a wireless network.*" (EX-1003, ¶165.)

Forums uses a client/server model with a program component running on a wireless information device which communicates over the wireless network to a program component on the server. As discussed in §§V.B.2.a, V.B.4.b, Randall and Forsyth teach that the wireless network may be a GSM network (as shown in Figure 4) with the communication protocol means being WAP. (*See, e.g.,* EX-1005, 1:11-13; EX-1006, 1:22-24.) Thus, in the wireless infrastructure supporting Forums mobile devices send messages to the servers over the wireless network which delivers the message to the proper server.

VI. GROUND 2: Pelkey-Eck Combination Renders Claims 1, 2, 6-9, 12-14, and 17-18 Obvious

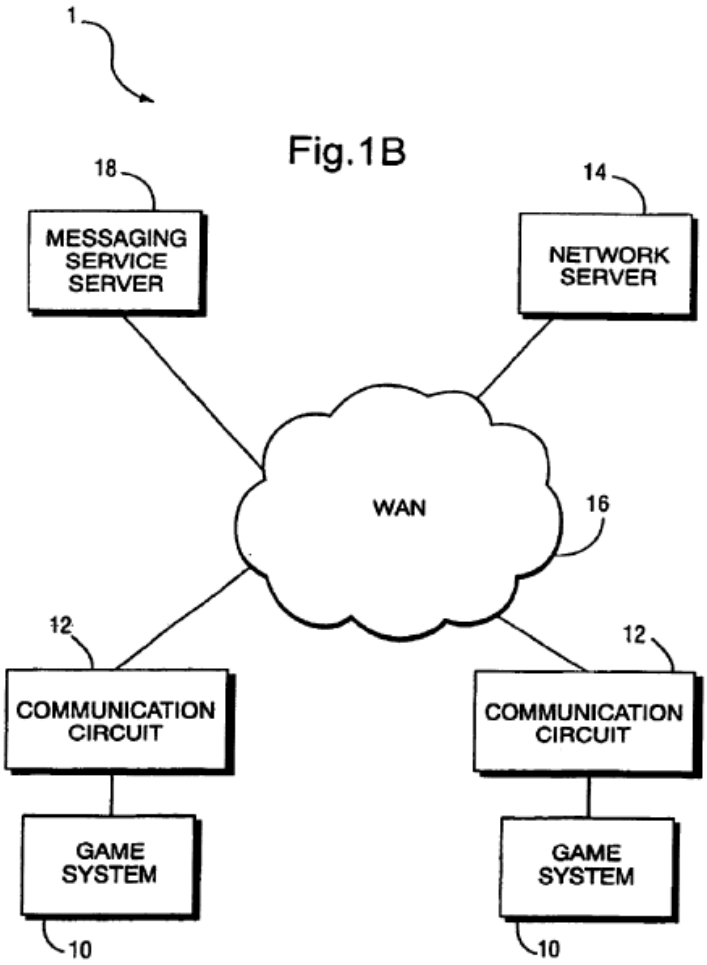
A. Overview of the Combination

Pelkey and Eck each disclose systems permitting users of "portable game machines," like the Nintendo GameBoy® to share messages, photos taken with an

attached digital camera, and, in the case of Eck, sound clips with other users. (EX-1007, Abstract; EX-1008, 2:15-22.)

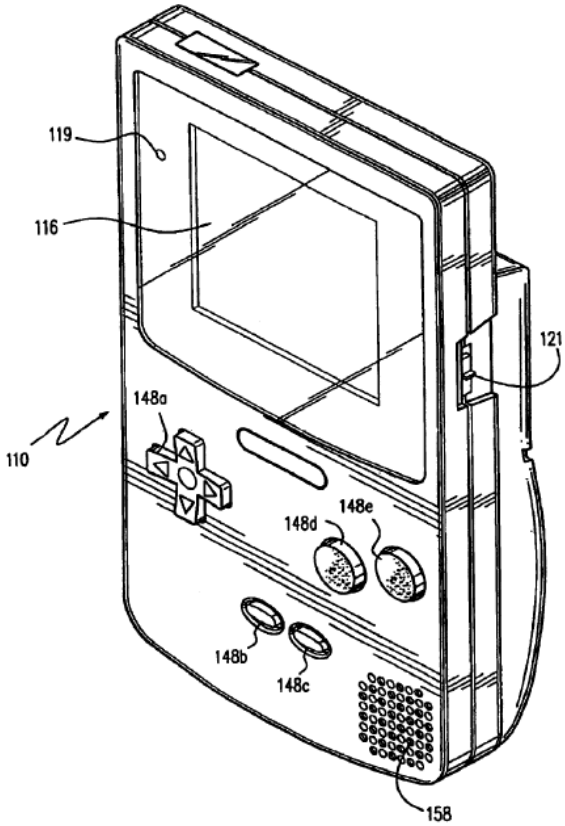
1. Pelkey

Pelkey's Figure 1B (below) illustrates a network architecture "in which the messaging service [] may be implemented." (EX-1007, 2:58-60.) The network "includes game systems 10 connected via communications circuits (e.g., modems, network interfaces, etc.) to a wide area network." (EX-1007, 2:60-62.) A messaging service server may be included within the network server or as a standalone component. (EX-1007, 3:9-31.) (EX-1003, ¶167.)



Pelkey, Figure 1B

Game system 10 can be a "GameBoy® Color game system," Figure 3B (below), and additionally, or alternatively, a game console such as the N64 video game system. (EX-1007, 3:32-33, 3:38-48, 4:66-67, Figure 2; EX-1003, ¶168.)



Pelkey, Figure 3B

While Pelkey a user "includ[ing] in their profiles digital images of their own faces generated, for example, using [an integrated] digital camera," (EX-1007, 7:20-30) it does not specifically disclose sharing and viewing images amongst multiple users as in Eck.

2. Eck

Eck's modified Nintendo Game Boy® "provides enhanced multi-player capabilities through communications with other game machines." (EX-1008, 1:48-51.) Eck discloses inserting a "pager cartridge" and game cartridge to access

"PagerWorld, a virtual community for the network of all users having pager cartridges." (EX-1008, 10:20-23.)

"Players are represented in PagerWorld by a 'persona character' ... that all other PagerWorld players will see." (EX-1008, 10:23-25.) "[I]mage data obtained with a digital camera cartridge" can be used to "customize the persona character." (EX-1008, 12:38-40.)

In "PagerWorld," "[p]layers can find pen-pals" and "view message boards," among other activities. (EX-1008, 10:40-42.) "[M]essaging" activities include "broadcasts to all pagers," "group messages," "digital camera picture transmission (with/ without sound)," "messages plus sound bites" and "messages to and from Internet." (*See* EX-1008, 16:42-45, 20:6-36.) Messages are read, composed and sent from the PagerWorld "Message Center." (EX-1008, 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." (EX-1008, 11:32-35; *see* EX-1008, 12:16-19.) Eck thus specifically discloses how users can share photos taken with an attached digital camera with other users. (EX-1003, ¶¶169-72.)

3. Motivation to Combine Pelkey and Eck

A POSITA would have been motivated to combine Eck's teachings regarding PagerWorld with the network and message server architecture taught in Pelkey. (EX-1003, ¶¶173-77.)

Pelkey and Eck both disclose devices in the same field as the ’348 patent—“network-based communication systems.” (EX-1001, 1:26-27; EX-1007, 1:37-42; EX-1008, Abstract.) Pelkey and Eck are also reasonably pertinent to problems addressed by the ’348 patent, namely “optimizing” the sharing of information content on mobile devices. (EX-1001, 1:51-55; EX-1003, ¶173.)

Eck discloses PagerWorld features, including 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.” (EX-1008, 16:57-60.) While Eck discloses its “invention” can be applied to other technologies like WAP (EX-1008, 25:17-20), it does not specifically disclose a client-server structure as taught in Pelkey.

Pelkey discloses use of a network server and message server to facilitate game play and exchanging messages amongst users. 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. (EX-1003, ¶176.) 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.” (*Id.*; EX-

1008, 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). (EX-1003, ¶176.)

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). (EX-1003, ¶177.) Both Pelkey and Eck disclose the desirability of combining messaging capabilities with game play in a portable gaming system. (EX-1007, 2:20-23; EX-1008, 10:32-44.) As explained below, the complimentary network architecture disclosed in Pelkey and Eck further demonstrates such a modification could be made with a reasonable expectation of success. (EX-1003, ¶177.)

B. Independent Claims 1, 13, 17

1. Preambles [1P]/[13P]/[17P]

a. [1P]: "apparatus"

As noted in §VI.A.1, the Pelkey-Eck combination discloses a server; an "*apparatus*" [1P]. (EX-1003, ¶180.)

b. [13P]: "method"

The Pelkey-Eck combination discloses a method for performing the actions recited in limitation [13A]-[13C] discussed in §§VI.B.3.

c. [17P]: "non-transitory computer-readable storage medium"

Eck explains that a pager cartridge "is provided for use with a game machine having a game program executing processing system including a microprocessor." (EX-1008, 1:60-65.) The pager (messaging) cartridge "includes a memory 145 for storing software used in the pager operations." (EX-1008, 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." (EX-1007, 1:42-44.)

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." (EX-1008, 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." (EX-1008, 22:10-14.) Eck likewise discloses the use of executable software code to perform the disclosed functions. (EX-1008, 25:42-51; EX-1003, ¶185.)

Therefore, the Pelkey-Eck combination discloses "*non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs, wherein said executable program code when executed by a processing element*" causes the processing element to perform the remaining steps in claim 17.

2. Server Architecture Limitations [1A]-[1B]

The Pelkey-Eck combination 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." (EX-1007, 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.)

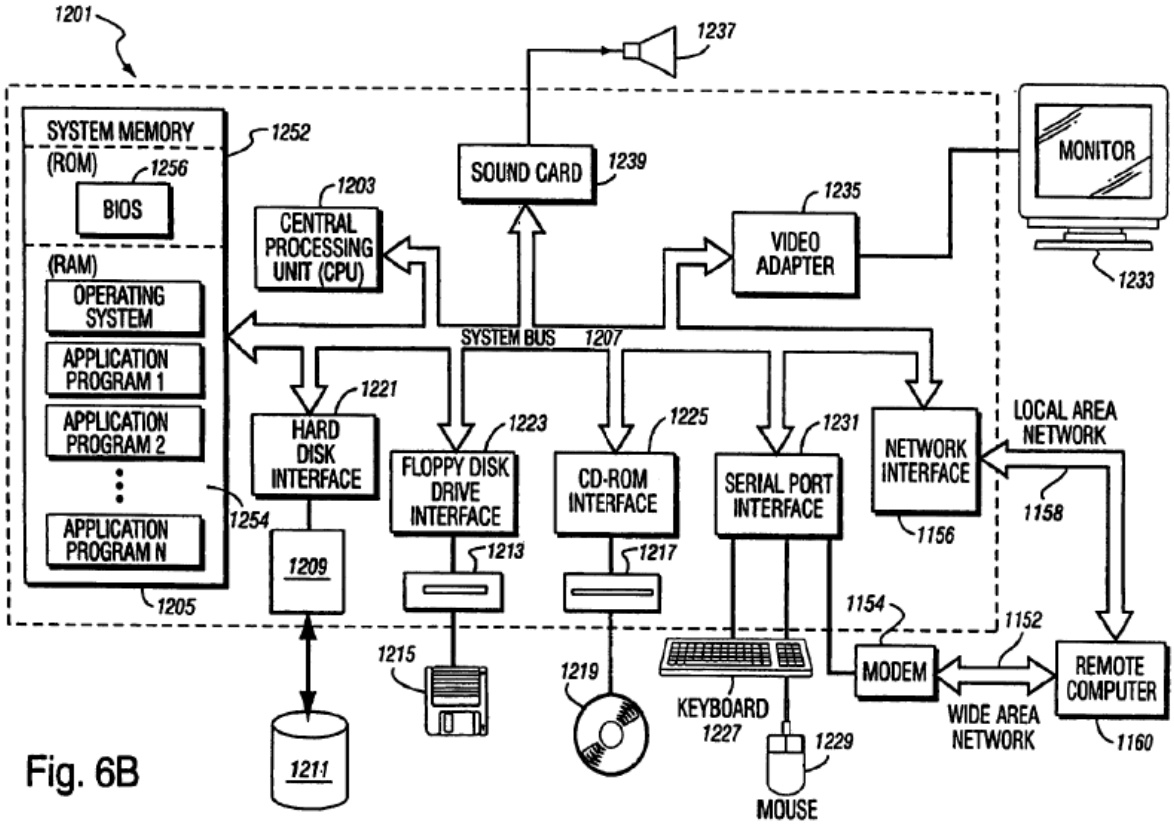


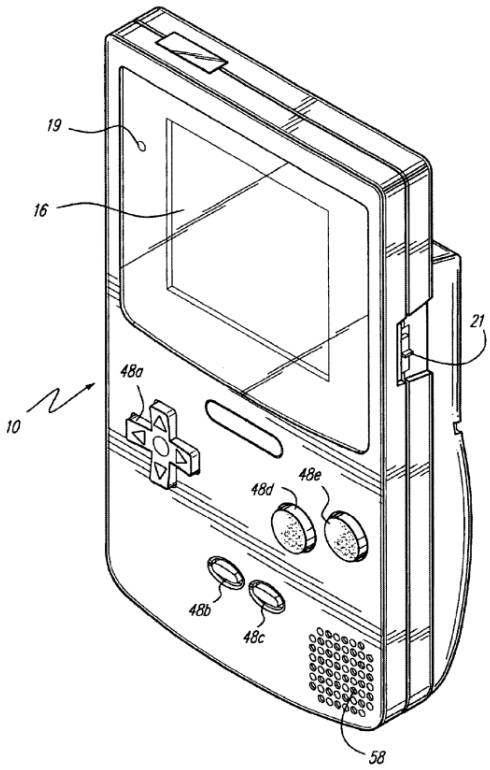
Fig. 6B

Pelkey, Figure 6B

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.*" (EX-1003, ¶188.)

The Pelkey-Eck combination discloses a "*plurality of mobile devices*" under any proposed construction, though the term does not require construction in the present IPR because both Pelkey and Eck discloses a "*mobile device*" under any reasonable interpretation of the term.

Specifically, both Pelkey and Eck disclose a "portable game machine that is selectively configurable for one or more different operations such as wireless communications, global positioning, image capturing and combinations thereof." (EX-1008, 1:12-16, Fig. 1B (below); *see* Pelkey, 4:55-57 ("FIGS. 3A, 3B and 3C show a portable (hand-held) color-display game system 110"), Fig. 3B.)



Eck, Figure 1B

The portable game machine described by both Pelkey and Eck is a "piece of handheld equipment" and therefore a "*mobile device*" under PO's MDT-Meta-Litigation construction. This portable game machine processes information and is capable of being configured for communication over a network. Thus, the portable game machine is a "*mobile device*" under Meta's MDT-Meta-Ligation and Meta-MDT-IPR constructions. Finally, as illustrated by Eck's Figure 1B, the portable game machine has limited display space and because it lacks a physical or soft keyboard, a POSITA would have understood the portable game machine also has limited navigational capabilities. Thus, the portable game machine is also a "*mobile device*" under PO's Meta-MDT-IPR construction. (EX-1003, ¶191.)

The Pelkey-Eck combination discloses a "*plurality of mobile devices*." Pelkey is directed to "[a] messaging system [that] includes a web server computer and at least two video game systems." (EX-1007, Abstract.) Eck provides "a portable game machine that provides enhanced multi-player capabilities through communications with other game machines, portable or otherwise," (EX-1008, 1:48-51), for example, when a player "wirelessly intervene[s] in a video game either by result of a player solicitation or an unsolicited action from another player (using a similar pager-equipped portable game machine) on the fly—wherever the portable game machine is operational." (EX-1008, 14:12-17; EX-1003, ¶192.)

The Pelkey-Eck combination also discloses a "*network interface coupled to the processing element and configured to communicate with a plurality of mobile devices over at least one network.*"

As shown in Pelkey, Figure 6B, the host system includes a processing unit 1203, system memory 1205, and network interface 1156. Thus, the server also includes a "*network interface.*" A POSITA would understand that the disclosed network interface is coupled to the processing element and configured to communicate with a plurality of mobile devices over at least one network given the disclosure in Pelkey that "[g]ame network server 14 maintains a list of registered usernames. The usernames are checked to confirm that a particular user is a registered user of the messaging service prior to granting that user access to the messaging service." (EX-1007, 7:1-6; EX-1003, ¶194.)

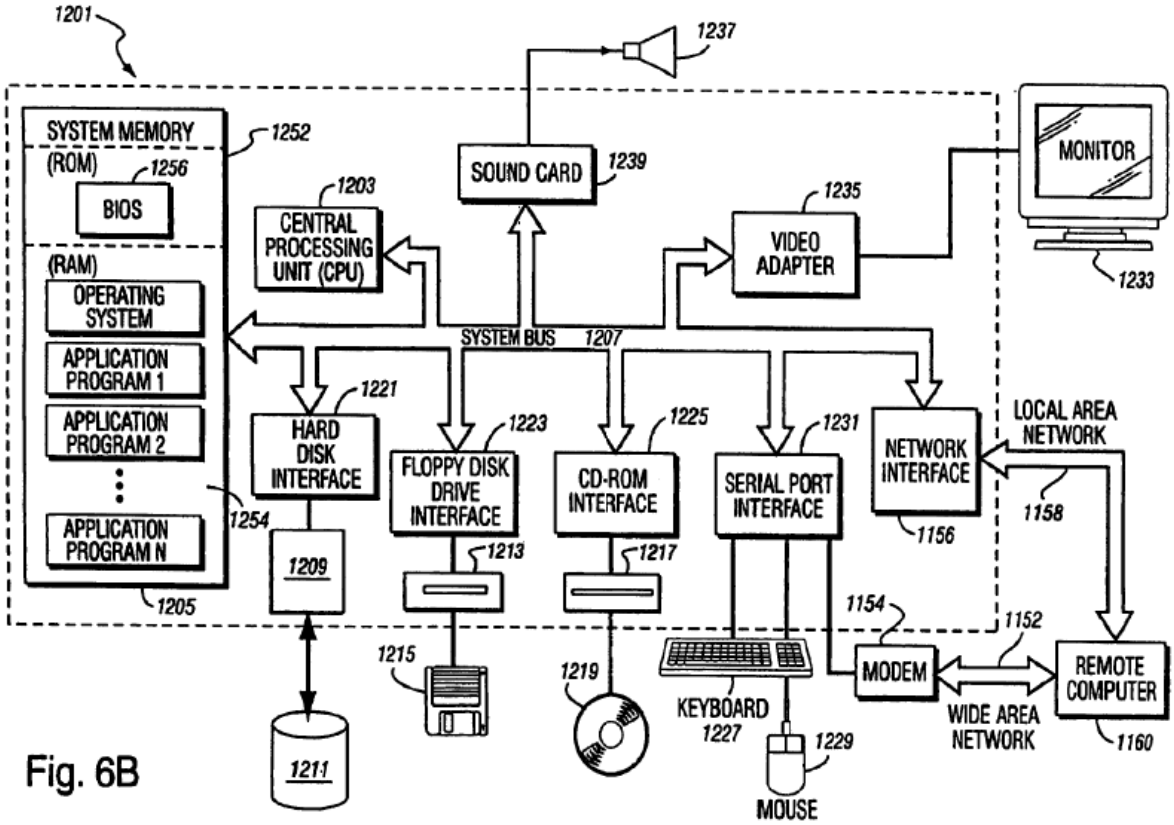


Fig. 6B

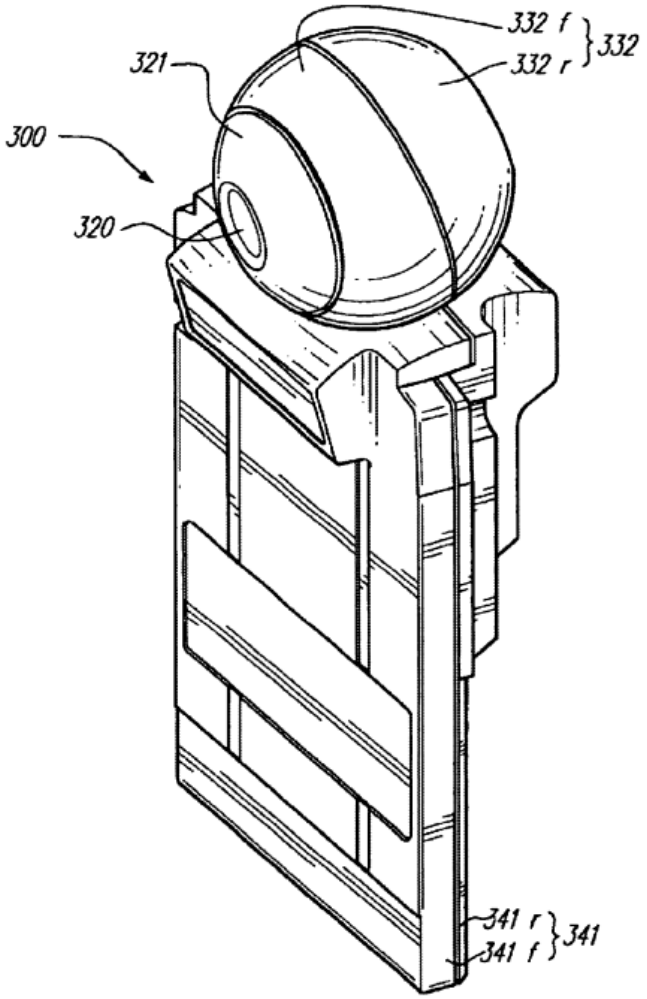
Pelkey, Figure 6B

3. Processing Limitation [1C]-[1E]/[13A]-[13C]/[17A]-[17C]

a. Limitations [1C]-[1D], [13A]-[13B], and [17A]-[17B]

First, the Pelkey-Eck combination discloses that the "*plurality of mobile devices*" "*capture[] data*" including at least capturing messages, photos/images, sound clips/audio files and GPS coordinates. Eck discloses "a game machine is provided with … digital camera circuitry configured to capture an image." (EX-1008, 2:16-18.) For example, Eck discloses that a pager cartridge, "is itself provided with a slot for receiving" another cartridge. (*See, e.g.*, EX-1008, 5:23-25.)

One example of a "piggy-backed" cartridge is a "digital camera cartridge," illustrated in Figure 14 (below). (EX-1008, 22:14-20, 23:36-38.)



Eck, Figure 14

The portable game machine having an inserted messaging cartridge and an inserted camera cartridge "*captur[es] data.*" 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. (EX-1008, 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.” (EX-1008, 9:20-23.) Eck also discloses that “a separate ‘sound card’ may be ‘piggy-backed’ to game machine 10” via the messaging cartridge. (EX-1008, 9:23-25.) Eck further discloses a “global positioning system (GPS) cartridge” that captures “user portion information” (i.e., user location). (*See* EX-1008, 22:28-29.)

Pelkey likewise discloses that a digital camera can be attached to its portable game machine. (EX-1007, 7:26-31.) Indeed, both Pelkey and Eck incorporate by reference the same Nintendo patent disclosure describing the camera in detail. (EX-1007, 7:26-31, *citing* U.S. Patent 6,435,969; EX-1008, 23:41-48, *citing* Ser. No. 09/430,169; EX-1003, ¶199.)

The Pelkey-Eck combination also discloses “*reciev[ing] first device-captured data from a first one of the mobile devices via the network interface*” [1C] and “*receiv[e]/[ing] first device-captured data from a first mobile device over at least one network*” [13A/17A].

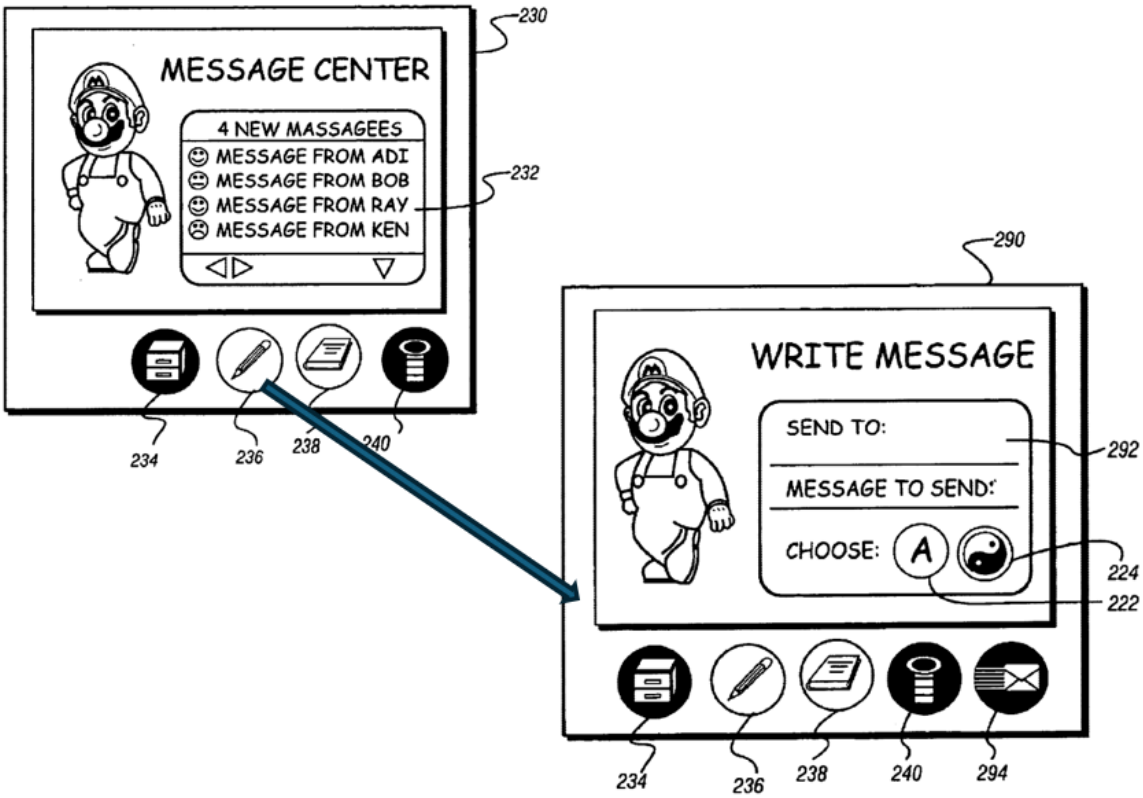
One way the server in the Pelkey-Eck combination receives device-captured data is by receiving messages prepared by a user containing text, photos or sound clips. The message, photos and sound clips are each examples of “device captured

data." The network implementing the messaging service of Pelkey and Eck, illustrated in Pelkey's Figure 1A (reproduced below), includes the game system (e.g., portable game machine) coupled via a network to a server. (EX-1007, 2:58-3:4.) The network server "provides the messaging service." (EX-1007, 3:9-10.)

PagerWorld includes a "Message Center" that "permits users, among other things, to read their messages and to compose and send new messages." (EX-1008, 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." (EX-1008, 11:53-57; *see also* EX-1008, 12:36-38 ("Any time the user sends a message, his/her persona character appears alongside the message on the other user's screen.").) 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." (EX-1008, 16:42-45, 24:30-36, 2:15-23.) In addition to photos/images, the message can include sounds (audio file). (EX-1008, 20:12-14, 21:47-48.)

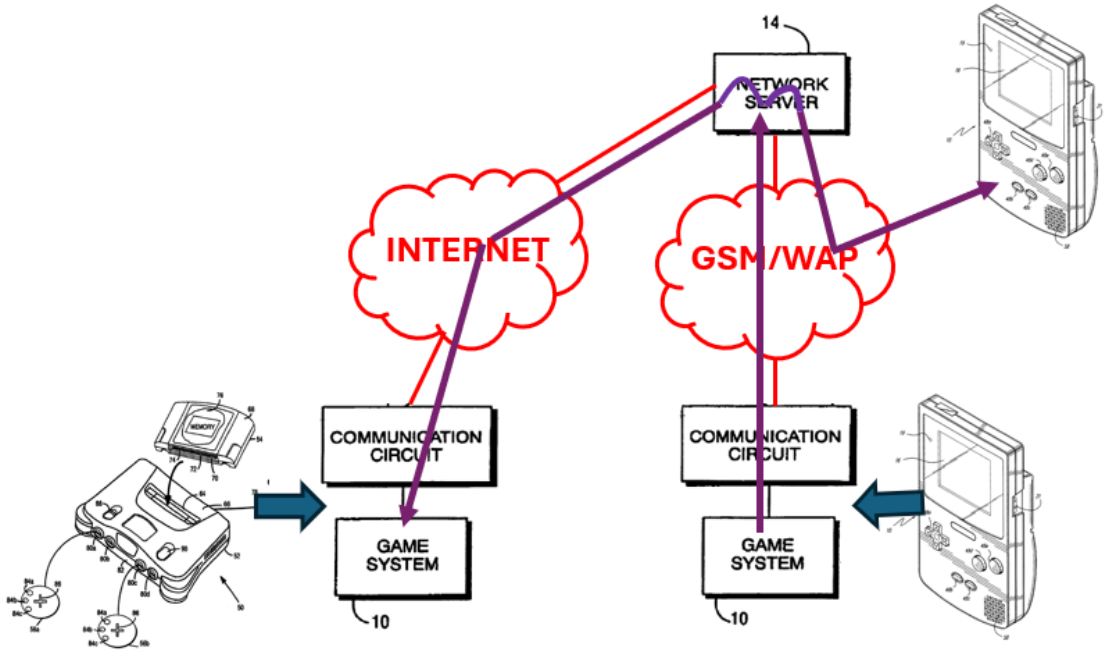
Such a message can be sent through the Message Center accessed through an icon on the main screen. (EX-1008, 11:26-28.) While in the Message Center (e.g., screen illustrated in Figure 8C (below-left)), user activates the quill icon 236 to navigate to the "Compose Message screen 290" of Figure 8F. (EX-1008, 11:37-38.) The "send to" window 292 "allows the user to choose to whom the message

will be sent." (EX-1008, 12:10-11.) A user can opt to send the message to an individual, to a pre-defined group (e.g., a buddy list), (EX-1008, 20:9), or as a broadcast to all messaging devices in PagerWorld, (EX-1008, 20:8, 9:46-49). For group messaging, Pelkey teaches that the messaging service client "allows the user to create a list ('buddy list') of other users." (EX-1007, 7:33-35.) The buddy list "is stored by the network server." (EX-1007, 7:35-36.) In the Pelkey-Eck combination, 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)

As explained by Eck, "image and sound data may be compressed/decompressed in accordance with well-known compression/decompression techniques to more effectively utilize the available bandwidth." (EX-1008, 16:45-48.) The message may further include the sending user's persona. (*See* EX-1008, 11:53-57, 12:36-38 ("Any time the user sends a message, his/her persona character appears alongside the message on the other user's screen.").) Pelkey discloses that the server "suppl[ies] messages received from one logged-in player to another logged-in player." (EX-1007, 17:1-5.) The message is thus provided "*via the network interface*" as shown in the Figure below. (*See, e.g.*, EX-1008, 2:15-18 ("a game machine is provided with radio circuitry configured to transmit messages").) This is consistent with Eck's use of GSM-SMS which requires a server to act as a message service centre for storing and forwarding messages from originators to recipients. (*See infra* §VI.B.3.b; EX-1003, ¶205.)



Pelkey, Figure 1A

Another way the server in the Pelkey-Eck combination receives device-captured data is by receiving image data to permit a user to personalize their persona character. Players in PagerWorld are represented "by a 'persona character' and it is this character that all other PagerWorld players will see." (EX-1008, 10:23-25.) The user's persona is a feature element on the PagerWorld screens and "function[s] as a sort of 'pager' tour guide." (EX-1008, 10:62-64.) A user's persona is shared with other members of the PagerWorld community. (EX-1008, 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." (EX-1008, 12:16-19.)

A user can customize their persona. 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." (EX-1007, 7:20-27.) For example, in Eck, the "persona character" can be "customize[d] … using image data obtained with a digital camera cartridge." (EX-1008, 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." (EX-1008, 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"); EX-1003, ¶207.)

The Pelkey-Eck combination also discloses "*reciev[ing] second device-captured data from a second one of the mobile devices via the network interface*" [1D] and *receiving second device-captured data from a second mobile device over said at least one network* [13B]/[17B]. For example, each user is capable of sending and receiving messages, photos and sound clips and customizing their persona using, e.g., photos taken with the integrated digital camera. (EX-1008, 11:32-35, 12:16-19; EX-1003, ¶208.)

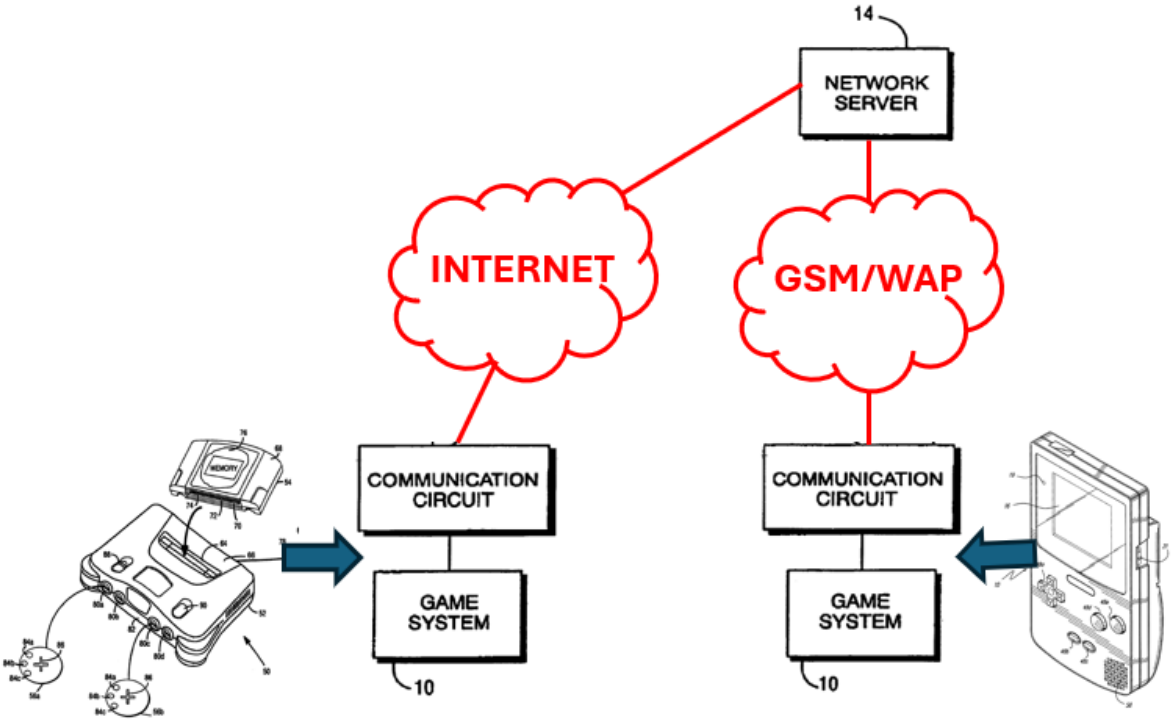
b. Limitations [1E], [13C], and [17C]

As an initial matter, the Pelkey-Eck combination discloses a "*web-based shared information channel*" under any reasonable construction, including the construction proposed in the Meta-MDT-IPR.

PagerWorld is a "shared information channel." 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." (EX-1008, 7:7-22.) In addition to messaging (e.g., paging functions), the messaging cartridge "can be used in game playing." (EX-1008, 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**." (EX-1008, 10:2-7.) "[K]ey components" of such games include "**chat and community interaction**." (EX-1008, 10:13-19.) An exemplary MUD game described is "PagerWorld, a virtual community for the network of **all users having pager cartridges**." (EX-1008, 10:20-23.) PagerWorld is persistent—it remains in existence after individual users exit the world. PagerWorld is therefore a "*shared information channel*." (EX-1003, ¶¶210-11.)

The Pelkey-Eck combination discloses a "*web-based shared information channel*." 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* EX-1008, 4:61-5:7, 9:40-59.)

Pelkey discloses a network "in which the messaging service" may be implemented. (EX-1007, 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." (EX-1007, 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), or the portable game machine 110 (EX-1007, 4:55-57.). Pelkey's Figure 1A 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 is below. The figure illustrates the connection from the N64 game system to the server via the Internet as taught by Pelkey.



Pelkey, Figure 1

Pelkey does not disclose details of the wireless network used to provide wireless messaging from the game system to the server. However, 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)." (EX-1008, 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.

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. The WAP protocol stack transports data over GSM's SMS. (EX-1003, ¶¶52-60.) The SMS message includes a header with data fields indicating control and content details for the message. (EX-1003, ¶214.) The Pelkey-Eck combination thus discloses a medium (PagerWorld) "for transferring information accessible to more than one user via the internet" under the agreed construction in the Meta-MDT-IPR.

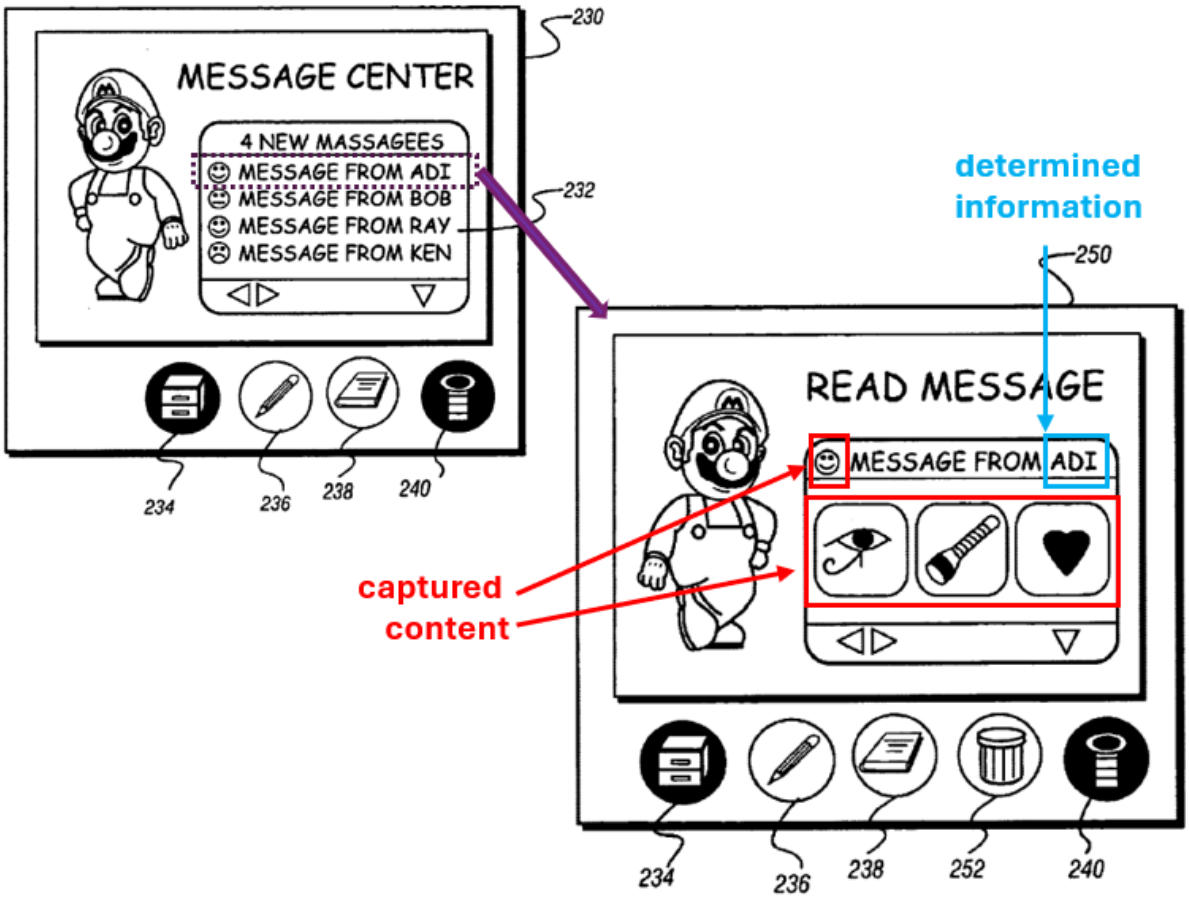
In addition, use of WAP teaches or at least suggests that selection of a specific portal from the main PagerWorld screen constitutes selecting a web-based action. WAP is "based on the WWW communication protocols" and "WWW content formats." (EX-1013, 13.) WAP "enables the supplying of advanced Internet services into digital mobile stations of wireless communication networks." (EX-1020, 6:63-65.) The WAP proxy "allows content and applications to be hosted on standard WWW servers." (EX-1013, 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.,* EX-1027, 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.,* EX-1027, 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.,* EX-1027, 2:15-25.) Thus, where PagerWorld is implementing in a WAP environment, a POSITA would understand that selecting a specific portal from the main PagerWorld screen constitutes a web-based activity. (EX-1003, ¶216.)

The Pelkey-Eck combination also discloses that the "*first and second device-captured data*" is integrated "*into a web-based shared information channel*." Eck discloses that a message can be sent to all "paging system users," "certain groups" or individual "particular user[s]." (EX-1008, 9:46-49, 20:8-9.) As discussed above (§VI.B.3.b), device-captured data, such as images, can be integrated into a user's persona and image and sound clips can be sent as messages. The server forwards the message received from the portable game device to the intended recipients. The users of the messaging (paging) system are members of the PagerWorld community (i.e., "*the web-based shared information channel*").

The "*first and second device-captured data*" is provided to the server for integration into the "web-based shared information channel." When a message is forwarded to a recipient, the header information remains in the forwarded GSM-SMS message. This is again reflected in Eck's Figure 8C (below-left) and Figure

8D (below-right). Figure 8C provides a list of unopened message and "[s]electing a message takes the user to a Read Message screen" shown in Figure 8D. (EX-1008, 11:26-32.) As shown in this figure, the message received at the user's device includes the captured content and the determined information. (EX-1003, ¶219.)



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

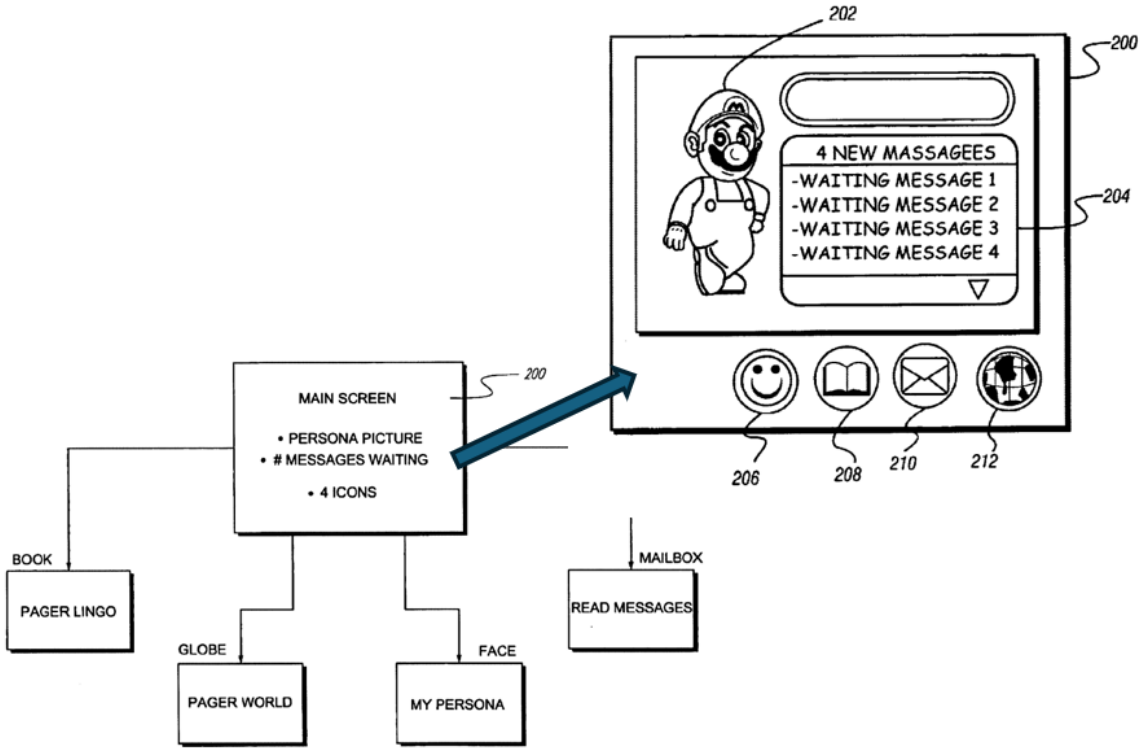
As with Forums in Ground 1, PagerWorld is a "*personalized content application*" consistent with the PO's allegations in its Infringement Contentions (EX-1029, 14), because a user manages his or her profile and can personalize his or her experience in a number of ways.

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." (EX-1007, 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." (EX-1007, 7:20-27.)

"Players are represented in PagerWorld by a 'persona character' … that all other PagerWorld players will see." (EX-1008, 10:23-25.) The "persona character" can be "customize[d] … using image data obtained with a digital camera cartridge." (EX-1008, 12:38-40.) In addition to including the persona character in messages, players "walk their persona characters in a world featuring attractions and sideshows." (EX-1008, 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").)

The "main PagerWorld screen 200," illustrated in Figure 7 (below-left), is "the starting point for every user session." (EX-1008, 10:57-60, 10:62-66.) 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"). (EX-1008, 11:2-7.)



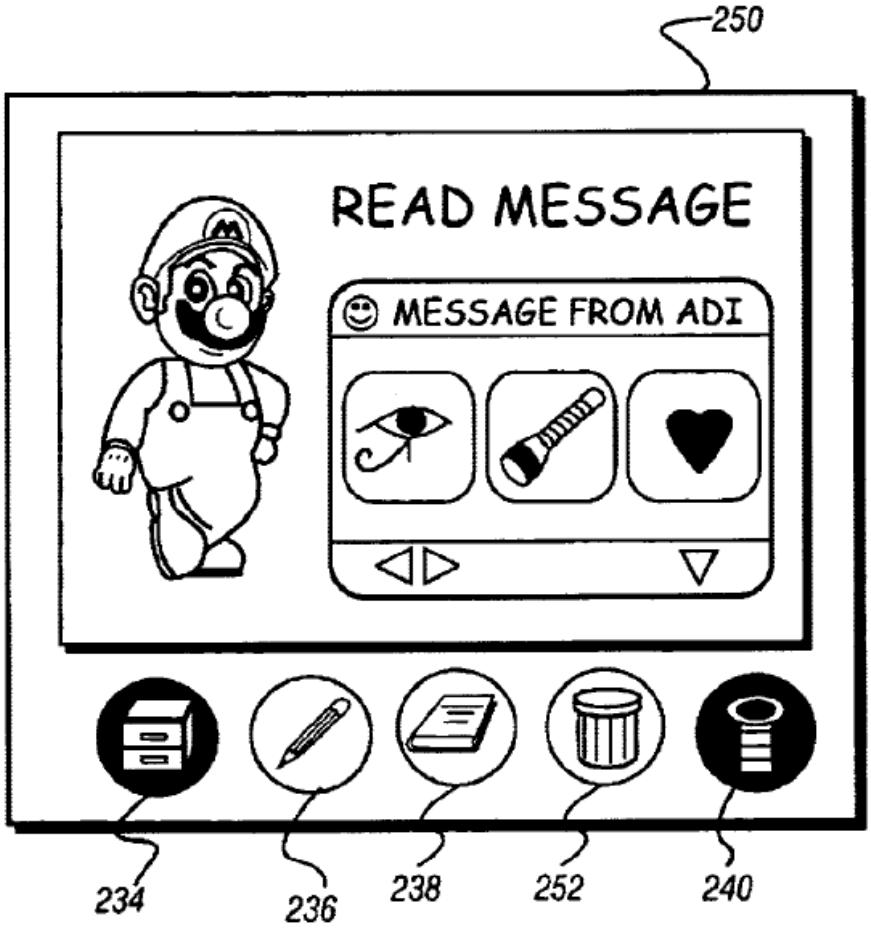
Eck, Figure 7 (left), Figure 8A (right)

In addition, 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." (EX-1008, 12:16-19.) And in the Pelkey-Eck combination, the user can specify, e.g., the user's alias, "favorite game, favorite food, favorite sport, [and] hobbies." (EX-1007, 7:12-16.) (EX-1003, ¶225.)

The Pelkey-Eck combination also discloses that "*the first and second device-captured data*" that is "*integrat[ed] … into a web-based shared information*

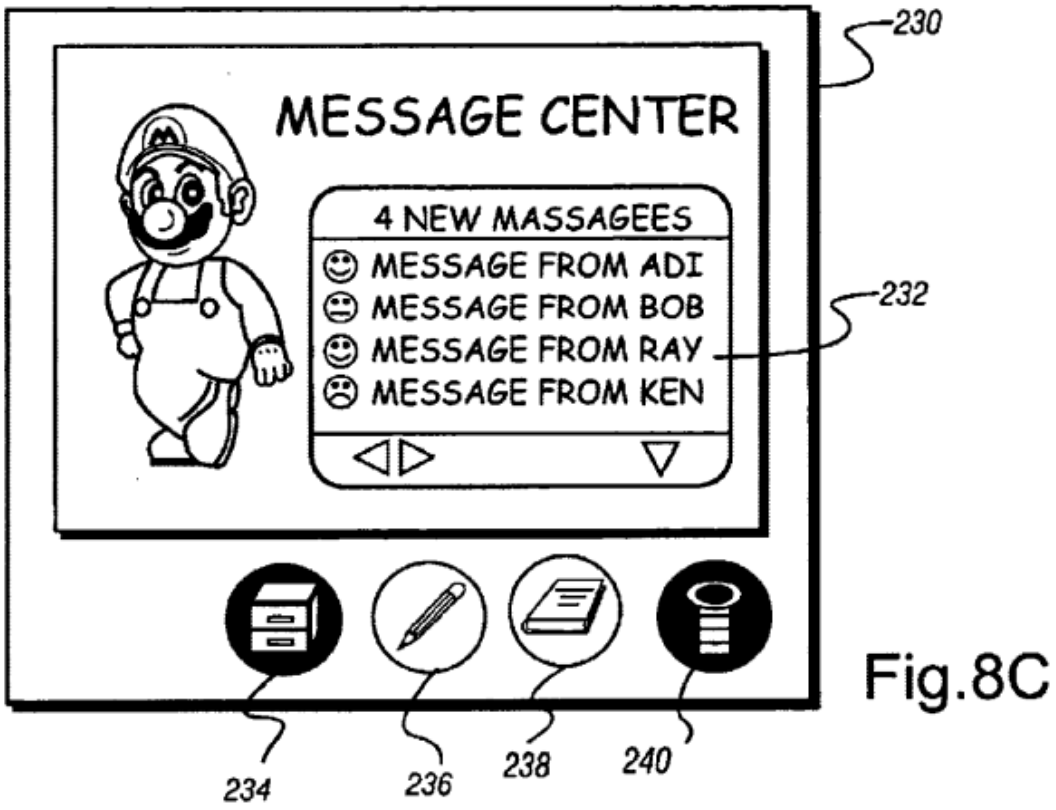
channel [is] controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices."

For example, the Message Center is personalized for each user. As shown in Figure 8D, "[w]hen a message is selected from Message Center screen **230**, the contents of the message appear, along with the **user's persona character** and "handle" of the person that sent the message."



Eck, Figure 8D

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

In addition, 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" (EX-1008, 11:66-12:3) as shown in Figure 8E.

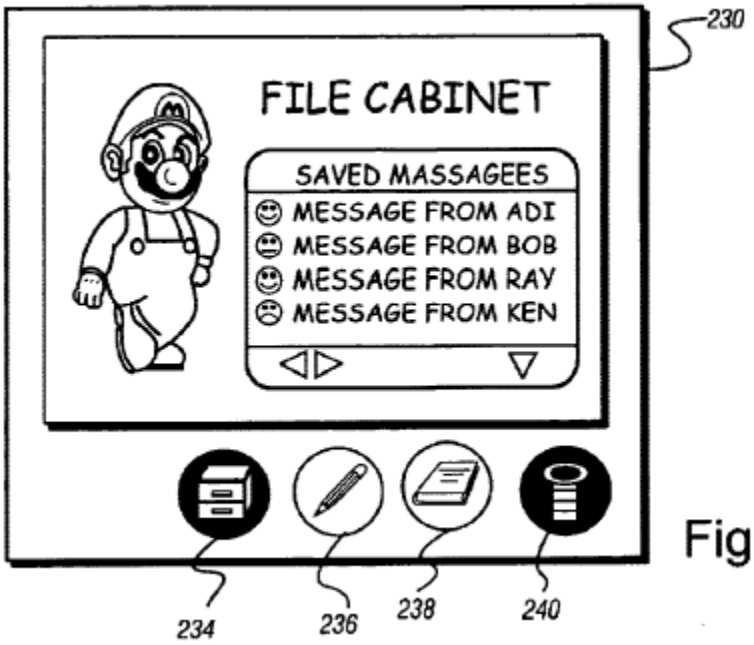


Fig.8E

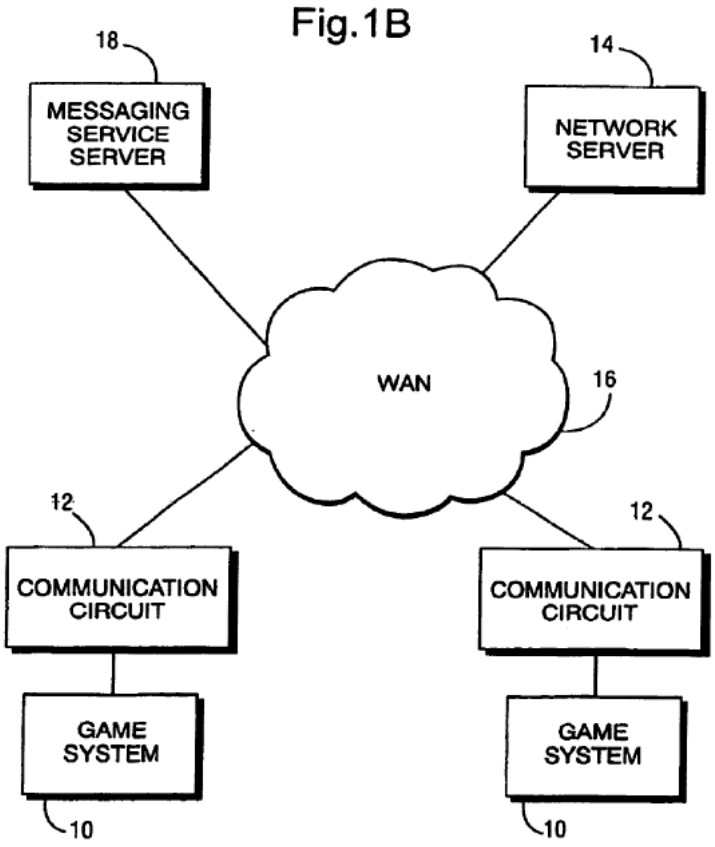
Eck, Figure 8E

PagerWorld users likewise have access to a personalized address book/ buddy list. The address book "provides a listing of other users by their handles. Next to each handle is the persona character of the other user as it appeared on his/her last communication with the user." (EX-1008, 12:16-19.) In the address book in the Pelkey-Eck combination, "device captured data" from first and second mobile devices (e.g., photos) is integrated into a web-based shared information channel (PagerWorld) through, e.g., customization of a user's persona, and such images made accessible to users in an address book. The "*device captured data*" is "*controllably accessible*" because a user must select the message or persona icon in order to access the data obtained from the mobile device. (*See* EX-1003, ¶202.)

C. Claim 12

The Pelkey-Eck combination discloses "[a] network-based communication system comprising a plurality of servers configured to communicate over said at least one network, a given one of the servers comprising the apparatus of claim 9."

For example, Figure 1B in Pelkey 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

According to Pelkey, in the Figure 1B embodiment, the "network server" "stores games that may be played by users of the network. These games may be one player games or multi-player games. The multi-player games may involve competition between two or more users or may involve competition between a user and a server-generated opponent." (EX-1007, 3:4-9.) In such an embodiment, the processing steps set forth in claim 9 are each performed by the "messaging service server." (EX-1003, ¶234.)

D. Dependent Claims

1. Claim 2

As noted above in §VI.B.3.a for limitations [1C] and [1D], the Pelkey-Eck combination describes "*first device-captured data*" and "*second device-captured data*" including capturing a photo ("*image data*"). For example, as discussed above in connection with claim [1A], Eck discloses "digital images may be captured by the camera and used by game machine 10 and/or transmitted as a message using pager cartridge 100." (EX-1008, 9:16-25; EX-1003, ¶235-36.)

2. Claim 6

The Pelkey-Eck combination also discloses that the "*first and second mobile devices"* comprise *"a GPS-based navigational device*." Eck discloses that "a global positioning system (GPS) cartridge is also selectively insertable into the slot of game machine 10 or into the slot of pager cartridge 100." (EX-1008, 22:28-30, 5:39-43.) Eck explains that "GPS is a satellite-based radio navigation system

developed and operated by the U.S. Department of Defense (DOD) and permits users to determine their three-dimensional position velocity, and time." (EX-1008, 22:30-34.) Eck discloses that GPS capability, the ability to send and receive messages (pages), and the ability to send and receive photos and audio files can be integrated into the portable gaming system without the need for cartridges. (EX-1008, 25:35-40.)

The Pelkey-Eck combination also discloses that the "*first and second mobile devices"* comprise *"a portable game player*." In both Pelkey and Eck, the first and second mobile devices are "portable game machines," such as the Nintendo GameBoy® device which is a portable game player. (EX-1007, 4:55-57.) (EX-1008, 1:48-51.) (EX-1003, ¶237-39.)

3. Claim 7

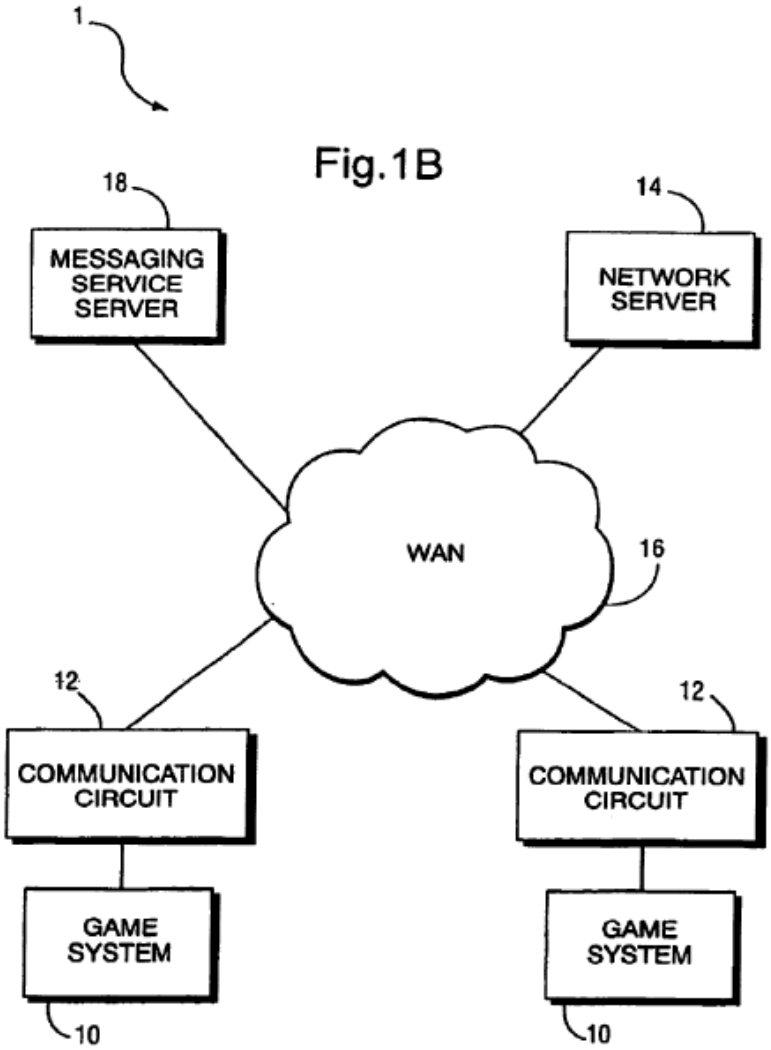
The Pelkey-Eck combination discloses "*a web server that includes the network interface and the processing element and wherein the web server is accessible to the first and second mobile devices over the Internet via the network interface*." According to Pelkey:

> A messaging system includes a **web server** computer and at least two video game systems. Each game system is configured to connect to the **web server** computer **via the Internet** and to communicate status data indicative of an activity engaged in by a user thereof. The **web server**

computer generates a session file indicative of user status and the status of each of two or persons on a buddy list of the user.

(EX-1007, Abstract.)

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

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." (EX-1007, 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." (EX-1008, 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.*" (EX-1003, ¶240-43.)

4. Claims 8, 14, and 18

a. [8A]

The Pelkey-Eck combination discloses "the web-based shared information channel is configured to allow a given one of the first and second users to enter a message via the personalized content application of its corresponding mobile device" for the reasons discussed above in §VI.B.3.a. (EX-1003, ¶245.)

b. [14A]-[14B]/[18A]-[18B]

The Pelkey-Eck combination discloses all of the elements in these limitations for the reasons discussed above in §§VI.B.3.a-b. (EX-1003, ¶246-47.)

c. [8B]/[14C]/[18C]

The Pelkey-Eck combination discloses "*wherein the message is integrated with the first and second device-captured data into a persistent version of a given*

set of shared information content of the web-based shared information channel so as to be accessible with the first and second device-captured data to the first and second users of the respective first and second mobile devices via the respective personalized content applications of the first and second mobile devices" [8B]/[14C]/[18C].

PagerWorld includes client software in the portable game machine (client program) and corresponding software in the server (server program). (*See* EX-1008, 4:61-5:7, 9:40-59.) As such, PagerWorld is "*persistent*"—it remains in existence after individual users exit the world. 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" (EX-1008, 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 and comprise a "*given set of shared information content*" that is available in the file cabinet to "first and second users of the respective first and second mobile devices." (EX-1003, ¶248-49.)

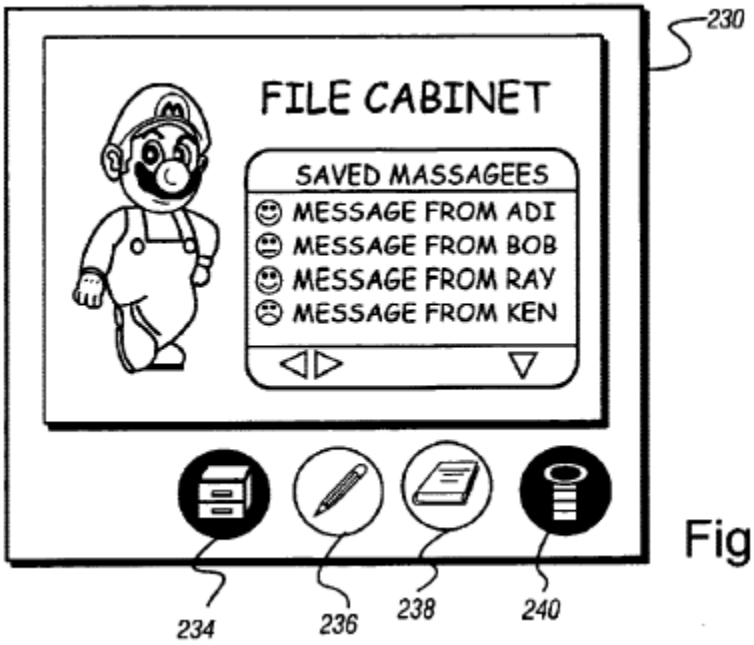


Fig.8E

Eck, Figure 8E

5. Claim 9

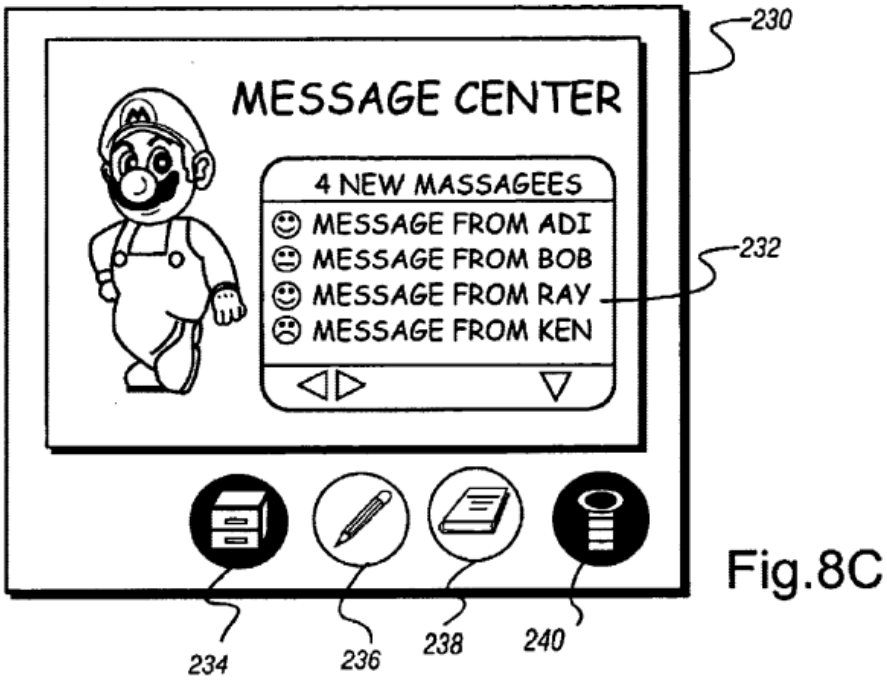
The Pelkey-Eck combination discloses "*wherein the message is delivered to one or more of the mobile devices over a wireless network.*"

As noted above, Pelkey does not disclose details of the wireless network used to provide wireless messaging from the game system to the server. But Eck explicitly discloses that its "present invention" may be "applied to other wireless technologies such as GSM … and WAP ..." (EX-1008, 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.

GSM-SMS is implementable over a "*wireless network*" and, as shown in Figure 1 of Pelkey, the GSM network is separate from the Internet connecting the N64 game system to the server. The WAP protocol stack transports data over GSM's SMS. (EX-1003, ¶¶52-60.) As discussed in that section, the SMS message includes a header with data fields indicating control and content details for the message. (EX-1003, ¶214.)

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. (EX-1003, ¶250-53.)



Eck, Figure 8C

VII. Discretionary Denial is Not Appropriate

A. 35 U.S.C. §314(a)

The Board should reach the merits because the Petition presents a compelling unpatentability challenge. (*See* Interim Procedure for Discretionary Denials, 4-5.) The evidence presented in this Petition, "if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence." (Interim Procedure, 4.)

The median time to trial in the Eastern District of Texas is 21.9 months and the case is scheduled for trial on April 20, 2026. Nonetheless, the district court case is in its early stages and little fact discovery has taken place. For example, the parties have produced few documents and no depositions have taken place. In

addition, because a claim construction hearing is not scheduled until October 30, 2025, no claim construction order will issue prior to a decision on institution. And any trial will involve fewer claims than challenged here.

B. 35 U.S.C. §325(d)

Advanced Bionics Part 1 is not satisfied because none of the asserted references were cited or applied during prosecution and no asserted reference is substantially the same as any art previously presented. Thus, the Board need not reach Part 2.

C. *General Plastics*

The petition should not be denied as an improper serial petition because there is no relationship, such as a joint defense arrangement, much less a "significant relationship" between Petitions here and Meta. Moreover, the functionality of the accused products in the Meta and Samsung district court cases differ. *See Videndum Production Solutions, Inc. v. Rotolight Ltd.*, IPR2023-01218 (Paper 12).

VIII. Mandatory Notices

A. Real Party In Interest

The real parties-in-interest are Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc.

B. Related Matters

To the best of Samsung's knowledge, the following is a list of judicial or administrative matter that would affect, or be affected by, a decision in the proceeding:

- *Mobile Data Technologies LLC v. Samsung Electronics Co. Ltd. et al.*, 2:24-cv-00435-JRG-RSP (E.D. Tex.)
- *Mobile Data Technologies LLC v. Meta Platforms, Inc.*, Case No. 24-cv-00896-WHA (N.D. Cal.)
- *Meta Platforms, Inc. v. Mobile Data Technologies, Inc.*, IPR2024-00247 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00535 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00536 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00537 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00538 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00541 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00543 (PTAB)
- *Samsung Electronics Co., Ltd. v. Mobile Data Technologies*, IPR2025-00544 (PTAB)

C. Notice of Counsel and Service Information

Pursuant to 37 C.F.R. §§ 42.8(b)(3), 42.8, Petitioners designate the following lead and backup counsel:

Lead Counsel	Back Up Counsel
Lori Gordon (Reg. No. 50,633) Goodwin Procter LLP 1900 N St. N.W. Washington, D.C. 20036 Phone: (202) 346-4000 Fax: (202) 346-4444 Gordon-ptab@goodwinlaw.com	Doug Kline (Reg No. 35,574) GOODWIN PROCTER LLP 100 Northern Avenue Boston, MA 02210 Tel: (617) 570 1000 Fax: (617) 523-1231 dkline@goodwinlaw.com
	Srikanth Reddy (*pro hac vice* application to be filed) GOODWIN PROCTER LLP 100 Northern Avenue Boston, MA 02210 Tel: (617) 570 1000 Fax: (617) 523-1231 sreddy@goodwinlaw.com
	Naomi Birbach (Reg. No. 67,113) Goodwin Procter LLP 620 Eighth Avenue New York, NY 10018 Phone: (212) 813-8800 Fax: (212) 355-3333 NBirbach@goodwinlaw.com

Petitioners consent to electronic service at the email addresses listed in the table above.

IX. Conclusion

IPR is respectfully requested.

Date: February 6, 2025

Respectfully submitted,

/Lori A. Gordon/

Lori A. Gordon (Reg. No. 50,633)
Goodwin Procter LLP
1900 N Street, N.W.
Washington, D.C. 20036
Phone: (202) 346 4435
Gordon-ptab@goodwinlaw.com

Lead Counsel for Petitioner

APPENDIX A – LIST OF CLAIMS

[1P] An apparatus comprising:

[1A] a processing element comprising a processor coupled to a memory; and

[1B] a network interface coupled to the processing element and configured to communicate with a plurality of mobile devices over at least one network;

the processing element being configured:

[1C] to receive first device-captured data from a first one of the mobile devices via the network interface;

[1D] to receive second device-captured data from a second one of the mobile devices via the network interface; and

[1E] to integrate the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices.

[2] The apparatus of claim 1 wherein at least one of the first device-captured data and the second device-captured data comprises image data.

[6] The apparatus of claim 1 wherein a given one of the first and second mobile devices comprises one of a mobile telephone, a tablet computer, a GPS-based navigational device, a watch and a portable game player.

[7] The apparatus of claim 1 further comprising a web server that includes the network interface and the processing element and wherein the web server is accessible to the first and second mobile devices over the Internet via the network interface.

[8] The apparatus of claim 1

[8A] wherein the web-based shared information channel is configured to allow a given one of the first and second users to enter a message via the personalized content application of its corresponding mobile device and

[8B] wherein the message is integrated with the first and second device-captured data into a persistent version of a given set of shared information content of the web-based shared information channel so as to be accessible with the first and second device-captured data to the first and second users of the respective first and second mobile devices via the respective personalized content applications of the first and second mobile devices.

[9] The apparatus of claim 8 wherein the message is delivered to one or more of the mobile devices over a wireless network.

[12] A network-based communication system comprising a plurality of servers configured to communicate over said at least one network, a given one of the servers comprising the apparatus of claim 1.

[13P] A method comprising:

[13A] receiving first device-captured data from a first mobile device over at least one network;

[13B] receiving second device-captured data from a second mobile device over said at least one network; and

[13C] integrating the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices.

[14P] The method of claim 13 further comprising:

[14A] receiving in the web-based shared information channel a message from one of the first and second users via the personalized content application of its corresponding mobile device; and

[14B] delivering the message over said at least one network to another one of the first and second users via the personalized content application of its corresponding mobile device;

[14C] wherein the message is integrated with the first and second device-captured data into a persistent version of a given set of shared information content of the web-based shared information channel so as to be accessible with the first and second device-captured data to the first and second users of the respective first and second mobile devices via the respective personalized content applications of the first and second mobile devices.

[17P] A non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs, wherein said executable program code when executed by a processing element causes said processing element:

[17A] to receive first device-captured data from a first mobile device over at least one network;

[17B] to receive second device-captured data from a second mobile device over said at least one network; and

[17C] to integrate the first and second device-captured data into a web-based shared information channel controllably accessible to first and second users of the respective first and second mobile devices via respective personalized content applications of the first and second mobile devices.

[18P] The non-transitory computer-readable storage medium of claim 17 wherein said executable program code when executed by said processing element further causes said processing element:

[18A] to receive in the web-based shared information channel a message from one of the first and second users via the personalized content application of its corresponding mobile device; and

[18B] to deliver the message over said at least one network to another one of the first and second users via the personalized content application of its corresponding mobile device;

[18C] wherein the message is integrated with the first and second device-captured data into a persistent version of a given set of shared information content of the web-based shared information channel so as to be accessible with the first and second device-captured data to the first and second users of the respective first and second mobile devices via the respective personalized content applications of the first and second mobile devices.

CERTIFICATE OF WORD COUNT UNDER 37 CFR §42.24(d)

Pursuant to 37 C.F.R. §42.24(a), Samsung hereby certifies that portions of the above-captioned Petition for *Inter Partes* Review of U.S. Patent No. 9,922,348, in accordance with and reliance on the word count provided by the word-processing system used to prepare this Petition, that the number of words in this paper is 13,544. Pursuant to 37 C.F.R. §42.24(a), this word count is in compliance and excludes the table of contents, table of authorities, mandatory notices under §42.8, certificate of service, certificate of word count, appendix of exhibits, and any claim listing. This word count was prepared using Microsoft Word.

Date: February 6, 2025

Respectfully submitted,

/Lori A. Gordon/

Lori A. Gordon (Reg. No. 50,633)
Goodwin Procter LLP
1900 N Street, N.W.
Washington, D.C. 20036
Phone: (202) 346 4435
Gordon-ptab@goodwinlaw.com

Lead Counsel for Petitioner

CERTIFICATE OF SERVICE

The undersigned certifies that a true copy of the Petition for *Inter Partes* Review of U.S. Patent No. 9,922,348 together with all exhibits identified in the above Table of Exhibits and Petitioners' Power of Attorney, have been served on the Patent Owner via Federal Express Next Business Day Delivery on the below date, at the correspondence address of record as listed on the Patent Center:

RYAN, MASON & LEWIS, LLP
48 South Service Road
Suite 100
Melville, NY 11747
UNITED STATES

Attorneys for Mobile Data Technologies LLC

Courtesy copies of the foregoing document were served by e-mail on the following counsel of record for Patent Owner in the concurrent litigation:

Michael C. Smith
SCHEEF & STONE LLP
113 East Austin Street
Marshall, Texas 75670
Telephone: (903) 938-8900
michael.smith@solidcounsel.com

Erick S. Robinson (Reg. No. 51,354)
Patrick M. Dunn (Reg. No. 70,474)
Jayme Partridge (Reg. No. 39,011)
Jayne C. Piana (Reg. No. 48,424)
BROWN RUDNICK LLP
811 Main Street, Suite 1825
Houston, TX 77002
erobinson@brownrudnick.com
Tel: (281) 815-0511

Fax: (281) 605-5699

Homayoon Rafatijo (Reg. No. 80,870)
BROWN RUDNICK LLP
601 Thirteenth Street NW Suite 600
Washington, D.C. 20005
hrafatijo@brownrudnick.com
Tel: (202) 536-1700
Fax: (202) 536-1701

Attorneys for Mobile Data Technologies LLC

Date: February 6, 2025 /Lori A. Gordon/

Lori A. Gordon

Lead Counsel for Petitioner