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

IPR2025-00537

U.S. Patent No. 8,825,801 B2

DECLARATION OF HENRY HOUH, PH.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,825,801

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

EX-1002
U.S. Patent 8,825,801

TABLE OF CONTENTS

Page

I. Qualifications 2

II. Understanding of Relevant Legal Principles 6

III. The '801 Patent 9

A. Overview of the '801 Patent 10

B. Level Of Ordinary Skill In The Art 13

C. Prosecution History 15

D. Claim Construction 16

1. "Mobile Device" 17

2. "Mobile Information Channel" 18

3. "Wireless Network" 19

IV. Application of the Prior Art to Challenged Claims 19

A. Ground 1: Claims 1-4, 6-25 Are Obvious Over Neibauer In View Of Miller, Cheng and Squibbs 20

1. Neibauer (EX-1003) 20

2. Miller (EX-1004) 29

3. Cheng (EX-1005) 31

4. Squibbs (EX-1011) 36

5. Motivation to Combine 42

6. Independent Claim 1 62

a. Preamble [1P] 62

b. Limitation [1A] 63

c. Limitation [1B] 83

d. Limitation [1C] 84

e. Limitation [1D] 88

f. Limitation [1E] 94
g. Limitation [1F] 94
7. Claim 2 106
8. Claim 3 106
9. Claim 4 107
10. Claim 5 110
11. Claim 6 111
12. Claims 7 and 8 111
13. Claim 9 112
14. Claim 10 113
15. Claims 11 and 12 115
16. Claim 13 117
17. Claim 14 120
18. Claim 15 121
19. Claim 16 122
20. Claim 17 123
21. Claims 18 and 19 124
22. Claim 20 126
23. Claim 21 126
24. Independent Claim 22 127
25. Independent Claim 23 130
a. Preamble [23P] 130
b. Limitation [23A] 131
c. Limitation [23B] 132
d. Limitations [23C]-[23H] 133
26. Claim 24 134
27. Independent Claim 25 135

a. Preamble [25P] 135
b. Limitation [25A] 135
c. Limitation [25B] 136
d. Limitations [25C]-[25H] 138
B. Ground 2: Obviousness in Further View of Harvey. 138
V. CONCLUSION 144

EXHIBIT LIST

Exhibit	Description
1001	U.S. Patent No. 8,825,801 B2 to David Walker Harper et al. (filed February 7, 2014, issued September 2, 2014) ("'801" or "'801 patent")
1003	Excerpts from Alan Neibauer, *How to Do Everything With Yahoo!* (2000) ("Neibauer")
1004	PCT Application WO 00/17775 to Craig Miller et al. (filed September 22, 1999, published March 30, 2000) ("Miller")
1005	U.S. Patent No. 7,574,486 B1 to Yin Cheng et al. (filed November 8, 2000, issued August 11, 2009) ("Cheng")
1006	U.S. Patent No. 6,434,403 B1 to Michiel R. Ausems et al. (filed February 19, 1999, issued August 13, 2002) ("Ausems")
1007-1009	***Reserved***
1010	U.S. Patent No. 6,487,583 B1 to Jamey Harvey et al. (filed February 25, 2000, issued November 26, 2002) ("Harvey")
1011	U.S. Patent Application Publication No. 2001/0015759 A1 to Robert Francis Squibbs (filed February 21, 2002, published August 23, 2001) ("Squibbs")
1012	Excerpts from Uwe Hansmann et al., *Pervasive Computing Handbook* (2001) ("Hansmann")
1013	Excerpts from David Fox & Troy Downing, *HTML Web Publisher's Construction Kit* (1995) ("Fox")
1014-1021	***Reserved***
1022	File history of U.S. Patent No. 8,825,801 B2
1023	***Reserved***

Exhibit	Description
1024	Excerpts of file history of *Inter Partes* Reexamination of U.S. Patent No. 8,135,801 B2
1025	Joint Claim Construction Statement, Dkt. 51, *Mobile Data Technologies LLC v. Meta Platforms, Inc.*, Case No. 7:22-cv-00244-ADA-DTG (W.D. Tex. filed September 13, 2023)
1026	Declaration of Sylvia D. Hall-Ellis, Ph.D. ("Hall-Ellis") from IPR2024-00247
1027	U.S. Patent 6,167,137 to Ogdon et al. ("Ogdon")
1028	U.S. Patent 8,135,801 to Harper et al.
1029	Order Granting *Inter Partes* Reexamination of U.S. Patent 8,135,801
1030	*Meta Platforms, Inc. v Mobile Data Techs. LLC,* IPR2024-00247, Paper 26 (PTAB Oct. 2, 2024).
1031	Declaration of June Munford
1032	Excerpt from Webster's Dictionary of Computer Terms (page 98)
1033	*Meta Platforms, Inc. v Mobile Data Techs. LLC,* IPR2024-00247, Paper 33 (PTAB Jan. 10, 2025).
1034	US Patent No. 6,955,298 to Herle ("Herle")
1035	U.S. Patent App. Publ. No. 2002/0102998 to Lin ("Lin")

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

1. I have been retained on behalf of Petitioners Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. ("Petitioners") to provide this Declaration concerning technical subject matter relevant to the petition for Inter Partes Review ("Petition") of U.S. Patent 8,825,801 ("the '801 patent").

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

3. I have been asked to provide my technical opinions regarding how a person of ordinary skill in the art would have understood the claims of the '801 patent at the time of the alleged invention, which I have been asked to assume is the 2002 timeframe. For purposes of whether the teachings of the prior art render the claims of the '801 patent obvious, I have been asked to assume the date of June 18, 2002. I have also been asked to provide my technical opinions on how concepts in the '801 patent specification relate to claim limitations of the '801 patent.

4. In reaching the opinions provided herein, I have considered the '801 patent, its prosecution history, and the references cited in my Declaration and the Appendix. I have also drawn on my own education, training, research, knowledge, and personal and professional experience.

5. In general, I have been asked to cite to the specification of a patent or patent publication using the following formats: (Patent, Col:Line Number(s)) or

(Patent, Paragraph Number(s)). For example, the citation (’801 patent, 1:1-10) points to the ’801 patent specification at column 1, lines 1-10. Also, for convenience, I use italics to denote limitations from the challenged claims. Unless otherwise noted, all emphasis added.

6. I am being compensated for my time at my standard consulting rate. I am also being reimbursed for expenses that I incur during the course of this work. My compensation is not contingent upon the results of my study and analysis, the substance of my opinions, or the outcome of any proceeding involving the ’801 patent. I have no financial interest in the outcome of this matter or in any litigation involving the ’801 patent.

7. I understand that another party, Meta Platforms, Inc., has challenged the ’801 patent in *inter partes* review proceedings at Case No. IPR2024-00247 (“the Meta-MDT-IPR”), which was instituted by the Patent Trial and Appeal Board. I refer in my declaration below to some of the positions and issues raised in that proceeding, including as it pertains to claim construction of certain claim terms in the ’801 patent.

I. Qualifications

8. I believe I am well qualified to render useful opinions on this matter. I will briefly summarize my knowledge, training, and experience here. A more detailed summary of my background, education, experience, and publications is set

forth in my curriculum vitae (CV), which is attached to my Declaration at Appendix A.

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

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

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

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

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

14. I defended and submitted my Ph.D. thesis, titled "Designing Networks for Tomorrow's Traffic," in January 1998. As part of my thesis research, I analyzed local-area and wide-area flows to show a more efficient method for routing packets in a network, based on traffic patterns at the time. My thesis also addressed real-time streamed audio and video. The network traffic that I analyzed

was IP protocol traffic, including User Datagram Protocol ("UDP") and Transmission Control Protocol ("TCP").

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

16. From 1999 to 2004, I worked at Teradyne and its successor Empirix, which developed and provided functional and load test tools for telecommunication protocols and systems. I rebuilt Empirix's primary testing product, which could pull data from a database to provide variation of data submitted to the web applications, and then to extract data from a web page to

populate a database with key results computed by the web site after customized data is submitted. This product, PacketSphere, was Empirix's most successful new platform introduction and received several industry awards.

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

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

II. Understanding of Relevant Legal Principles

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

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

obvious from the perspective of a person of ordinary skill in the art at the time the invention was made.

21. I have been informed that a patent claim is invalid if it would have been obvious to a person of ordinary skill in the art. In analyzing the obviousness of a claim, I understand the following factors may be taken into account: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims; (3) the level of ordinary skill in the art; and (4) any so called "secondary considerations" of non-obviousness, if they are present. I am not aware of any evidence of secondary considerations of non-obviousness relevant to the '801 patent. I reserve the right to supplement this Declaration if Patent Owner ("PO") introduces evidence of secondary considerations of non-obviousness.

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

(1) identify the particular references that, singly or in combination, make the patent obvious;

(2) specifically identify which elements of the patent claim appear in each of the asserted references; and

(3) explain why a person of ordinary skill in the art would have combined the references, and how they would have done so, to create the inventions

claimed in the patent. I further understand that exemplary rationales that may support a conclusion of obviousness include:

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

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

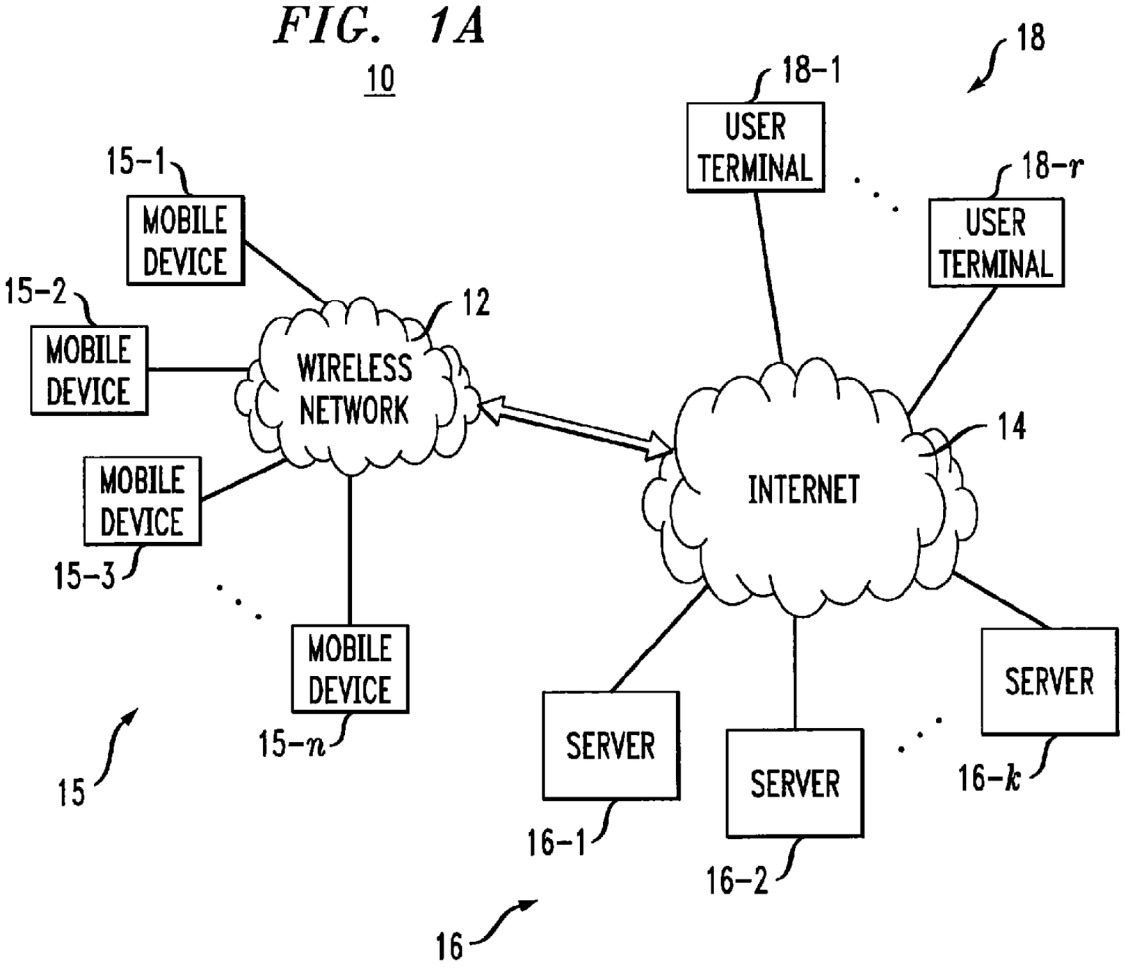
III. The ’801 Patent

24. The ’801 patent, filed February 7, 2014, claims priority through three continuations to U.S. Patent 7,599,983, filed June 18, 2003, which claims priority to Provisional App. 60/389,430, filed June 18, 2002. While I do not have an opinion about whether the patent is entitled to any of the priority dates,, each applied reference was filed or published before June 18, 2002.

25. The ’801 patent pertains to “network-based communications systems, and more particularly to techniques for information content management in such systems.” (’801 patent, 1:24-26.) The ’801 patent discusses a “content management site” that “permits [a] user to enter information in accordance with a specified format comprising a plurality of selectable mobile information channels,” also referred to as “M-channels.” (’801 patent, 5:25-30.) It further discloses that “the content management site provides a user interface comprising a series of display regions . . . each associated with a corresponding user-activatable control mechanism.” (’801 patent, 10:39-43.) Content management sites incorporating inputs from multiple users were well known and in use by the earliest possible priority date of the ’801 patent (June 18, 2002).

A. Overview of the ’801 Patent

26. The ’801 patent identifies “accessing of information content over wireless networks via web-enabled mobile devices” as among “the most rapidly expanding aspects of wireless networking.” (EX-1001, 1:30-32.) Figure 1A of the ’801 patent, (reproduced below) “shows an example network-based communication system 10” including “wireless network 12 coupled to the Internet 14, a set of mobile devices 15, a set of servers 16 and a set of user terminals 18.” (EX-1001, 3:54-58.)



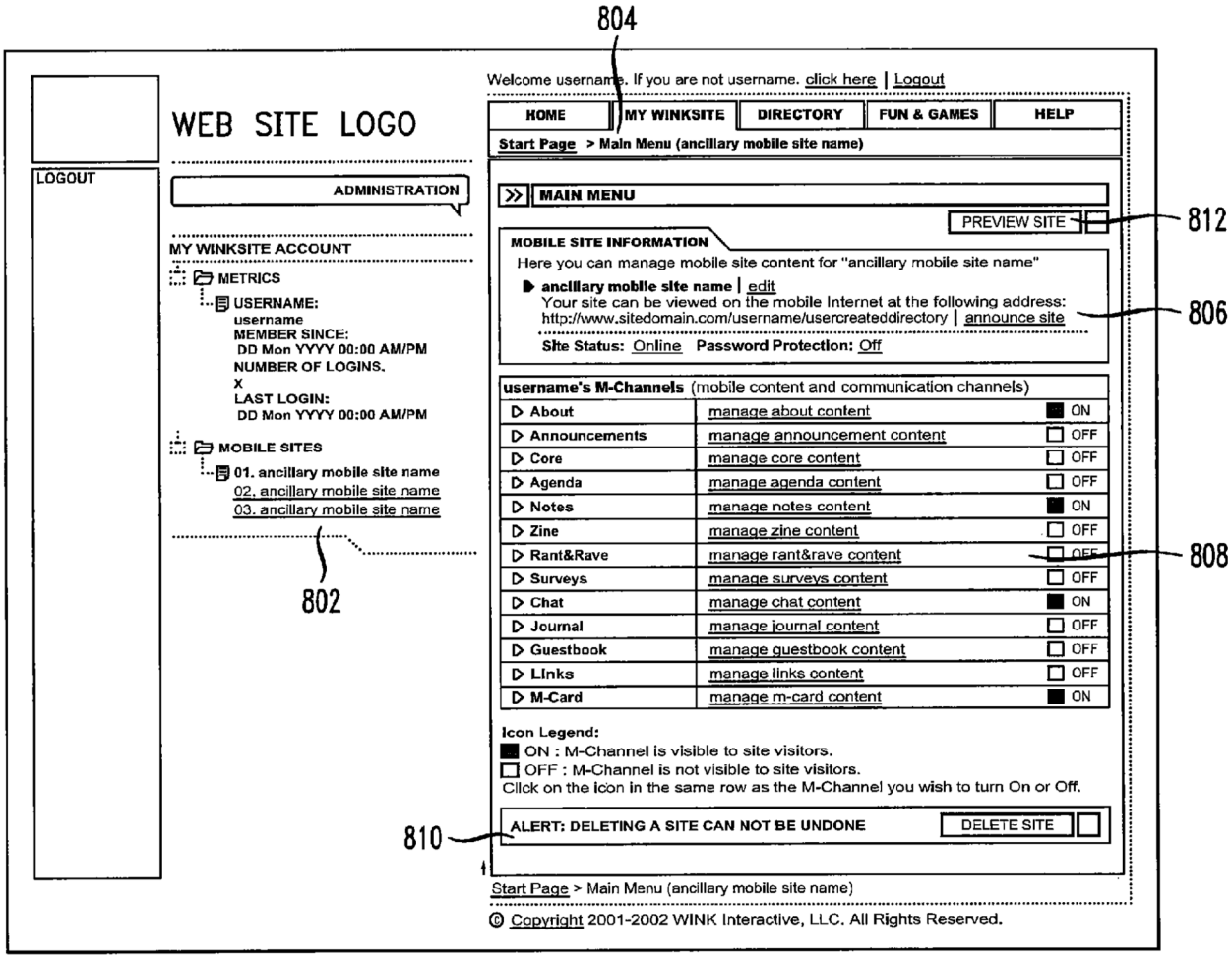
’801 patent, Figure 1A

27. The Background purports to address the challenge of "facilitating the process of creating, publishing, distributing or otherwise managing information content so as to provide optimal presentation consistent with the limited display space and navigational capabilities of typical mobile devices." (EX-1001, 1:41-45.) This section also identifies "mobile telephones, personal digital assistants (PDAs), [and] palmtop computers" as typical mobile devices. (EX-1001, 1:33-34.) Further, the '801 patent admits in this section that it is "well-known" these wireless devices "provide access to the Internet" and "support other types of wireless networking functionality, such as messaging, distributed collaboration, and location-based services." (EX-1001, 1:34-39.)

28. The patent discloses that the system "provides at least one content management site accessible to a system user" including "M-channels" which "allow unsophisticated users to easily and efficiently author message data or other types of information content to be made accessible via a collaborative workspace, a data mailbox, a collaborative community, or other type of mobile site …." (EX-1001, 5:18-20, 8:17-23.) Such mobile sites may be associated with "a group comprising multiple members having a common interest," (EX-1001, 6:30-32), "an event," (EX-1001, 6:50-51), "a game," (EX-1001, 7:30-31), or "a user of IM, SMS, MMS, email or other type of messaging service," (EX-1001, 7:42-44), among other associations. (EX-1001, 6:30-8:12.)

29. The main menu page in this example includes information identifying user account information and the particular mobile sites associated with that user, page navigational links, mobile site information associated with a selected one of the mobile sites associated with the user, M-channel information 808, and a delete site field. (EX-1001, 13:46-52.)

FIG. 8



'801 patent, Fig. 8

30. As noted above, according to the ’801 patent, these “M-channels allow unsophisticated users to easily and efficiently author message data or other types of information content to be made accessible via a collaborative workspace, a data mailbox, a collaborative community, or other type of mobile site or portion thereof generated or otherwise managed in the system 10.” (EX-1001, 8:17-23.)

31. The ’801 patent provides examples of M-channels:

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

(EX-1001, 8:33-44.)

B. Level Of Ordinary Skill In The Art

32. I understand that certain issues relating to the validity of the ’801 patent must be judged from the perspective of a person of ordinary skill in the relevant art, as I discuss below. I have been asked to define the level of a “person of ordinary skill in the art” or “POSITA” at the time of the alleged invention as claimed was made. In deciding the level of ordinary skill, I have considered the

following factors, which I have been informed are relevant to the determination of ordinary skill in the art.

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

33. In my opinion, a POSITA would have 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. A person could also have qualified as a POSITA with some combination of (1) more formal education (such as a master's of science degree) and less technical experience, or (2) less formal education and more technical or professional experience.[1]

[1] I understand that Patent Owner did not dispute this characterization of a POSITA in the Meta-MDT-IPR.

C. Prosecution History

34. During prosecution, the Examiner issued a single Office Action, rejecting all pending claims on the grounds of nonstatutory double patenting over claims 1-20 of U.S. Patent 8,135,801. (EX-1022, 231-234.) In response, Applicant argued that the pending claims and patent's claims were distinct because the pending claims included the limitation "integrating into the mobile information channel information associated with at least one networking functionality of said at least one network," whereas U.S. Patent claims 8,135,801 did not. (EX-1022, 300.) In addition to making this argument, Applicant also filed a terminal disclaimer to overcome the rejection. (EX-1022, 294.)

35. The Examiner allowed the claims on July 7, 2014, and in doing so, identified U.S. Patent 7,003,546 to Cheah ("Cheah") as the closest prior art of record, and stated the prior art of record failed to disclose the following.

> activating the mobile information channel responsive to input received from the first user via the interface;
>
> inserting content provided by the first user into the mobile information channel;
>
> receiving additional content relating to the mobile information channel from one or more of said additional users via one or more respective mobile devices associated with at least one wireless network;

inserting at least a portion of the additional content into the mobile information channel; and

integrating into the mobile information channel information associated with at least one wireless networking functionality of said at least one wireless network.

(EX-1022, 320.)

D. Claim Construction

36. I understand that "claim construction" is the process of determining a patent claim's meaning. I understand that the Patent Office applies the same claim construction standard used in district courts which seeks to give claim terms their plain and ordinary meaning to a POSITA at the time of the claimed invention in view of the claims, specification, and prosecution history. I also understand that if the patent applicant gave a term a special meaning in the specification or during prosecution, then the special meaning should be used.

37. I understand that in the Meta-MDT-IPR and the co-pending district court litigation, *Mobile Data Techs. LLC v. Meta Platforms, Inc.*, No. 3:24-CV-00896-WHA (N.D. Cal.) ("MDT-Meta-Litigation") Meta and Patent Owner have taken the following claim construction positions reproduced below. (*See* EX-1025, 1-3; EX-1030, 21-31; EX-1033, 2-8.)

38. For purposes of my analysis here, I do not believe express claim constructions are necessary for the terms of the challenged claims, because the

prior art renders the claims obvious under any of the proposed constructions identified above or any other reasonable construction. In view of this, my analysis discusses the proposed constructions and explains why, under each of them, the limitations are disclosed and rendered obvious by the prior art.

1. "Mobile Device"

39. I dispute PO's narrow Meta-MDT-IPR construction because it is contrary to the express definition in the specification. (*See, e.g.*, EX-1001, 4:38-41.) I apply the plain meaning for the term which is consistent with Meta's Meta-MDT-IPR and MDT-Meta-Litigation constructions.

MDT-Meta-Litigation	
PO	plain and ordinary meaning; alternatively, "a piece of handheld equipment" (EX-1025, 3)
Meta	"any type of portable information processing device capable of being configured for communication over a network, including but not limited to a mobile telephone, a personal digital assistant (PDA), a palmtop computer, a hand-held computer, a laptop computer, a tablet computer, a global positioning system (GPS) receiver or other GPS-based navigational device, an MP3 player or other type of audio player, a pager, a watch or other timepiece, a camera, or a portable game player" (EX-1025, 3)
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" (EX-1030, 24)
Meta	construed based on express definition: "The term 'mobile device' as used herein is intended to include, without limitation, any type of

	portable information processing device capable of being configured for communication over a network" (EX-1033, 2-3)

2. "Mobile Information Channel"

40. I note that the term "channel" has different meanings based on the context in which it is used. For example, in the context of an Internet Relay Chat (IRC), a channel is "a named, topical-focused forum where you can chat in real time with other computers." (EX-1032, 4.) For media pushed to a user device, the term "channel" is "a named link to a network-based transmitter to which a user can tune." (EX-1032, 4.) The PO's MDT-Meta-Litigation construction and Meta's Meta-MDT-IPR construction use the term in a manner consistent these exemplary meanings. The prior art as I describe in my analysis meets this term under any of the applied constructions.

MDT-Meta-Litigation	
PO	plain and ordinary meaning; alternatively, "a medium for transferring information that allows mobile device users to author content" (EX-1025, 1-2)
Meta	"a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site" where "content management site" = "a web site that allows a user without programming to create and manage content on a mobile website, or a portion thereof." (EX-1025, 1-2)
Meta-MDT-IPR	
PO	"a component of a mobile site configured to permit a wide variety of mobile devices to send and receive content over a wireless network" (EX-1030, 21-22)

Meta	"a medium for transferring information that allows mobile device users to author content" (EX-1033, 5)

3. "Wireless Network"

41. In the Meta-MDT-IPR, the parties dispute the construction primarily on the inclusion of language: "a network separate from the internet." While I also dispute Patent Owner's construction, the prior art presented in this Declaration discloses the term under both constructions.

Meta-MDT-IPR	
PO	"a network separate from the internet that facilitates connection to the internet by mobile device" (EX-1030, 30)
Meta	"a network that allows a device to communicate wirelessly over a network" (EX-1033, 7)

IV. Application of the Prior Art to Challenged Claims

42. In my opinion, the challenged claims of the '801 patent would have been obvious to a person of ordinary skill in the art based on the following combinations of the prior art.

Ground	**Claims**	**Prior Art**
1	1-25	Neibauer (**EX-1003**), Miller (**EX-1004**), Cheng (**EX-1005**), Squibbs (**EX-1011**)
2	1-25	Ground 1 Prior Art + Harvey (**EX-1010**)

43. Ground 2 is substantially similar to Ground 1, except that it adds Harvey (**EX-1010**) to account for Meta's narrower construction of "*mobile information channel*" in the MDT-Meta-Litigation, to the extent that construction were adopted here. As noted above, for purposes of my analysis here, I do not believe express claim constructions are necessary for the terms of the challenged claims, because the prior art renders the claims obvious under any of the proposed constructions.

44. I am informed by counsel that each of the references listed above qualifies as prior art to the challenged claims because each reference was filed and/or published before the earliest priority date for the challenged claims (June 18, 2002).

A. Ground 1: Claims 1-4, 6-25 Are Obvious Over Neibauer In View Of Miller, Cheng and Squibbs.

1. Neibauer (EX-1003)

45. Neibauer is a book entitled *How to Do Everything With Yahoo!* by Alan Neibauer. I am informed that Neibauer qualifies as prior art because it was published before the earliest priority date applicable to the challenged claims.

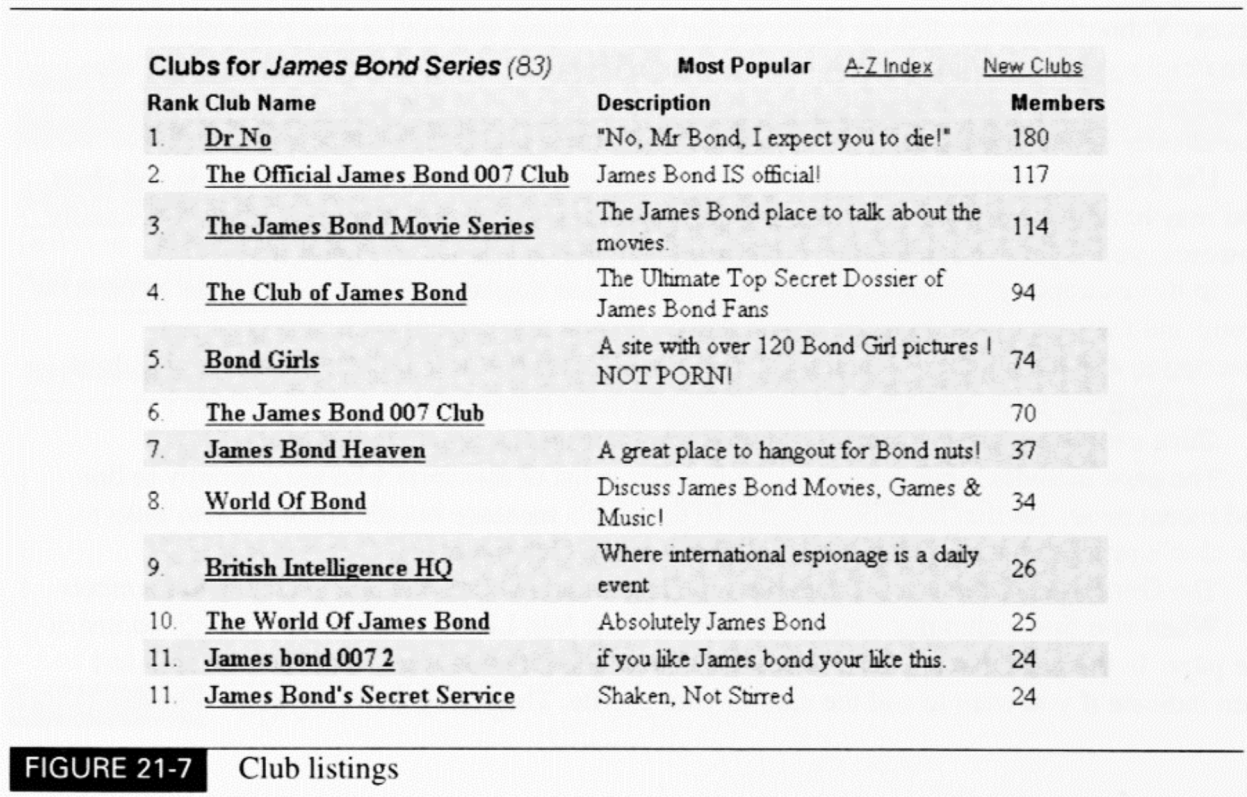
46. Neibauer describes various features of Yahoo!, a popular and well-known online during the 1990s and early 2000s. Neibauer explains that "Yahoo! is your portal to the best of everything that the Internet has to offer." (Neibauer, p.4.) Yahoo! was widely known in the 1990s for providing one of the first online search

engines, but by 2000 had expanded its offerings to provide additional features including email, shopping, news, weather, and sports, among other services. (Neibauer, pp.9-15, 17-18.)

47. One of the features of Yahoo! described in Neibauer was called Yahoo! Clubs. Yahoo! Clubs provided users the ability to create online communities through which users could share information. As Neibauer explains: "[a] *club* is a group of Yahoo! members who share a common interest. Each club has its own message board, chat room, as well as places to share photographs, news, addresses, and links." (Neibauer, p.473 (italics in original).)

48. Clubs were accessible from a webpage on the Yahoo! website at http://clubs.yahoo.com. The Yahoo! website allowed users to search existing clubs relating to specific topics of interest. (Neibauer, p.473.)

49. For example, Figure 21-7 of Neibauer is a screenshot showing a list of Yahoo! clubs relating to the James Bond series:



Clubs for *James Bond Series* *(83)* **Most Popular** A-Z Index New Clubs

Rank	Club Name	Description	Members
1.	Dr No	"No, Mr Bond, I expect you to die!"	180
2.	The Official James Bond 007 Club	James Bond IS official!	117
3.	The James Bond Movie Series	The James Bond place to talk about the movies.	114
4.	The Club of James Bond	The Ultimate Top Secret Dossier of James Bond Fans	94
5.	Bond Girls	A site with over 120 Bond Girl pictures ! NOT PORN!	74
6.	The James Bond 007 Club		70
7.	James Bond Heaven	A great place to hangout for Bond nuts!	37
8.	World Of Bond	Discuss James Bond Movies, Games & Music!	34
9.	British Intelligence HQ	Where international espionage is a daily event	26
10.	The World Of James Bond	Absolutely James Bond	25
11.	James bond 007 2	if you like James bond your like this.	24
11.	James Bond's Secret Service	Shaken, Not Stirred	24

FIGURE 21-7 Club listings

(Neibauer, p.474, Fig. 21-7.)

50. Neibauer explains that, to visit a club of interest, the user simply clicks the hyperlink for the club. (Neibauer, p.473.) For example, clicking on the third link shown in Figure 21-7 above ("The James Bond Movie Series") shows the club page shown in Neibauer Figure 21-8:

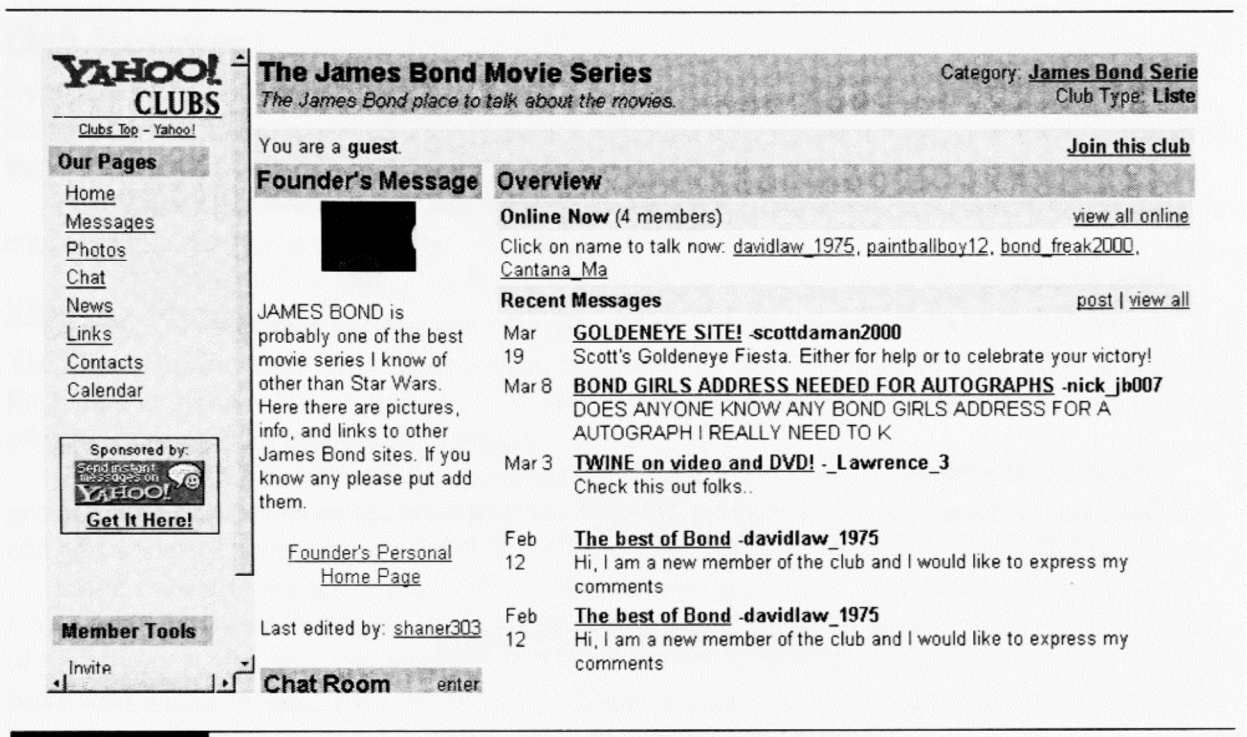


FIGURE 21-8 Club page

(Neibauer, p.475, Fig. 21-8.)

51. The user can join this club by clicking "Join this club," as seen on the top-right in Figure 21-8. (Neibauer, p.475.) Neibauer discloses that after joining, "other members will see your name on the top of the page with the list of members who are online." (*Id.*)

52. Each club offers a number of features, accessible from the links shown under "Our Pages" as seen on the left side of Figure 21-8 above. For example, each club has its own private message board ("Messages"), allows users to share photographs and make photo albums ("Photos"), engage in private chat with club members ("Chat"), view news headlines ("News"), share website links

with other club members ("Links"), obtain contact information about club members ("Contacts"), and post and view events of interest to club members ("Calendar"). (Neibauer, pp.477-480.)

53. Yahoo! members could also create their own clubs. (Neibauer, pp.480-82.) For example, a member can select a category and then click "Create Club." This would cause a form to appear asking for information about the new club. (Neibauer, p.481.) Neibauer's Figure 21-12, below, shows an exemplary web form for creating a new Yahoo! Club:

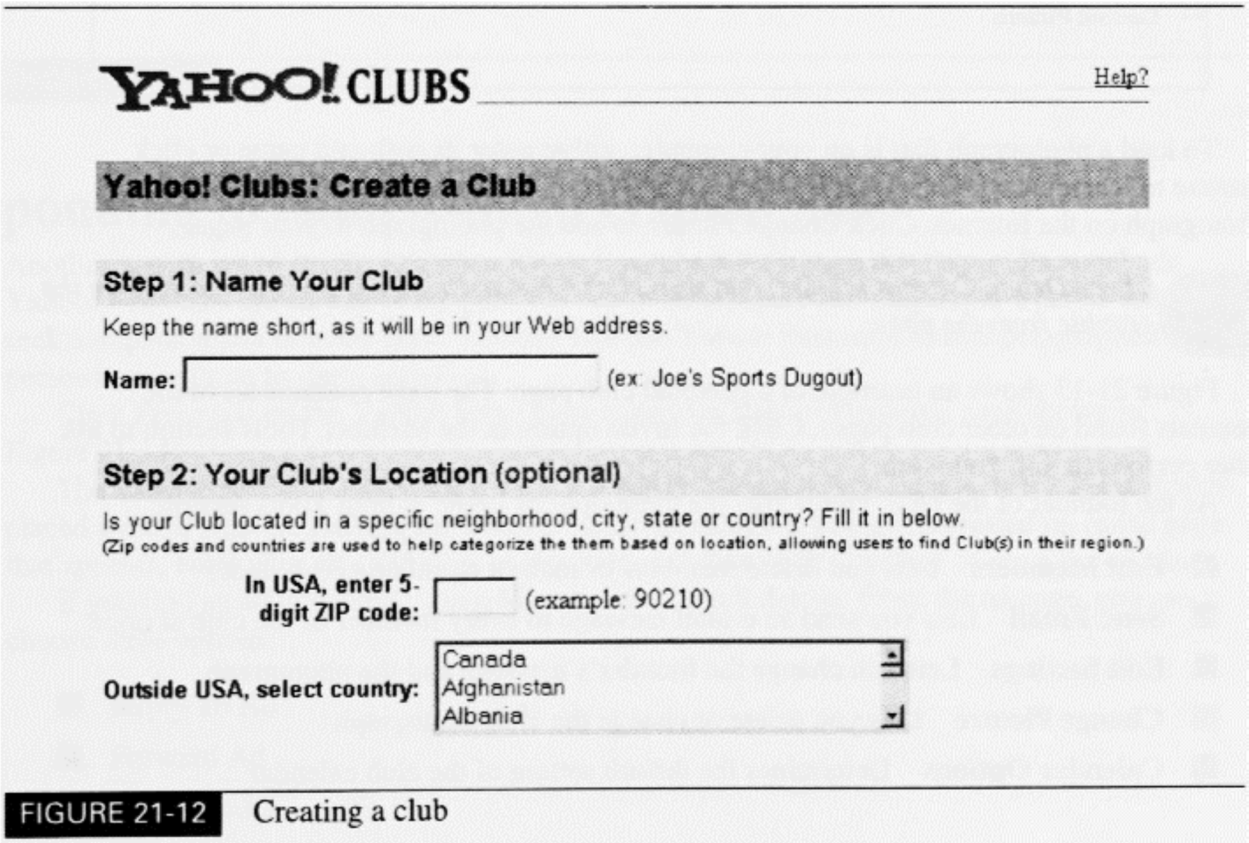


FIGURE 21-12 Creating a club

(Neibauer, p.481, Fig. 21-12.)

54. As shown in Figure 21-12 above, a club founder could specify a name for the new club, and optional zip code or country information. (Neibauer, p.481, ¶¶3-5.) The founder could also select whether the new club will be either "listed" or "unlisted." (Neibauer, p.481, ¶6; *see also* Neibauer, p.473.) "A listed club is one that is open to all Yahoo! members." (Neibauer, p.473.) The exemplary James Bond Series club, shown in Figure 21-8 above, is a listed club. (Neibauer, p.475, Fig. 21-8 (top right: "Club type: Liste[d]").) An unlisted club, on the other hand, "is private. Only Yahoo! members who were invited to join may join the club and be able to access it." (Neibauer, p.473; *see also id.*, p.475 ("You must be invited to join an unlisted club.").) "An unlisted club is ideal for sharing private information with family members or business associates." (Neibauer, p.473.)

55. The club founder could also specify additional content that will appear on the club page, such as a brief textual description that will appear under the club name, a short founder's message, a web address for the founder's personal home page, and a club picture. (Neibauer, p.482, ¶¶1-3.) For the club picture, the founder could either select a photo from their own computer, or include a link to a location of a photograph on the web. (Neibauer, p.482.) An exemplary "unlisted" club created using these techniques is shown in Neibauer's Figure 21-13 below:

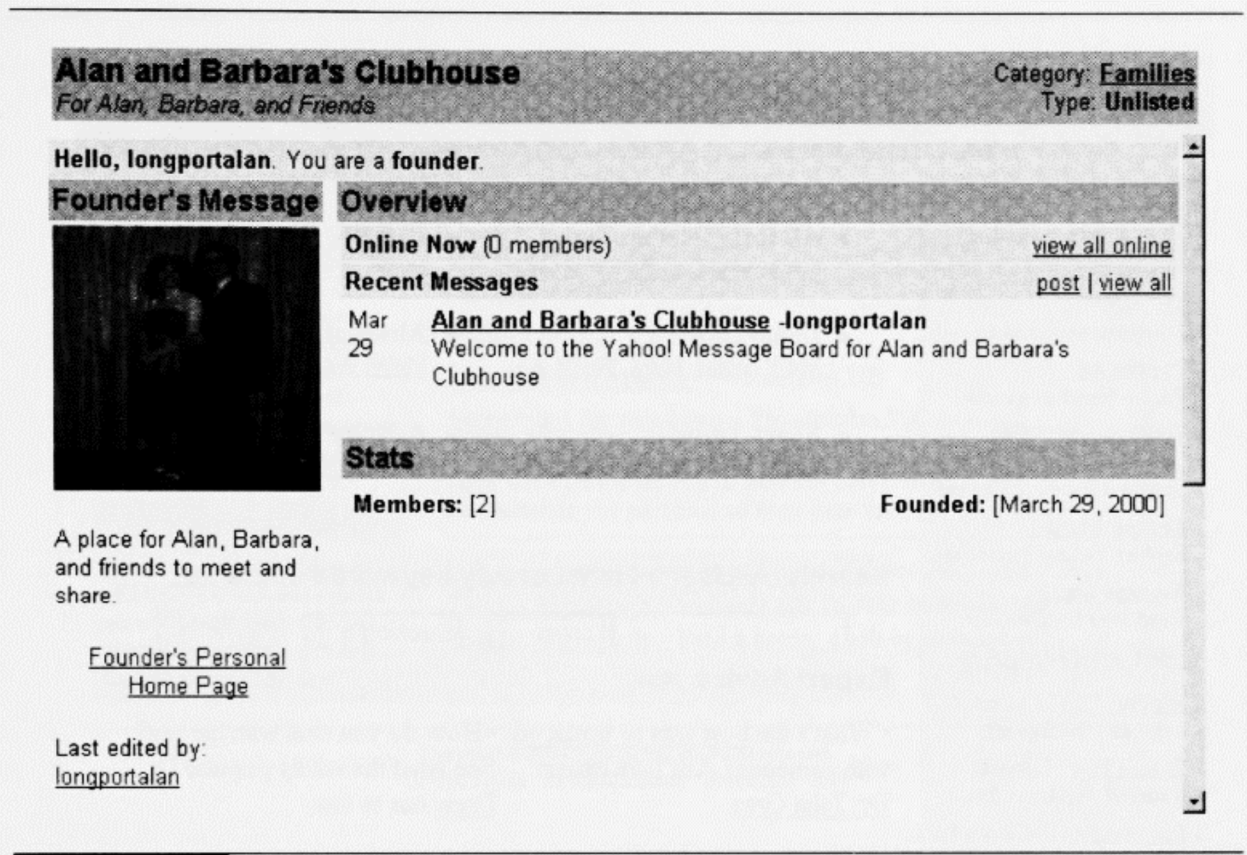


FIGURE 21-13 A Personal club

(Neibauer, p.483, Fig. 21-13.)

56. Neibauer explains that "Figure 21-13 shows an example of a personal club page. The page contains all of the elements found on other club pages. Click the Invite option in the Member Tools section to ask other persons to join your club." (Neibauer, p.482.)

57. Neibauer discloses several ways in which a club founder can manage the content of the club. Neibauer describes that "[a]s the club founder, you can invite others to join, delete members, control the contents of photo albums, and customize the photo and messages on the club's home page." (Neibauer, p.480.)

58. Neibauer also discusses Yahoo! Mobile and Yahoo! To Go, which enabled content from Yahoo! services to be provided to mobile devices such as pagers, cell phones, web phones, and personal digital assistants (PDAs). (Neibauer, pp.166-174.) "Yahoo! To Go lets you receive Yahoo! information on your mobile device." (Neibauer, p.167.) "The Yahoo! To Go option lets you set up your mobile device and Yahoo! so that they work together, as well as specify the content that will be sent to your device." (*Id.*) For example, one option referred to as "Yahoo! On Your PDA" allowed users of browser-enabled PDAs, such as Palm, Windows CE and smartphone devices, to select particular types of Yahoo! content accessible from their PDA. (Neibauer, pp.171-174.)[2]

[2] The term PDA, an acronym for **p**ersonal **d**igital **a**ssistant, was commonly used in the 1990s and early 2000s to refer to a handheld mobile device such as handheld personal computer, tablet, or smartphone that typically provided a touchscreen display or input device, and offered communications capabilities either through a wired telephone connection or a wireless modem. By the late 1990s, popular examples of PDAs included the "Palm Pilot" line of handheld devices sold by Palm Computing, Inc., and handheld computing devices designed to run Microsoft Windows CE, a version of the popular Windows operating system optimized for smaller mobile devices. By the mid-2000s, with the widespread

59. In the clubs setting, Neibauer describes a basic client-server infrastructure. Each club has its own message board and chat room, which would be hosted at the server. (Neibauer, p.473.) The server allows different client devices to communicate therewith so that users within given clubs can engage in various types of communication with each other including exchanging messages, chats, and photographs. (Neibauer, pp. 477.)

60. One example that Neibauer walks through is sharing photographs within a club. (Neibauer, p. 477.) A member of a club can upload a photo to the shared server space, which allows for 5 MB of photo storage across the club. (Neibauer, p. 477). While 5 MB of photographs is relatively small in today's market where substantially higher resolution photographs are taken by our smartphones, twenty-plus years ago meaningfully more photographs would be stored. As Neibauer shows, graphic images at that time were only a couple hundred KB – 5 MB = 5000 KB. (Neibauer, p. 477.)

61. To effectuate this exchange, a client device would have to have access to the club server and bi-directional communication would be required. A client

---

adoption and use of modern smartphones with touchscreen displays that incorporated many of the characteristics of earlier PDAs (as exemplified by the Apple iPhone introduced in 2007).

device could send files to the server – i.e., upload files – likewise the client device could receive files from the server – i.e., download files. Neibauer discusses several other features of the overall Yahoo! infrastructure that emphasize uploading and downloading between client devices and servers in ordinarily known architectures was well known. (*E.g.*, Neibauer, p. 116 (describing uploading a professionally designed Web site); p. 156 (describing the Briefcase where users can download from the internet shared documents up to 5 MB).)

62. Neibauer does not describe using a proxy server in its client-server infrastructure. As explained below with respect to Cheng, a possible configuration for Neibauer, especially in implementing Yahoo! To Go for PDAs, would have been using a proxy server to assure that the information displayed on PDAs would be formatted correctly for the device if, for instance, the server information was stored in a fashion to best facilitate communications with PCs (personal computers), which typically had and have different display capabilities than PDAs.

2. Miller (EX-1004)

63. Miller, WO 00/17775, is entitled "User-Defined Collaborative Environments." I am informed that Miller qualifies as prior art because it was published on March 30, 2000, which is before the earliest priority date of the challenged claims.

64. Miller discloses a system for allowing users to create collaborative web-based environments, which are similar to clubs as described in Neibauer. (Miller, Abstract, 0036:30-0037:12.) Miller's process for creating a new environment is also similar, in many ways, to the steps outlined in Neibauer. Miller discloses a number of web-based forms that allow the user to (among other things) specify a name and description for the environment (Fig. 13B) identify the members of the environment (Fig. 13C, 14A-C), and select the various communication features (e.g., bulletin board) that will be available for members (Fig. 16). (Miller, 0043:12-0044:27.) With respect to the selection of communications features, Miller explains:

> FIG. 16 shows one possible user interface for selecting communication tools to be made available to group members. This screen can be presented to the user creating the environment after the group has been identified and its members selected. It is contemplated that a variety of communication tools can be provided, including a bulletin board service; advertisements; white pages (e.g., a listing of members, their e-mail addresses, telephone numbers, and the like); yellow pages (e.g., a listing of services or companies represented by group members, with promotional and contact information); document security (e.g., shared access secure document storage services); anonymous e-mail (described above with respect to the first embodiment); threaded dialogs; a group newsletter creation tool; videoconferencing; and even

other user-provided applications that can be specified by name and location (e.g., URL).

(Miller, 0045:31-0046:9; *see also id.*, 0040:29-32 ("The group creator selects from among these functions, preferably by way of an easy-to-use web browser interface, and these choices are stored in a database and associated with the group members.").)

65. These selections are then used in creating the environment or group. (Miller, 0041:3-6 ("In step 1104, the environment is created… to permit the group members to activate the functions selected for the group.").)

3. Cheng (EX-1005)

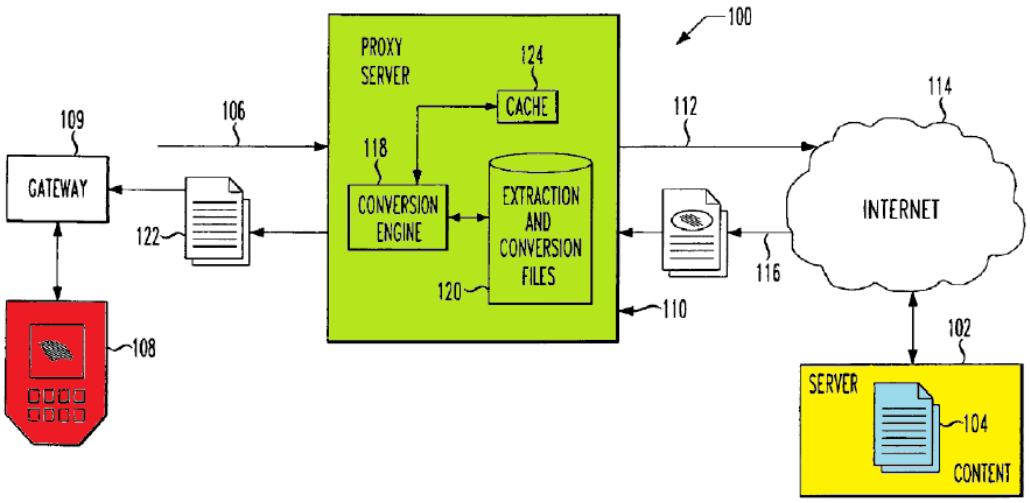
66. Cheng, U.S. Patent No. 7,574,486 B1, is entitled "Web Page Content Translator." I am informed that Cheng qualifies as prior art because it is a United States patent that issued from an application filed on November 8, 2000, which is before the earliest priority date of the challenged claims.

67. Cheng discloses a technique for translating the pages of existing websites into a format suitable for display on a mobile device. (Cheng, Abstract ("A system, method, and computer readable medium for reformatting web content into a format readable on one or more mobile devices is provided.").) Cheng explains that "[b]ecause of the explosion of mobile enterprise solutions, users of wireless devices now demand that businesses deliver web content for viewing on desktop, or mobile/portable (e.g., handheld) devices." (Cheng, 1:19-22.) Cheng

explains that this "generally required organizations to develop and maintain multiple sets of content, one for viewing in a desktop environment, and others for viewing on each individual type of mobile device." (Cheng, 1:28-32.)

68. To address this issue, Cheng discloses a system and method for dynamically reformatting or converting existing web content into a format suitable for a mobile device. (Cheng, *e.g.*, 2:19-32, 3:21-26.) Cheng's Figure 1 illustrates an architecture **100** of one embodiment of the system and method of Cheng:

FIG. 1



(Cheng, Fig. 1 (color annotation added).)

69. The right side of Cheng's Figure 1 above shows an origin web server **102** that contains original web page **104**. (Cheng, 3:36-37 ("In this context, an origin web server **102** is a web server that contains the original web page **104**.").) Web page **104** "is typically an HTML file with references to any component .wav, .mov, and/or Joint Photographic Experts Group (JPEG) files, which together

comprise the web page **104**." (Cheng, 4:10-13.) "It is envisioned that each instance of web content **104** each have associated therewith a URL." (Cheng, 3:56-57.) A POSITA would have recognized that Cheng's web page **104** could have been represented by any web page in HTML format reachable via the Internet.

70. Figure 1 shows mobile device **108** connected to proxy server **110**, optionally through gateway **109**. (Cheng, 3:33-36.) "Mobile devices **108** generally come in a variety of different sizes and have a variety of different screen interfaces… [T]he present invention provides the ability to uniquely tailor web page **104** content for specific mobile devices **108**." (Cheng, 5:11-15.) Cheng explains that, in one example, mobile device **108** could be a mobile device with a Palm operating system that includes a web browser. (Cheng, 5:17-23, 2:8-15.)

71. The middle of Figure 1 shows proxy server **110**. The term "proxy server" refers to a well-established and common technique for facilitating communication and/or interoperability between devices. The use of this technique was widespread long before Cheng. Proxy servers typically sit between one or more client and one or more server computers, and intercept and filter communications between them for a variety of purposes. For example, proxy servers were commonly used for security purposes to intercept and prevent unauthorized communications from or to client devices, and for format or content conversion purposes (commonly referred to as "transcoding"). (*See* Uwe

Hansmann et al., *Pervasive Computing Handbook* (2001) (**EX-1012**), p.35 ("A proxy server at AvantGo.com modifies the Web pages in a way that they can be displayed on Palm devices."), p.320, §14.3 ("Transcoding is a content adaptation technology, which tailors information for a specific device by transforming its format and representation."), p.321 ("Transcoding is typically done by a gateway or proxy, which intercepts the data exchange between the content server providing multimedia data and the client rendering the received information.").)

72. Cheng discloses a format conversion proxy server that translates web pages and requests between mobile device **108** and proxy server **110**. As Cheng explains, proxy server **110** "'sits' between the clients (e.g., the mobile device(s) **108**) and the origin web server(s) **102** that provide Web content **104**." (Cheng, 3:31-33.) Proxy server **110** "obtains the code (e.g., HTML) of the user requested web page **104**, and modifies it at the proxy server **110** (once obtained)," which can include "reformatting and/or converting an entire web site or request specific Web content that is needed from the origin web server **102**." (Cheng, 3:41-48.) Proxy server **110** can store a device profile for mobile device **108** based on the type of mobile device and its web browser. (Cheng, 5:20-23 ("To create a device profile, both the specific version of a mobile device **108** and its web browser (e.g., a Palm V with browser A, etc.) are needed.").) This is consistent with known proxy server techniques.

73. The operation of proxy server **110** is generally straightforward. As shown in Figure 1, mobile device **108** issues a request **106** for an original web page **104** using standard HyperText Transport Protocol (HTTP), as was well-known in the art, with the request **106** being received by proxy server **110**. (Cheng, Fig. 1, 2:19-21, 3:58-67, 7:65-8:2.) Cheng describes that "[u]pon determining that the requested page **104** resides at the server **102**, the proxy server **110** makes a request **112** for the page. As shown, the proxy server **110** and the server **102** are connected via a network **114** such as the Internet." (Cheng, 3:65-4:2; *see also id.*, 2:21-24.) Proxy server **110** then converts and/or reformats original web page **104** into reformatted web page **122** (shown in Figure 1), which is transmitted to mobile device **108**. (Cheng, *e.g.*, 2:24-29, 5:46-49, 4:56-60.) As Cheng describes: "[t]he designated HTML content of the retrieved web page **104** is extracted, subsequently and/or converted, and transmitted as a reformatted web page **122** to the mobile device **108**." (Cheng, 5:46-49; *see also id.*, 3:22-26 ("Referring now to FIG. 1, it is envisioned that a proxy server **110** reformats/converts web content **104** on an origin web server **102** into a format **122** readable on any mobile device **108** (which can be any number of different mobile device types).").)

74. Cheng explains that, by using the disclosed proxy server conversion method:

> Embodiments of the present invention contemplate that web-based content can be created one time, whereafter at least a portion thereof is extracted, reformatted, and transmitted to, for example, one or more handheld device browsers (e.g., the Palm Web Clipping Browser from Palm, Inc., Santa Clara, Calif., Pocket Internet Explorer from Microsoft Corp, Redmond, Wash., and Wireless Access Protocol (WAP) on smart phones, etc.). This create-once, deliver-everywhere approach eliminates the need to build and maintain separate web pages for different devices and browsers, as well as the need to install proprietary browser software on the handheld device(s).

(Cheng, 2:8-19.)

4. Squibbs (EX-1011)

75. Squibbs, U.S. Patent Application Publication No. 2001/0015759 A1, is entitled "Location-Informed Camera." I am informed that Squibbs qualifies as prior art because it is a United States patent application filed on February 21, 2001 and published on August 23, 2001, both dates being before the earliest priority date of the challenged claims.

76. My analysis of Squibbs primarily relates to limitations in independent claims 19 and 23, and dependent claim 20, relating to the integration into a mobile information channel of "*information associated with at least one wireless networking functionality of the mobile device*," in particular, information relating to the location of a mobile device.

77. Squibbs describes a technique of recording and displaying data (such as photos) along with the location where the photo was taken. (Squibbs, Abstract.) Squibbs explains that digital cameras that included Global Positioning System (GPS) receivers were known in the art, as were systems that could display the location where the photo was taken on an electronic map. (Squibbs, ¶¶0003-0004.)

78. Squibbs discloses a photo album system that allows a user to record digital images, which can be associated with the geographic location where they were taken. An overview of the system is shown in Figure 3:

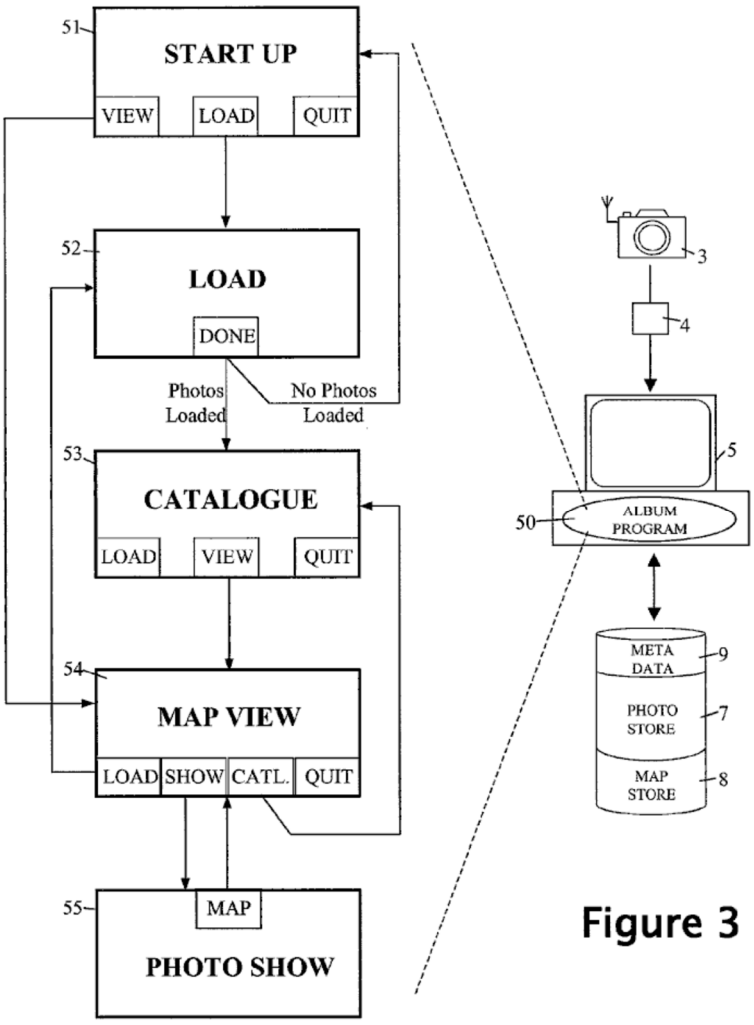


Figure 3

(Squibbs, Fig. 3.)

79. As further explained in Squibbs, with reference to Figure 3:

> FIG. 3 depicts a photo system in which a digital camera **3** provided with location determining means (such as a GPS receiver) is used to generate digital photos **4**, each photo (also referred to as 'image data') **4** being stamped with location data indicating where the photo was taken. Other data may also be associated with each photo, such as a timestamp, a camera ID, and a user ID; such associated data (including the location data) is herein referred to as photo meta data. The photos and their meta data are downloaded by any suitable means (USB connection, removable storage device, etc) into a PC **5** where an album program **50** serves to store the photos in a photo store **7** and the photo meta data in a meta-data database **9** (each photo and its meta data being linked by a suitable key associated with both). The album program also has access to a map store **8**. The stores **7** and **8** and the meta-data database can be on the PC or external.

(Squibbs, ¶0031.)

80. Squibbs also discloses an album program **50** as shown in Figure 3 that allows the user to "catalogue, manage, and view their photos through a map-based interface, the photos being represented on a displayed may by a marked indicating the location where they were taken." (Squibbs, ¶0032.) The album program as shown in Figure 3 comprises "five main operating modes **51** to **55**," as shown. (Squibbs, ¶0033.) For example, Load Mode **52** allows the user to download data

from camera **3**, and Catalog Mode **53** allows the user to manage newly loaded photos using a map based display, and Map View Mode **54** allows the use to browse the photo album and select photos for viewing. (Squibbs, ¶¶0033, 0035-0036.)

81. Figure 6 shows a display generated by the album program in Catalog Mode **53** (Squibbs, ¶0064.):

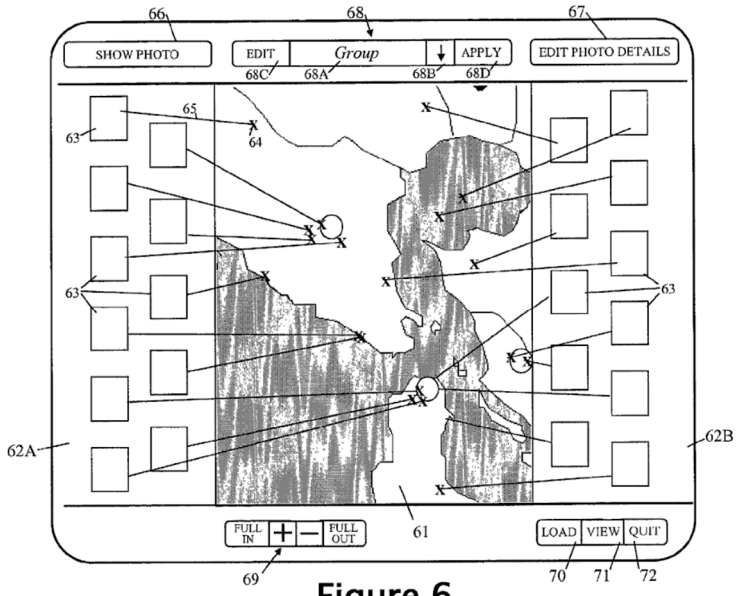


Figure 6

(Squibbs, Fig. 6.)

82. Figure 6 shows a central map area 61 which "is sufficient to encompass the locations registered for the newly loaded batch of photos." (Squibbs, ¶0064.) "A thumbnail **63** of each new photo is shown in one or other of the margin areas **62**A, B and a lead line **65** connects each thumbnail **63** to a corresponding marker 64 showing on the map the location where the photo was

taken." (Squibbs, ¶0064.) Figure 6 also shows an upper control bar with, from left-to-right, Show Photo Control **66** for displaying the photo corresponding to a selected thumbnail **63**, Group Control **68** for creating groups and assigning a photo to one or more groups, and Edit Photo Details Control **67** for displaying and editing the details of a selected thumbnail. (Squibbs, ¶¶0065-0068.) Figure 6 also "includes a zoom control **69** that enables a user to zoom in or out around a particular point on the displayed map." (Squibbs, ¶0071.)

83. Figure 7 shows a display generated by the album program in Map View **54** (Squibbs, ¶0074):

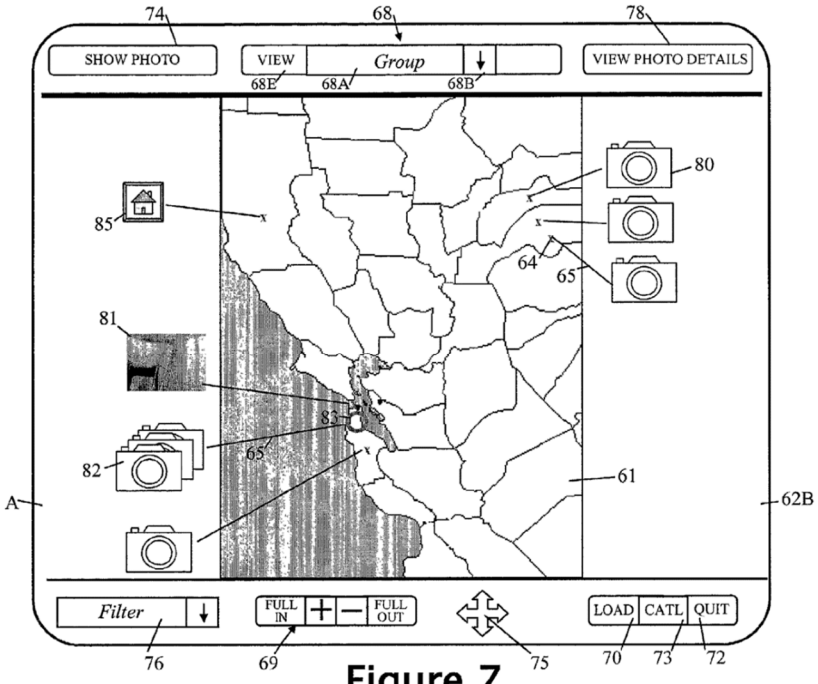


Figure 7

(Squibbs, Fig. 7.)

84. The Map View mode shown in Figure 7 allows a user to browse the album after it has finished editing the photo metadata and assigning the photos to groups. (Squibbs, ¶0074.) Squibbs explains that "[t]he starting map displayed in the Map View Mode is, for example, a world map or a map encompassing the locations of all the photos recorded in the album; alternatively, the map displayed could be the same map as being used in the Catalogue Mode before transiting to the Map View Mode." (Squibbs, ¶0075.) Figure 7 shows photos represented "either as thumbnails **81**, individual photo icons **80**, group icons (see current-abode group icon **85**), or concentration icons (see icon **82**)." (Squibbs, ¶0075.) Squibbs also discloses (in Figure 8) the ability to display a full-size image of a photo selected from the Map View Mode. (Squibbs, ¶0091, Fig. 8.)

85. Squibbs discloses a number of ways in which a photo can be associated with location data. In the example above shown in Figure 3, the digital camera itself has a built-in GPS receiver. In another embodiment shown in Figure 11, a digital camera **90** transmits the photo image data to a cell phone **20**, which in turn uploads the image data over a cellular connection to service system **40** for storage on network store **43**. (Squibbs, ¶0101, Fig. 11 (showing transfer **105**); *see also id.*, ¶0031 (noting that the photo store can be "external").) The cell phone, concurrently with the upload of photo image data, also transmits location information associated with the photo image data. (Squibbs, ¶0101.) Squibbs

explains that the cell phone can determine location information in a number of ways, including from "a location server of the mobile radio infrastructure," or using "a GPS system built into the cell phone." (Squibbs, ¶0098; *see also id.*, ¶0101.)

5. Motivation to Combine

86. **Motivation to Combine Neibauer and Miller:** As described below, it is my opinion that the claim language "*activation of a mobile information channel*" is disclosed by Neibauer, or rendered obvious by the disclosures of Neibauer, based on the plain and ordinary meaning of the term.

87. To the extent it is determined that the claims require that the first user select and activate a certain mobile information channel to be included with the club, i.e., selecting available features on a channel-by-channel basis, such a feature would have been obvious in view of Miller, which focuses on targeted communications within private network environments.

88. Neibauer and Miller would have been available to a POSITA because they are in the same field as each other and the same field as the '801 patent.

Likewise, they are both pertinent to problems described by the named inventors of the ’801 patent.[3]

89. The ’801 patent describes its “Field of the Invention” as relating generally to “network-based communication systems, and more particularly to techniques for information content management in such systems.” (’801 patent, 1:24-26.)

90. Neibauer relates to an application described for making “your presence known on the Web and [for staking] your claim on the Internet.” (Neibauer, p.116). Neibauer is focused throughout on communicating within a network, including the Internet.

91. Miller likewise teaches:

> In step 1103, the functions to be made available to the group are selected. For example, the group can be provided with access to an

[3] I understand that a reference qualifies as prior art for obviousness purposes when it is analogous to the claimed invention. The test for determining what art is analogous is: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

> auction transaction engine; a survey tool; research tools; newswires or news reports; publication tools; blackboard facilities; videoconferencing facilities; and bid-and-proposal packages. Further details of these facilities and tools are provided herein. The group creator selects from among these functions, preferably by way of an easy-to-use web browser interface, and these choices are stored in a database and associated with the group members. Additionally, the group creator can specify links to other web-based or network-based applications that are not included in the list by specifying a web site address, executable file location, or the like. The group creator can also define shared data libraries that will be accessible to group members.

(Miller, 0040:25-0041:2, Fig. 11.)

92. A POSITA would have been motivated to combine Neibauer with Miller's teachings of allowing a group creator to select specific features that are relevant to particular groups for a number of reasons. Miller expressly describes that there are efficiencies gained by having individual users define the features needed for their respective groups rather than having a central administrator:

> The process of creating a group and defining functions to be associated with the group can be performed by a user having access to the system without the need for system administrator or other similar special privileges (e.g., file protection privileges, adding/deleting application program privileges, etc.). In this respect, environments are, according to preferred embodiments, completely user-defined according to an easy-to-use set of browser- driven user input screens. The principles

> described herein are thus quite different from conventional systems in which a central system administrator in a local area network can define "groups" of e-mail participants, and can install application programs such as spreadsheets, word processing packages, and the like on each computer connected to the network.

(Miller, 0038:14-24.) Implementing Miller's communication techniques into Neibauer would have achieved these efficiencies.

93. Relatedly, a POSITA would have been motivated to adopt Miller's teachings in Neibauer as doing so would have led to the known benefit of conserving network resources—rather than making all possible functionality and all data available to each and every group, Miller teaches that the user may can specifically identify the functions and data that will be available to a group. Miller further teaches that, "after the environment is no longer needed, it can be destroyed by the person or entity that created the group" (Miller, 0041:25-26), consistent with the goal of making use of only those resources that are necessary.

94. A POSITA also would have been motivated to combine Neibauer and Miller to enhance the flexibility and customizability of Neibauer's Yahoo! clubs. For example, it would have been obvious that certain of Neibauer's Yahoo! club features may not have been useful or desirable for some clubs. As an example, a club created for the purpose of sharing written work may have had little or no use for the photo sharing feature. Allowing a club founder to select particular features

(e.g., message board, chat, photo sharing, etc.) would have a clear advantage in permitting the club founder to customize and streamline the club to meet club members' needs and purpose.

95. Indeed, network optimization would have been particularly useful in 2002, when bandwidth constraints were a known problem. (*See, e.g.*, EX-1027 (U.S. Patent No. 6,161,137, issued Dec. 12, 2000), Abstract ("In particular, the retrieval of presentation data depends upon the transmission characteristics of the network such as data transmission rate."), 6:9-13 ("Even with enhanced presentation data availability and distributed communications network (e.g. web) servers, there is still the possibility of data delays from a slow network server of a saturated communications network (e.g., Internet) service provider."), 5:36-39, 13:47-49, 23:26-28.)

96. In light of the above, it would have been obvious to combine Neibauer with Miller, predictably resulting in the method and system for creating a Yahoo! Club described in Neibauer, but with the "*interface*" further allowing the club creator ("*a first user*") to select and activate the particular communication features (including "*a mobile information channel*") that will be available in the club. In combination with Miller, therefore, the "*interface*" in Neibauer would permit the "*first user to control activation of a mobile information channel*," by selecting the mobile information channel(s) in the club.

97. For example, Neibauer's club creation form (Figure 21-12) would have been adapted in view of Miller to further display a list or other identification of the available features disclosed in Neibauer (e.g., club message board, chat, photo sharing, etc.) with a checkbox or other user interface control as disclosed in Miller. The club founder would, therefore, be able to select and activate the particular features for inclusion in the new club.

98. Combining Miller's teachings that a first user can select the features available to other users in the club or group would have been a straightforward use of a known technique (Miller's ability for a user to customize features) to improve similar systems (Neibauer's Yahoo! clubs) in the same way (allowing for customizability of clubs and also conserving network resources).

99. Neibauer and Miller each disclose similar functionality for managing information content accessible through a network, through a series of web-based information channels that provide the ability to exchange messages and collaborate among multiple users. As described above, Neibauer relates to Yahoo!, an internet service. In particular, Neibauer describes Yahoo! Clubs, which provided users the ability to create online communities through which users could share information. (EX-1003 (Neibauer), p. 473 (italics in original) ("[a] *club* is a group of Yahoo! members who share a common interest. Each club has its own message board, chat room, as well as places to share photographs, news, addresses, and links.").)

Yahoo! Clubs is a "network-based communication system," and Neibauer discloses how it concerns techniques for information content management within that system. Miller similarly discloses a system for allowing users to create collaborative web-based environments, which are similar to clubs as described in Neibauer. (Miller, Abstract, 0036:30-0037:12.)

100. Miller also discloses similar techniques for information content management within its system, disclosing a process for creating its environment through a number of web-based forms allowing a user to (among other things) specify a name and description for the environment and identify its members. (Miller, Figs. 13C, 14A-C; *see also id.*, 0045:31-0046:9 (describing functions including "access secure document storage services," "anonymous-email," "videoconferencing," etc.); *see also id.*, 0040:29-32 ("The group creator selects from among these functions, preferably by way of an easy-to-use web browser interface, and these choices are stored in a database and associated with the group members."); 0041:3-6 ("In step 1104, the environment is created… to permit the group members to activate the functions selected for the group.").)

101. A POSITA would have had a reasonable expectation of success in adapting Neibauer's disclosure to incorporate Miller's functionality into the features of Yahoo! Clubs described above, and the results of the combination would have been predictable. These features involve nothing more than

straightforward web programming techniques relying on standard technologies such as HTTP and HTML, and could have been implemented using off-the-shelf web browser and web server software. Notably, I do not contend that a POSITA would have replicated the entire Yahoo! service as disclosed in Neibauer, which included many features and functionalities outside the bounds of the challenged claims.

102. **Motivation to Combine Neibauer, Miller, and Cheng:** As described below, the '801 patent discloses that the recited "*mobile device*" includes a laptop computer, which was a well known mobile computing device at the time. As a result, Neibauer discloses Yahoo! clubs being used on a mobile device because Neibauer expressly discusses using clubs in a laptop environment. To the extent "*mobile device*" were construed in a manner that did not include laptop computers, it would have nonetheless been obvious to combine Neibauer and Miller with the teachings of Cheng, which expressly discloses providing content to various mobile devices that extend beyond laptops. (*See, e.g.*, Cheng, 1:42-44 ("It is a feature and advantage of the present invention to provide a system and method that dynamically extracts a portion of web content for viewing on mobile devices[.]").) Cheng identifies mobile devices such as devices from Palm and Microsoft as well as smart phones, which are the types of devices that Patent Owner accuses of infringing this patent in the District Court. (Cheng, 2:8-15.)

103. Like Neibauer and Miller, Cheng is an analogous reference in the field of network-based communications systems, including relating to making web-based information content available on mobile devices. As described above, Cheng discloses a technique for translating the pages of existing websites into a format suitable for display on a mobile device. (Cheng, Abstract ("A system, method, and computer readable medium for reformatting web content into a format readable on one or more mobile devices is provided.").) Cheng's system and method for dynamically reformatting or converting existing web content into a format suitable for a mobile device (*e.g.*, Cheng, 2:19-32, 3:21-26) is in the field of network-based systems and techniques for information content management within those systems as described by the '801 patent.

104. Cheng would also have been reasonably pertinent to problems facing the inventors of the '801 patent. This would have included implementing a web-based system for making information content available to mobile device users, which would have been pertinent to the issue of how to properly format and deliver web content to mobile devices.

105. A POSITA would have been motivated to combine Neibauer and Miller with Cheng's teachings to easily and effectively deliver content to a variety of mobile devices. Cheng itself motivates the combination, noting that, "[b]efore now, the solutions available for delivering web content to mobile devices generally

required organizations to develop and maintain multiple sets of content, one for viewing in a desktop environment, and others for viewing on each individual type of mobile device…. A need exists, therefore, for a standards based, create once, deliver everywhere approach to web enabling mobile devices." (Cheng, 1:28-38.) A POSITA implementing a system allowing for Yahoo! Clubs as disclosed in Neibauer would naturally have wanted to make the system accessible to as many devices as possible, including "*mobile devices*" (as Patent Owner has defined the term) which were already well-known by that time.

106. In light of the above, it would have been obvious to combine Neibauer, Miller, and Cheng, predictably resulting in the club creation functionality disclosed in Neibauer and Miller being delivered to all different forms of mobile devices over a network. The web pages in Neibauer discussed above, including the web-based club creation page and form, the club home page, and additional pages that provide the claimed *mobile information channels* (e.g., club message board, chat, photo sharing, etc.) would have been translated and delivered to mobile device users, via Cheng's proxy server conversion techniques.

107. The implementation would have been straightforward as Cheng provides "bolt-on" functionality, with the proxy server capable of converting and reformatting any existing HTML-based web page into a format suitable for display on a mobile device. (*See, e.g.*, Cheng, *e.g.*, 2:30-32 ("The [reformatting] may be

done for at least one of groups of devices, individual devices, web site-specific conversions, or for all web sites.").) It would have been obvious that the proxy server could have been operated by the same or a different entity from the operator of the origin web server.

108. As described in Neibauer, the basic client-server infrastructure that is proposed includes a remote server that interoperates with various clients. In this way clients talk to each other through the server. Likewise, clients can upload information onto the server that other clients can then download at any time. Cheng does not disturb this operability in any meaningful way. Instead, Cheng inserts "proxy" servers between the clients and the server to assure that data going in both directions is optimized for both the end server and the end client. Adding this functionality would have improved the system and would not have been difficult in 2002. (*See, e.g.*, EX-1034 (U.S. Patent No. 6,955,298, filed Dec. 27, 2001), Fig. 5, 7:57-8:28 (describing use of an HTTP proxy application), 6:42-48 ("The proxy application provides customers of the wireless service provider with quicker downloads of popular Web site content since that content can be stored on the Internet server. HTTP proxy application program 311 also handles the protocol required to access other Internet Web sites."); EX-1035 (U.S. Patent Pub. 2002/0102998, filed Nov. 20, 2001), ¶5 (regarding use of proxy server: "A benefit of using this architecture is the simplification of client devices and the ability of

browsing universal content on the World-Wide Web. Most of the complicated tasks have been put on the transcoding proxy server or even further pushed to the content server. Meanwhile, another advantage of using this technology is the automatic content adaptation to various client devices and access network bandwidth.").)

109. Each of the web-based features of Neibauer and Miller described above, including the club messages, club chat, and photograph sharing (i.e., *mobile information channels*) would have been delivered to mobile device users based on Cheng's proxy server techniques. As Cheng discloses the ability to adapt any existing webpage for display on a mobile device (Cheng, 2:8-19), this would have been implemented as a simple add-on to the overall system without having to change Neibauer's underlying functionality.

110. To the extent a laptop computer is not considered a "*mobile device*" under the claims of the '801 patent, a POSITA would have been motivated to adapt Neibauer's features for use on such a narrowed definition for "mobile devices." As noted in the summary above, Neibauer suggests the proposed combination by disclosing services such as "Yahoo! Mobile" and "Yahoo! To Go" that enable content from Yahoo! services to be provided to mobile devices such as pagers, cell phones, web phones, and personal digital assistants (PDAs). (Neibauer, pp.166-174.) Neibauer discloses: "Yahoo! To Go lets you receive Yahoo! information on

your mobile device." (Neibauer, p.167.) It further describes that "[t]he Yahoo! To Go option lets you set up your mobile device and Yahoo! so that they work together, as well as specify the content that will be sent to your device." (*Id.*) For example, one option referred to as "Yahoo! On Your PDA" allowed users of browser-enabled PDAs, such as Palm, Windows CE and smartphone devices, to select particular types of Yahoo! content accessible from their PDA. (Neibauer, pp.171-174.)

111. Cheng explains that as of November 2000, "users of wireless devices now demand that businesses deliver web content for viewing on desktop, or mobile/portable (e.g., handheld) devices." (Cheng, 1:19-22.) In a client-server combination utilizing Cheng's proxy servers, handheld devices would have been particularly advantageous considering the proxy servers of Cheng include specific implementations for assuring the end server can communicate efficiently and effectively with different classes of devices, especially handhelds.

112. Cheng confirms that non-laptop mobile devices were being widely adopted and a POSITA would have been motivated to run networking applications such as Neibauer's clubs on such things as smartphones and other non-laptop devices that were common at the time.

113. The '801 patent Background admits that "[o]ne of the most rapidly expanding aspects of wireless networking involves the accessing of information

content over wireless networks via web-enabled mobile devices," such as "mobile telephones, personal digital assistants (PDAs), palmtop computers, etc." (EX-1001, 1:30-34.) It also admits that it was "well-known" that mobile devices "not only provide access to the Internet, but can also be used to support other types of wireless networking functionality, such as messaging, distributed collaboration, and location-based services." (EX-1001, 1:34-39.)

114. Market forces would thus have motivated a POSITA to combine Neibauer with Cheng to implement Neibauer's and Miller's functionalities as described above, so they could be made available to non-laptop mobile device users. This would have advantageously expanded the potential audience for those features beyond traditional desktop computers, and would have improved user experience by allowing the club founder and club members to utilize club features from multiple different physical locations.

115. Cheng provides further motivation to combine by explaining that getting network based web content to non-laptop devices such as smartphones can be easily implemented without experimentation using what Cheng calls a proxy server conversion method:

> [W]eb-based content can be created one time, whereafter at least a portion thereof is extracted, reformatted, and transmitted to, for example, one or more handheld device browsers (e.g., the Palm Web Clipping Browser from Palm, Inc., Santa Clara, Calif., Pocket Internet

> Explorer from Microsoft Corp, Redmond, Wash., and Wireless Access Protocol (WAP) on smart phones, etc.). This create-once, deliver-everywhere approach eliminates the need to build and maintain separate web pages for different devices and browsers, as well as the need to install proprietary browser software on the handheld device(s).

(Cheng, 2:8-19.)

116. Proxy server techniques such as disclosed by Cheng had already been commercially deployed for the very purpose of converting web page content into a format suitable for other types of devices, including mobile devices. The benefits of this approach were well-known and succinctly explained in Uwe Hansmann et al., *Pervasive Computing Handbook* (2001) (**EX-1012**), p.320. In explaining the purpose of content adaptation technologies, Hansmann explains:

> The purpose is obvious: When providers deliver content to various pervasive clients, they need to accommodate device specific constraints such as limited memory, slow data transmission, and small screens. Transcoding automatically translates content into different representations for each class of receiving client systems. This simplifies authoring, deployment, and maintenance dramatically! An arbitrary multimedia web page can be provided to Internet TVs, handhelds, and WAP phones without change.

(*Id.*, §14.3, p.320; *see also id.*, at p.321 ("Transcoding is typically done by a gateway or proxy, which intercepts the data exchange between the content server providing multimedia data and the client rendering the received information….").)

117. Cheng's techniques would have provided a distinct technological advantage by allowing Neibauer's club system to be delivered to mobile devices by converting web pages provided via Neibauer and Miller, thus obviating the need for the Yahoo! server to generate multiple different versions of those web pages (including potentially multiple mobile versions based on different mobile device and browser types), thus making it considerably simpler to provide club functionality to the web browsers of mobile devices. This would also have eased implementation of the proposed combination by minimizing or eliminating the need to modify the functionality of the base Neibauer system, as the adaptations needed to convert Neibauer's web pages for use on additional types of mobile devices would have been handled by Cheng's proxy server techniques.

118. A POSITA would have recognized Cheng's proxy server techniques as one of a finite number of existing techniques for seamlessly converting existing web-based content into a format suitable for mobile devices. As set forth above, a POSITA would have been motivated to utilize Cheng's techniques.

119. A POSITA would also have had a reasonable expectation of success. Cheng discloses known techniques for converting HTML documents into formats suitable for wireless mobile devices. Wireless web browsing was well-known as evidenced by the existence of industry-standard technologies such as Wireless Application Protocol (WAP) and the Wireless Markup Language (WML), an

XML-based markup language for describing pages for viewing on mobile devices. Proxy server techniques, as explained previously, were also well-known and commercially available. A POSITA would have found the disclosures of Neibauer, Miller, and Cheng sufficiently detailed to implement the techniques on which I rely, without undue experimentation.

120. **Motivation to Combine Neibauer, Miller, Cheng, and Squibbs:** It would have been obvious to combine Neibauer, Miller and Cheng with Squibbs, predictably resulting in the system and method for creating a Yahoo! club described in Neibauer as described above, but with the claimed "*mobile information channel*" integrating "*information associated with at least wireless networking functionality of at least one wireless network*," i.e., the location information associated with a photo taken and uploaded by a club member. For example, under the proposed combination, when a club member uploads a photo to a club using the photo sharing feature in Neibauer, the mobile device would not only upload the photo image data but also would have transmitted geographic location associated with the photo.[4]

[4] Squibbs discloses a digital camera that is separate from a cellular phone used to upload photo image data. (Squibbs, Fig. 11, ¶0101.) I note that the ability to incorporate digital cameras into mobile devices with GPS capabilities was

121. Claim 1 does not recite any specifics for how "*integrating*" wireless network functionality information into a mobile information channel must take place, but under the proposed combination, it would have been obvious to adapt the photo sharing feature described in Neibauer to also display location information associated with photos uploaded by club members, for example, via a map-based user interface similar to the one described in Figures 6-7 of Squibbs discussed above. Under the proposed combination, therefore, the club photo sharing feature as described in Neibauer would have been further adapted to display location information (for example on an electronic map), in association with the photos. This would have been seen as a natural extension of the features already disclosed in Neibauer. For example, Neibauer expressly discloses Yahoo! Maps, a service for providing users with electronic maps based on a user-specified location, and for obtaining driving directions. (Neibauer, pp.222-224, 229-232.)

---

already known in the art. (*See* EX1006 (Ausems), 5:11-23 ("… PDA telephone **100** may include… a camera **190**… Camera **190** records video images and stores them within."), 5:37-44 ("… PDA telephone **100** includes a Global Positioning System (GPS) receiver/engine….").) It therefore would have been obvious to incorporate the digital camera functionality described in Squibbs into the mobile device used to upload the image data.

122. Squibbs is an analogous reference in the same field as the ’801 patent that discloses similar functionality for managing information with wireless networking capabilities, such as location information. Squibbs would also have been reasonably pertinent to problems facing the patent inventors, including how to obtain location information and incorporate that information into a mobile information channel – a feature of the alleged invention. (’801 patent, 6:2-8.)

123. A POSITA would have been motivated to combine in order to improve the experience of club members who use the club photo sharing feature described in Neibauer. The ability to associate a location with a digital photo would have provided a clear benefit to the club photo sharing feature of Neibauer by improving the classification and enjoyment of uploaded photos.

124. Squibbs itself explains that classification of photos “has long been a problem due to the effort involved in maintaining any organisation of the photos.” (Squibbs, ¶0002.) Geographic location information would not only have provided a clear way to classify digital photos, but the location would have allowed club members to better understand the context behind the photo. The location information would also have provided a valuable tool for identification of objects in the photo; for example, a club member might mistakenly believe a particular photo of the Statue of Liberty was taken in New York when it was actually taken

from one of the versions of that statute in Paris, France, and location-information provided with the photo could have clarified that point for the user.

125. Neibauer provides a further express motivation to combine with Squibbs by disclosing a Yahoo! Maps feature that allows users to request and obtain electronic maps. (Neibauer, pp.222-224.) Neibauer further describes how a user can annotate a map to identify objects of interest on the map, such as the user's house and the location of an upcoming picnic. (Neibauer, pp.226-228, Fig. 10-5 (showing "My House" and "The picnic is here").) The annotation described in Neibauer is similar to the thumbnail view in Squibbs, as discussed above. In any case, the fact that Neibauer already discloses the ability to display electronic maps, and suggests annotating those maps to show the location of events, confirms that Neibauer and Squibbs are naturally combinable, and that a POSITA would have been motivated to do so.

126. As explained above, Cheng is particularly focused on motivating a POSITA to incorporate handheld devices into server-client systems like the applications taught by Neibauer. Cheng discloses various generic handheld devices that might be used including smartphones and PDAs. Squibbs merely describes a class of PDA that was becoming popular at the time – a PDA with an embedded camera so that the user could snap digital photos wherever they were. A POSITA would have been motivated to include this functionality into handhelds considering

it gives the user this picture taking capability, which would otherwise require a separate camera and the need to later transfer pictures from the camera to a network-enabled device.

127. A POSITA would also have had a reasonable expectation of success. Squibbs explains that, even prior to Squibbs, the ability to determine current location (via GPS or mobile radio infrastructure) was known, as was the ability to associate and display location information with photos. (Squibbs, ¶¶0003-0005, 0098, 0142.) The user interface techniques described in Squibbs for presenting a map-based display of photos would have involved conventional programming techniques. A POSITA would have found the disclosures of Squibbs sufficiently detailed to implement the techniques on which I rely, without undue experimentation.

6. Independent Claim 1

a. Preamble [1P]

[1P] A method comprising:

128. Assuming the preamble of claim 1 is limiting, it is my opinion that it is disclosed and rendered obvious by the prior art. The prior art discloses a "*method*" with the steps discussed below.

b. Limitation [1A]

[1A] providing an interface permitting a first user to control activation of a mobile information channel through which the first user can share access to content with a plurality of additional users;

129. As discussed above (§ IV.A.1, *supra*), Neibauer discloses features of the Yahoo! online service. (Neibauer, pp.473-483.) The Yahoo! online service included a feature known as Yahoo! Clubs. (*Id.*) As Neibauer explains, "[a] *club* is a group of Yahoo! members who share a common interest. Each club has its own message board, chat room, as well as places to share photographs, news, addresses, and links." (Neibauer, p.473 (italics in original).) Yahoo! members could also create their own clubs. (Neibauer, pp.480-82.) For example, a member could click "Create Club" to cause a web-based form to appear asking for information about the new club. (Neibauer, p.480-81.)

130. Neibauer discloses "*providing an interface*" in the form of a web-based interface that allows a club founder ("*a first user*") to create a new club. By creating that club, as further discussed below, the club founder "*control[s] activation of a mobile information channel through which the user can share access to content with a plurality of additional users*," because the club when created will include mobile information channels, e.g., features including a club message board, photo sharing album, club chat, etc., that allow club members to share information with each other via their respective mobile devices.

131. More specifically, a member can click "**Create Club**" to cause a web-based form to appear asking for information about the new club. (Neibauer, p.481.)

> **Creating a Club**
>
> If you cannot find a club where your interests are discussed or you want to share information privately by means of a club, create your own club. As the club founder, you can invite others to join, delete members, control the contents of photo albums, and customize the photo and messages on the club's home page.
>
> To create a club, follow these steps:
>
> **1.** Navigate to the category in which you want the club to be listed.
>
> **2.** Click Create Club.
>
> **3.** In the form that appears, choose the identity you want to use as the club founder and Click Here to Continue. You see the form shown in Figure 21-12.
>
> **4.** Enter a name for the club.
>
> **5.** Optionally, enter your zip code. Choose the country if you are outside of the United States.
>
> **6.** Choose to create a Listed or Unlisted Club.
>
> **7.** Click Yes! I Accept.
>
> You'll see a page that tells you the club has been created. The page shows the club name and its Web address.

(Neibauer, pp.480-481 (bold in original; underlining added).)

132. Neibauer's step 3 references a form shown at Figure 21-12, shown below:

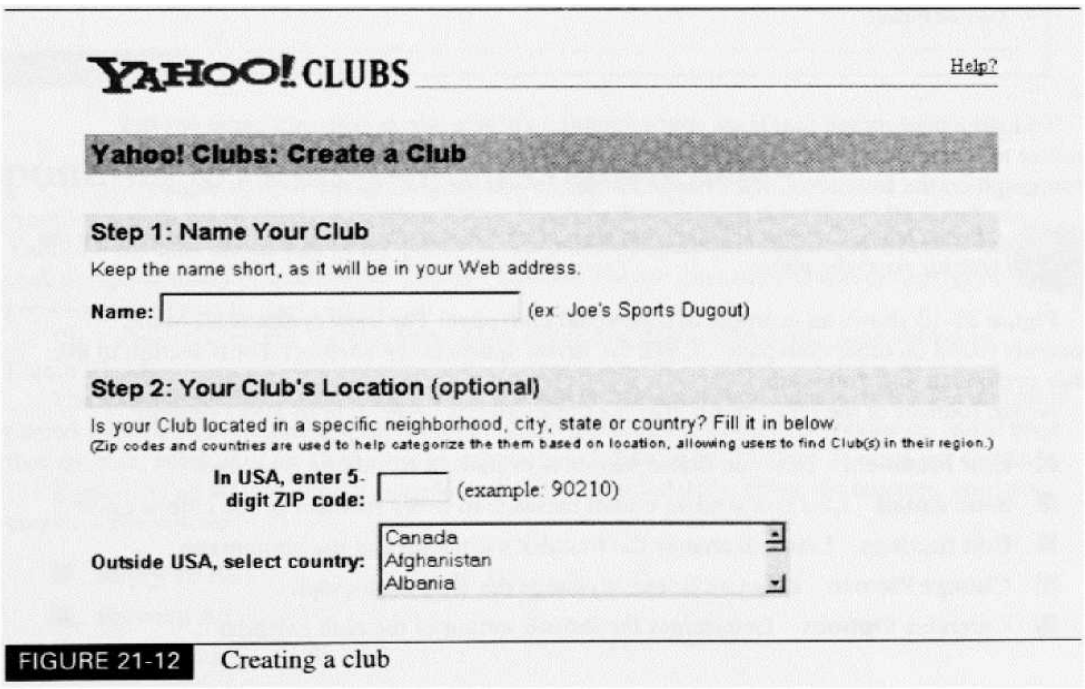


FIGURE 21-12 Creating a club

(Neibauer, p.481, Fig. 21-12.)

133. The form shown in Figure 21-12, as discussed, allows the club founder to specify a name for the new club, and optional zip code or country information. (Neibauer, p.481, ¶¶3-5.) Although not shown in the portion of the form in Figure 21-12, as noted in the textual description of the form reproduced above, the form also allows the founder to also select whether the new club will be "listed" or "unlisted." (Neibauer, p.482, ¶6.) An unlisted club "is private. Only Yahoo! members who were invited to join may join the club and be able to access it." (Neibauer, p.473; *see also id.*, p.475 ("You must be invited to join an unlisted club.").) "An unlisted club is ideal for sharing private information with family members or business associates." (Neibauer, p.473.) After the user selects between

a listed or unlisted club, and then clicks "**Yes! I Accept**," as Neibauer explains: "You'll see a page that tells you the club has been created. The page shows the club name and its Web address." (Neibauer, p.481.)

134. The claimed "*interface*" in Neibauer thus takes the form of a web-based interface for creating a new club. The interface in Neibauer also permits the club founder "*to control activation of a mobile information channel through which the user can share access to content with a plurality of additional users*." Neibauer discloses at least three features of a club, each feature independently qualifying as "*a mobile information channel*."

135. **Club Messages:** Neibauer explains that every club will include a private message board, as shown in the exemplary unlisted club in Figure 21-13 above. Neibauer describes that "[a] message board can be compared to a bulletin board on an office wall. It's a place to leave messages to others and to read their replies." (Neibauer, p.468.) Neibauer explains:

> **Club Messages**
>
> Every club has its own private message board. Recent messages posted to the board are shown on the club's home page. Click Post on the Recent Messages banner to add your own comment to the board, or click View All or Messages in the Our Pages section to access the entire board.

> Post a message on a club message board just as you learned to do on Yahoo! Message boards earlier in this chapter in the section "Accessing Message Boards."

(Neibauer, p.477 (bold in original); *see also id.*, pp.469-471 ("Accessing Message Boards" section describing process for posting a new message).)

136. **Club Chat:** Neibauer discloses a chat feature that allows users to engage in real-time messaging communications, which is another example of a *mobile information channel*. Neibauer explains:

> **Club Chat**
>
> The Chat option in the Our Pages section opens a private chat area for club members. There is also a Chat section on the page that lists the members who are currently chatting. Click on the Chat section header to enter the Chat.

(Neibauer, p.479 (bold in original).)

137. **Sharing Photographs:** Neibauer discloses a photo sharing feature that allows club members to share photos and other graphics, which is yet another example of a *mobile information channel*. Neibauer explains:

> **Sharing Photographs**
>
> The Photos option in the Our Pages section lets members share photographs and other graphics. Each club is given 5 MB of space to store photographs. The photos are organized into up to 30 albums, each with no more than 24 photos.

> There are two types of albums: group and personal. Any member can place a photo in a group album and delete photos that he or she added as well. Only the creator of a personal album can add or delete photographs.

(Neibauer, p.477 (bold in original).) In order to add a photograph to an album, the user identifies the location of the photo and enters a name and description of the photo that will be uploaded. (Neibauer, p.478, ¶¶2-3.)

138. Each of these features of a club discloses a mobile information channel "*through which the first user can share access to content with a plurality of additional users*," because these features could be used by the club founder for sending and receiving messages such as club message board or chat messages, or photographs with accompanying textual names and descriptions ("*share access to content*"), to and from other club members ("*a plurality of additional users*").

139. Neibauer's disclosures are also consistent with the description of exemplary "*mobile information channels*" in the specification of the '801 patent. The '801 patent explains:

> The content management site permits the user to enter information in accordance with a specified format comprising a plurality of selectable mobile information channels each corresponding to an information category. The mobile information channels are also referred to as 'M-channels' herein….

('801 patent, 5:25-29.)

140. The ’801 patent further states:

> [T]he M-channels allow unsophisticated users to easily and efficiently author message data or other types of information content to be made accessible via a collaborative workspace, a data mailbox, a collaborative community, or other type of mobile site or portion thereof generated or otherwise managed in the system **10**.

(’801 patent, 8:17-23.)

141. The ’801 patent expressly identifies, as examples of *mobile information channels*, “discussion forum,” “chat,” and “photo blog” (’801 patent, 8:34-44), which mirror the Yahoo! club message board, chat, and photo sharing features, respectively, described in Neibauer.

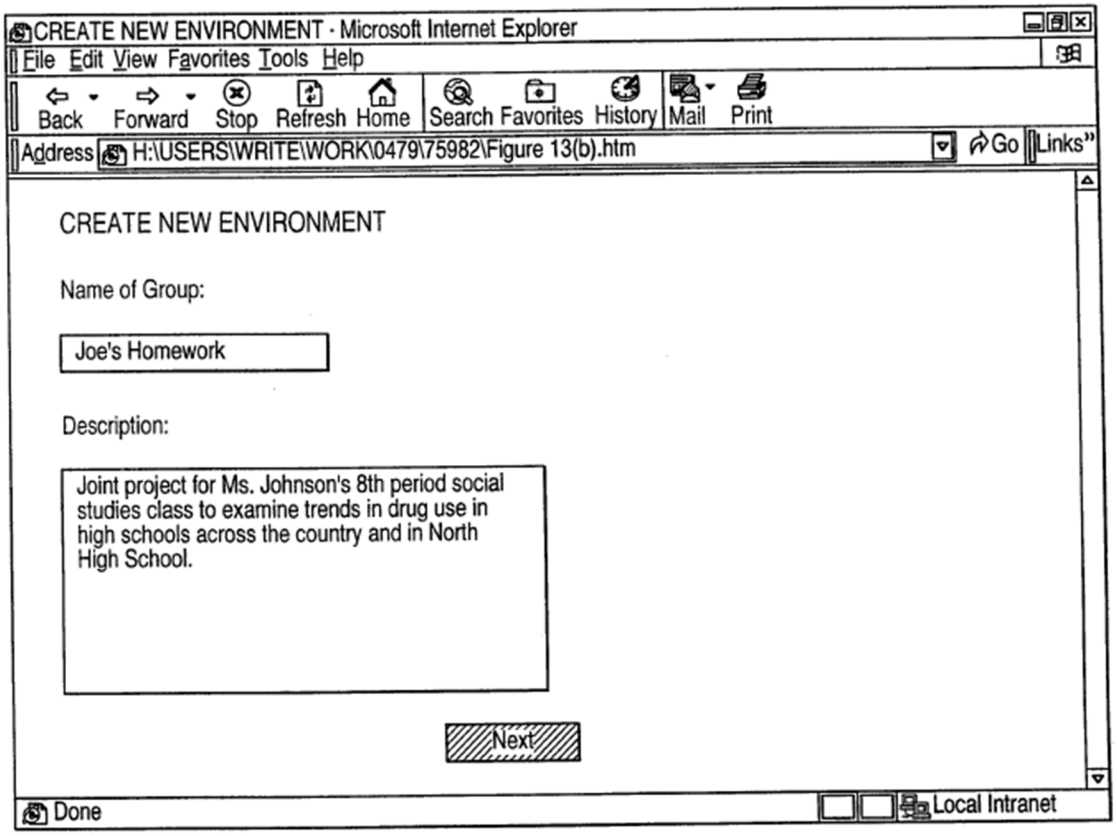
142. The club founder in Neibauer can also “*control activation*” of the above mobile information channels via the “*interface*.” As noted previously, after the founder makes the required selections for the club and clicks “**Yes! I Accept**” on the club creation form, the founder will “see a page that tells [them] the club has been created. The page shows the club name and its Web address.” (Neibauer, p.482.) The founder therefore activates each *mobile information channel* by creating a new club. This action, which takes place using the club-creation web form (“*the interface*”), activates the given mobile information channel (e.g., club message board, chat, photo sharing) by making it available for use by the founder and other club members.

143. In Neibauer, the claimed activation occurs when the club founder takes action to create the club using the form (as shown in Figure 21-12), which results in the availability of the club and its mobile information channels (e.g., club message board, chat, photo sharing) to the club founder and other members. However, if "*to control activation of a mobile information channel*" requires that the first user select a certain mobile information channel to be included with the club, i.e., selecting available features on a channel-by-channel basis, such a feature would have been obvious in view of Miller (EX-1005).

144. Miller's system is similar to Neibauer. Miller discloses a means for users to create collaborative web-based environments. (Miller, Abstract, 0036:30-0037:12.) Miller's disclosed process of creating a new web-based environment is similar to Neibauer's process of creating a club, as discussed above. Miller discloses web-based forms that allow the user to (among other things):

- specify a name and description for the new environment, *see* Fig. 13B:

. 13B



(Miller, Fig. 13B; *see also id.*, 0043:12-15 ("In FIG. 13B, the user is prompted to create a new group by supplying a group name (e.g., "Joe's Homework") and a brief description of the group. This information is preferably stored in a database file and associated with group members and functions available to those group members").

- identify the members of the environment, *see* Fig. 13C, 14A-C:

FIG. 13C

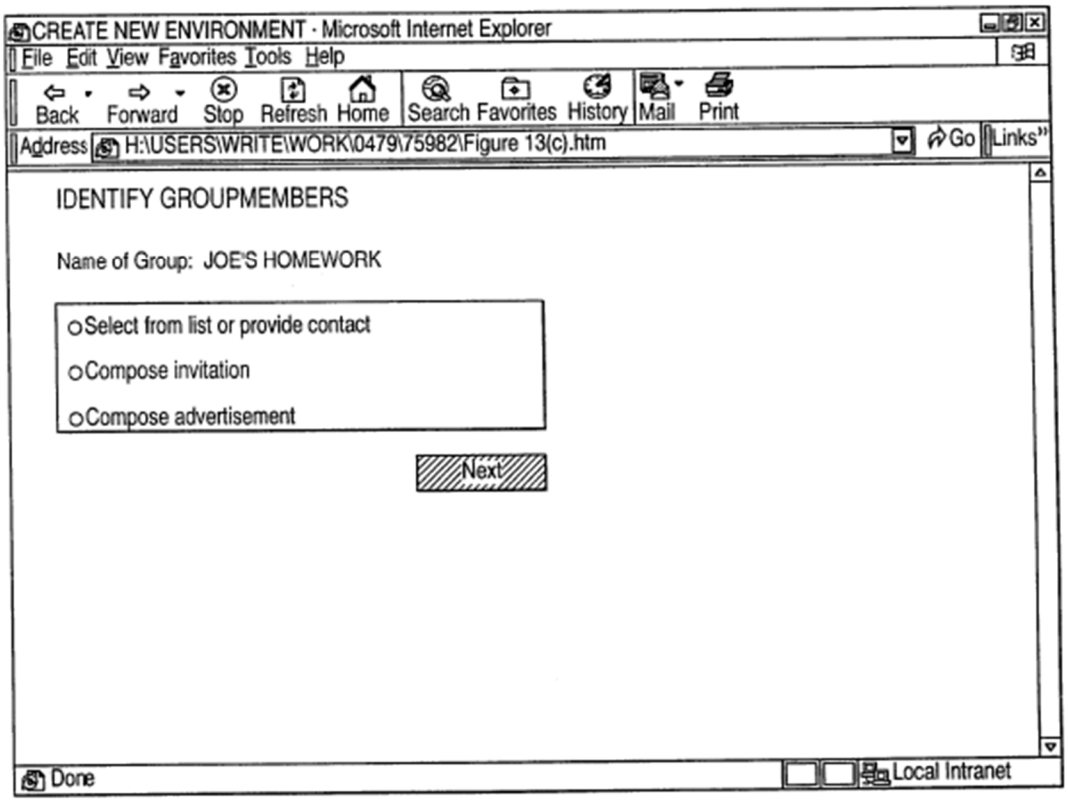
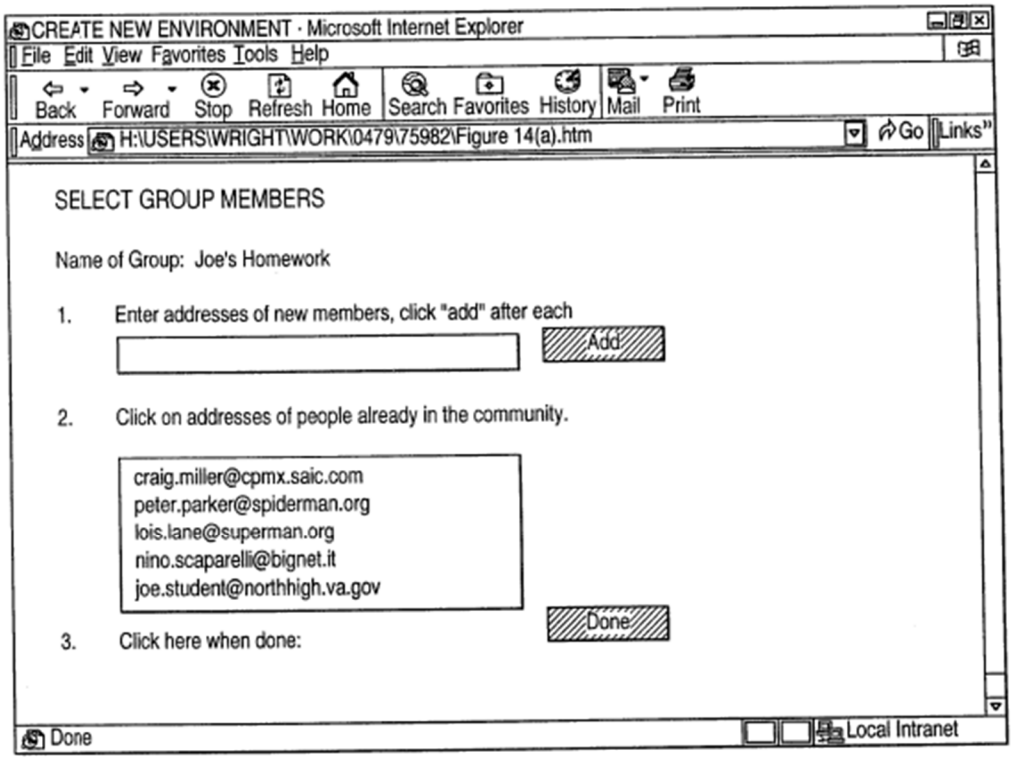
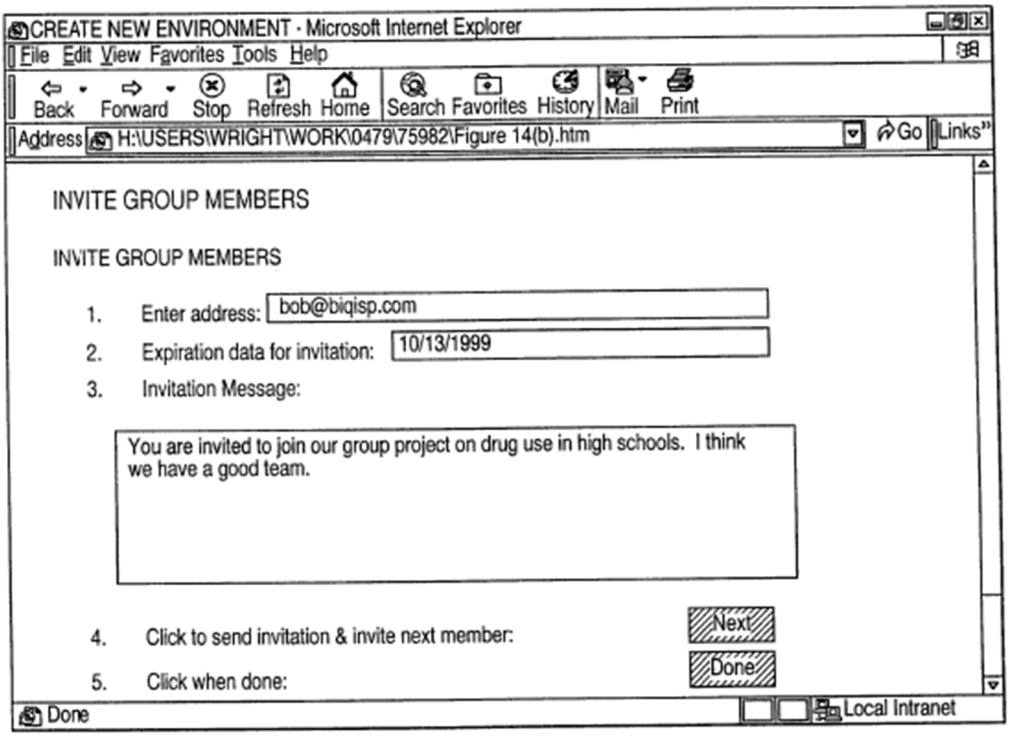

CREATE NEW ENVIRONMENT - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print
Address H:\USERS\WRITE\WORK\0479\75982\Figure 13(c).htm
Go Links"
IDENTIFY GROUPMEMBERS
Name of Group: JOE'S HOMEWORK
Select from list or provide contact
Compose invitation
Compose advertisement
Next
Done
Local Intranet

FIG. 14A


CREATE NEW ENVIRONMENT · Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print
Address H:\USERS\WRIGHT\WORK\0479\75982\Figure 14(a).htm
Go Links"
SELECT GROUP MEMBERS
Name of Group: Joe's Homework
1. Enter addresses of new members, click "add" after each
Add
2. Click on addresses of people already in the community.
craig.miller@cpmx.saic.com
peter.parker@spiderman.org
lois.lane@superman.org
nino.scaparelli@bignet.it
joe.student@northhigh.va.gov
3. Click here when done:
Done
Done
Local Intranet

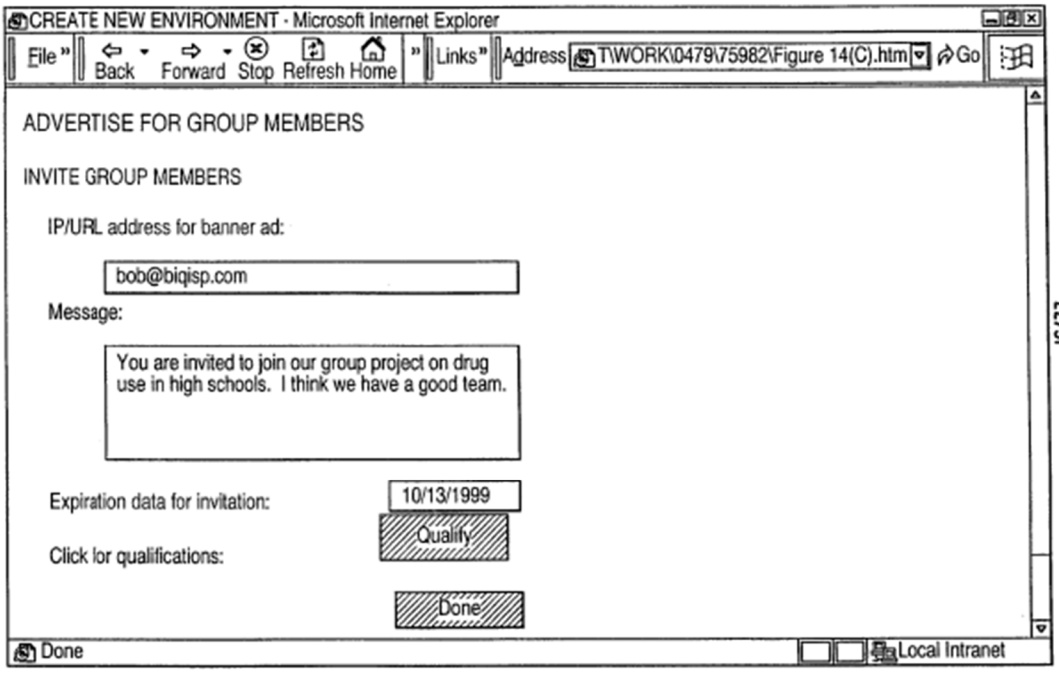
20/31

FIG. 14B



21/31

FIG. 14C

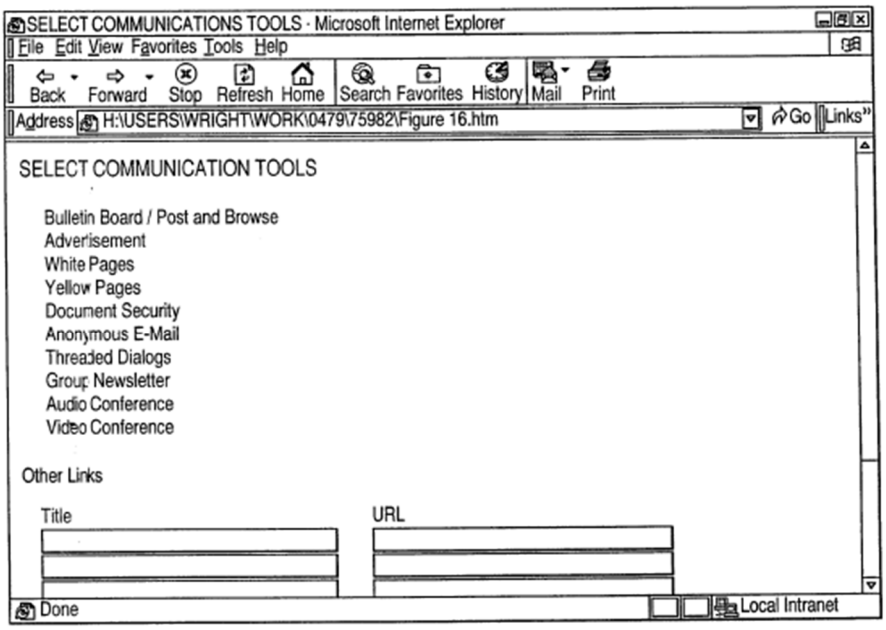


22/31

(Miller, Figs. 13C, 14A-C; *see also id.*, 0043:16-30 ("In FIG. 13C, the user is prompted to identify group members…").)

- select the communication features (*e.g.* bulletin board, advertisement, audio conference, video conference, etc.) that will be available to members, *see* Fig. 16:

FIG. 16



(Miller, Fig. 16.)

145. Miller further explains with reference to Figure 16, which pertains to the user's ability to select the available communication features:

> FIG. 16 shows one possible user interface for selecting communication tools to be made available to group members. This screen can be presented to the user creating the environment after the group has been identified and its members selected. It is contemplated that a variety of

> communication tools can be provided, including a bulletin board service; advertisements; white pages (e.g., a listing of members, their e-mail addresses, telephone numbers, and the like); yellow pages (e.g., a listing of services or companies represented by group members, with promotional and contact information); document security (e.g., shared access secure document storage services); anonymous e-mail (described above with respect to the first embodiment); threaded dialogs; a group newsletter creation tool; videoconferencing; and even other user-provided applications that can be specified by name and location (e.g., URL).

(Miller, 0045:31-0046:9; *see also id.*, 0042:29-32 ("The group creator selects from among these functions, preferably by way of an easy-to-use web browser interface, and these choices are stored in a database and associated with the group members.").) These selections are then used in creating the environment. (Miller, 0041:3-6 ("In step 1104, the environment is created… to permit the group members to activate the functions selected for the group.").)

146. **Addressing Proposed Constructions in Co-Pending Proceedings:** As noted above, I understand that Patent Owner, in the Meta-MDT-IPR, has argued that "*mobile information channel*" should be construed to mean "a component of a mobile site configured to permit a wide variety of mobile devices to send and receive content over a wireless network." (EX-1030, 21-22.)

147. Relatedly, I understand that Patent Owner also has argued in the Meta-MDT-IPR that a "*mobile device*" should mean "a portable device with limited display space and limited navigational capabilities that connects to a mobile site and/or mobile information channel via a wireless network." (EX-1030, 24.)

148. I further understand that Patent Owner, based on these proposed constructions, has argued that Neibauer, alone or in combination with Miller and Cheng, does not teach or suggest limitation [1A]. In particular, Patent Owner argued:

> Claim 1's mobile information channel supports content sharing between a "wide variety" of mobile devices. Ex. 2007 ¶¶210-217. This necessarily includes "typical mobile devices" with "limited display space and navigational capabilities." '801 Patent 1:44-45.
>
> Contrary to the Petition's argument, Neibauer does not teach or suggest this feature. At best, Neibauer describes content sharing using a "conventional laptop." Ex. 2007 ¶¶224-228. As explained above, this does not suggest anything with respect to Claim 1's mobile information channel which supports content sharing between a "wide variety" of devices, including those with technical capabilities far more limited than a laptop. *Id*.

(EX-1030, 40.)

149. I disagree with Patent Owner's arguments here.[5] Initially, I disagree with Patent Owner's proposed construction of "*mobile device*," as it is inconsistent with the plain and ordinary meaning of the term. Indeed, as I noted above, the '801 patent specification defines "*mobile device*" broadly to include a wide variety of devices, including laptop computers, without regard to such devices having "limited display space and limited navigational capabilities." Specifically, the specification states:

> 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. Examples of mobile devices 15 utilizable in system 10 of FIG. 1A include 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, a portable game player, etc.

[5] In the Meta-MDT-IPR, Patent Owner argues that each and every limitation of claim 1 that recites a "*mobile information channel*" is not satisfied for the same reasons as set forth for limitation [1A]. (EX-1030, 41-48 (providing same arguments for limitations [1B]-[1F]).) For all limitations, I disagree with Patent Owner's arguments for the reasons set forth here.

('801 patent, 4:38-48.) Patent Owner's proposed construction is inconsistent with the disclosures in the specification, which would include such things as conventional laptops.

150. For this reason, the word "mobile" in "*mobile information channel*" does not change my analysis for claim 1. It would have been obvious that Neibauer's features (e.g., club message board, chat, photo sharing) could have been utilized on a mobile device, such as a laptop computer. It was well-known that conventional laptop computers could run web browser software and visit web pages on the Internet. It would have been obvious that a user of a mobile device such as a laptop computer could access the Yahoo! website, including Yahoo! clubs. A POSITA would have understood, therefore, that each of the "*information channels*" in Neibauer were accessible via a mobile device.

151. Further, even under Patent Owner's proposed constructions of "*mobile information channel*" which incorporates its construction of "*mobile device*," it would have been obvious, based on Neibauer and in further view of Cheng, that Neibauer's information channels could have been used on other forms of mobile devices, including handheld devices such as smartphones and PDAs. As discussed in the summary of Cheng above, Cheng discloses a technique for translating the pages of existing websites into a format suitable for display on a mobile device. (Cheng, *e.g.*, 2:19-32, 3:21-26; § IV.A.3, *supra*.)

152. In the Meta-MDT-IPR, Patent Owner ignores Cheng's disclosures to argue that Neibauer and Cheng do not support messaging between a "wide variety" of mobile devices beyond a "conventional laptop."

153. But, they do. The combination of Neibauer and Cheng teaches multiple different examples of handheld mobile devices capable of accessing webpages. For example, Cheng discusses the use of Palm devices, Pocket Internet Explorer devices, and smart phones, which are devices that meet Patent Owner's narrow construction of "mobile device":

> To achieve these features and advantages, the present invention provides a system, method, and medium that extracts a portion of web page content and reformats the extracted content for delivery to one or more wireless devices. Embodiments of the present invention contemplate that web-based content can be created one time, whereafter at least a portion thereof is extracted, reformatted, and transmitted to, for example, one or more handheld device browsers (e.g., the **Palm Web Clipping Browser** from Palm, Inc., Santa Clara, Calif., **Pocket Internet Explorer** from Microsoft Corp, Redmond, Wash., and Wireless Access Protocol (WAP) on **smart phones**, etc.).

(Cheng, 2:4-15 (emphasis added); *see also id.*, 5:11-25, 7:50-58, 9:47-58.)

154. Additionally, contrary to Patent Owner's argument, Neibauer's disclosures also extend beyond merely allowing for access to Yahoo! Clubs through a "conventional laptop." For example, Neibauer discusses Yahoo! Mobile,

which lets a user "get many Yahoo! services on mobile devices," that fit within Patent Owner's narrow interpretation including "Pagers," "Cell phones," "Web phones," and "Personal digital assistants (PDAs)." (Neibauer, p.166.) Neibauer further discloses a variety of PDAs that may be used to access Yahoo!: "Select the device the device type: Palm III, Palm IV, Palm VII, Visor, pdQ Smartphone, Windows CE, Apple Newton, or Other." (Neibauer, p.171.)

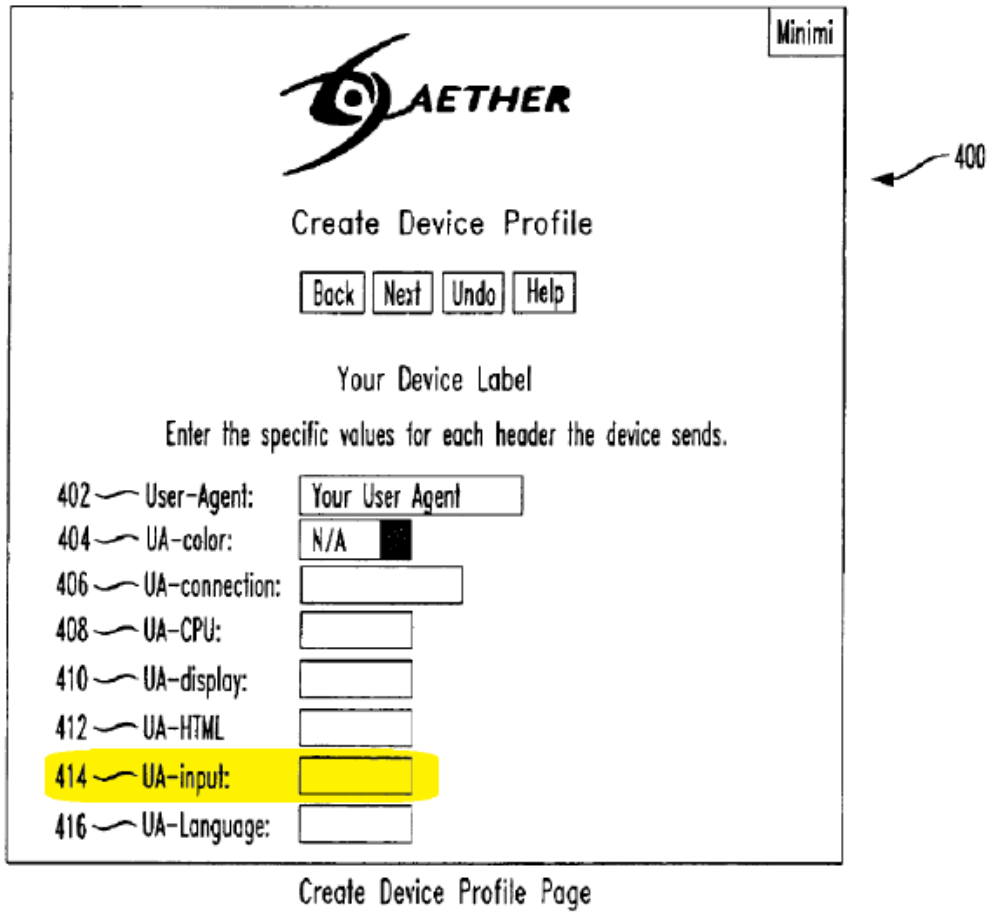
155. In the Meta-MDT-IPR, Patent Owner also argues that Cheng does not teach or suggest this limitation because, according to Patent Owner, "Cheng only discloses *transmitting* content *to* a mobile device. But it teaches nothing with respect to *receiving* content *from* a mobile device (which, by definition, is a necessary aspect of content sharing)." (EX-1030, 40.) In making this argument, Patent Owner appears to acknowledge that Neibauer does disclose this functionality.

156. While it would be unnecessary for Cheng to need to disclose this as part of the combination, I disagree with Patent Owner's interpretation of Cheng because Cheng does disclose the ability to receive content from a mobile device, which would make sense in an environment where a device needs to communicate bi-directionally over a network in order to function properly.

157. For example, Cheng discloses the ability to specify, as part of the device profile of a mobile device, that the mobile device is capable of text, image,

and file input. (*See, e.g.*, Cheng, 8:36-39 ("In step 314, [t]he UA-input field 414 is used to specify the types of input fields (e.g., password field, text box, image, file, etc.) of the mobile device 108 screen display.").)

FIG. 4



Create Device Profile Page

(Cheng, Fig. 4 (highlighting added).)

158. In the above example, Cheng discloses that a mobile device user can input text, image, and file data into the mobile device and that information is then transmitted from the device to a website. Thereafter, the device profile information, received **from** the mobile device, enables proxy server 110 to identify the mobile device 108, and to determine which webpage conversions to perform

for that device. (*See* Cheng, 8:54-62, 7:59-65.) This functionality of Cheng contradicts Patent Owner's description of Cheng. Thus, even under Patent Owner's proposed construction of "*mobile information channel*," the combination of Neibauer and Cheng discloses support for messaging between a "wide variety" of mobile devices.

c. Limitation [1B]

[1B] activating the mobile information channel responsive to input received from the first user via the interface;

159. This limitation was addressed in the discussion of limitation [1A] above. As discussed, after the club founder makes the required selections for the club and clicks "**Yes! I Accept**" on the club creation form ("*the interface*"), the founder will "see a page that tells [them] the club has been created. The page shows the club name and its Web address." (Neibauer, p.482.) The founder therefore activates the mobile information channel responsive to input received by the club creator via the club creation interface ("*responsive to input received from the first user via the interface*"). The mobile information channels would then be available for use by the founder and other club members. (Neibauer, p.473 ("A *club* is a group of Yahoo! Members who share a common interest. Each club has its own message board, chat room, as well as places to share photographs, news, addresses, and links.") (italics in original).) Under the further combination with

Miller, the input by the club founder would have further included the selection of the particular mobile information channel(s) to include in the club and this input, under the proposed combination, would also have been received via the club creation interface.

d. Limitation [1C]

[1C] inserting content provided by the first user into the mobile information channel;

160. As explained for limitation [1A], each of the club message board, chat and photo sharing features described in Neibauer ("*the mobile information channel*") supports messaging between the founder ("*the first user*") and the other club members. The "*content*" in Neibauer thus corresponds to the first user providing textual messages (with respect to the club message board and club chat mobile information channels), and providing photographs (with respect to the photo sharing mobile information channel), provided by the club founder.

161. For example, for the club message board mobile information channel, a club member can create a new message by replying to a message in an existing message thread. (Neibauer, pp.470-472.) Figure 21-5 shows a user interface for allowing a club member to add a message to a message thread:

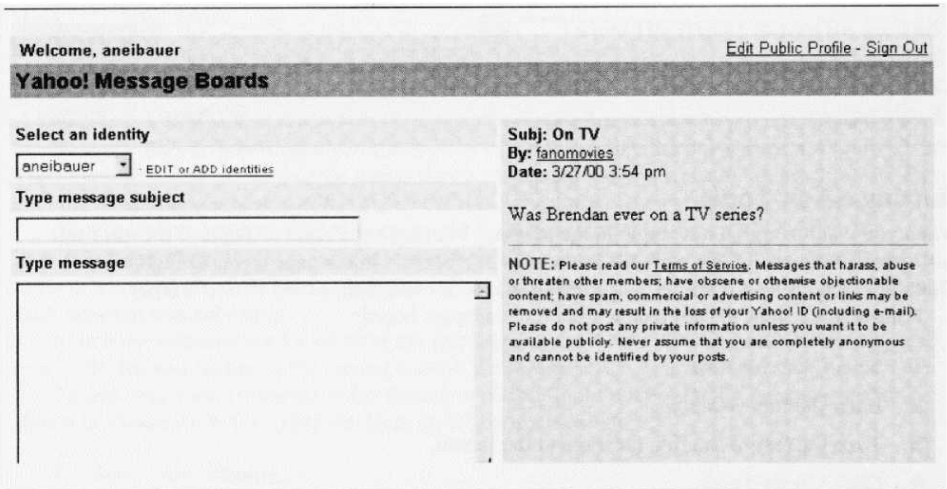


FIGURE 21-5 Replying to a message

(Neibauer, p.472, Fig. 21-5; *see also id.*, p.470 ("To add your own comments to the thread, click the Reply button. Doing so opens the form in Figure 21-5.").) A club member can also start a new topic which "brings up a form similar to the one that is used to post a reply," and which allows the user to input the topic heading and text of the first message in the thread. (Neibauer, p.471) It would have been obvious that the message content provided by the club member would have been "*insert*[ed]… *into the mobile information channel*," as it would have been available through the club message board. The warning note in Figure 21-5 above, for example, advises a user posting a message to "not post any private information unless you want it to be available publicly," indicating the message content will be made available through the club message board. Figure 21-5 shows an exemplary screen display showing that messages posted by club members are in fact accessible through the club message board:

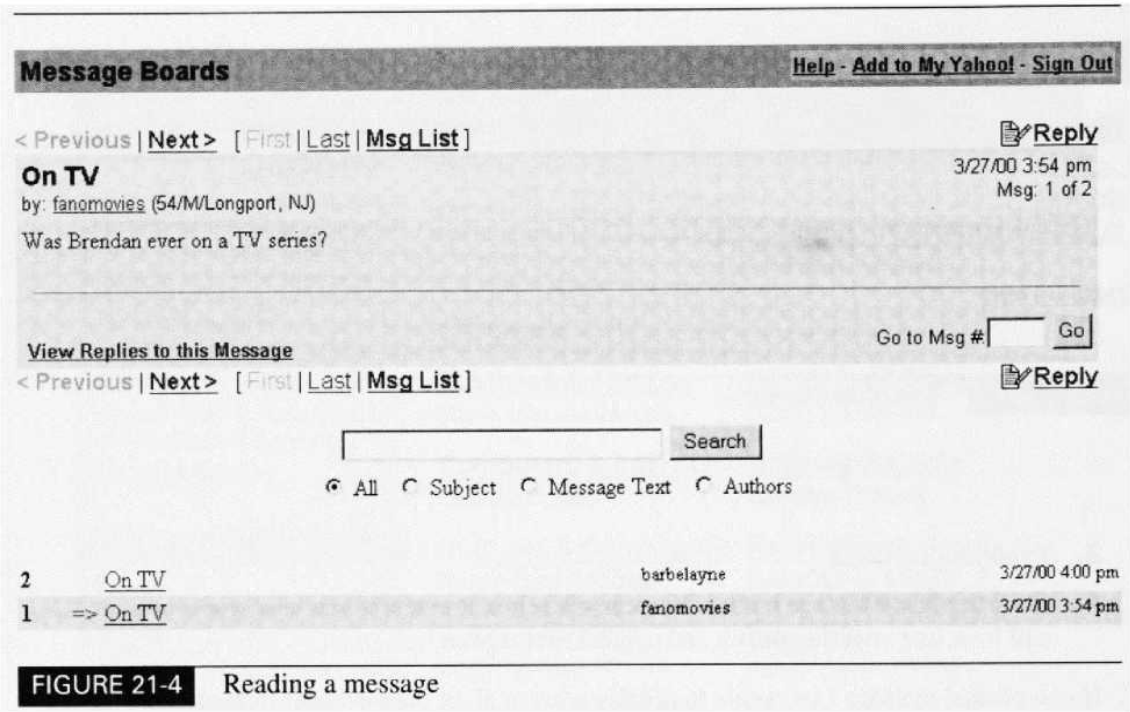


FIGURE 21-4 Reading a message

(Neibauer, p.472, Fig. 21-4.)

162. A similar analysis applies to the club photo sharing mobile information channel. Neibauer explains that a club member can add a photo to a photo album by selecting a photo for upload. (Neibauer, pp.477-478.) It would have been obvious that the content provided by the club member would have been "*insert*[ed]… *into the mobile information channel*," as it would have been available through the club photo sharing feature. (Neibauer, p.477, ¶1 ("If you are viewing the Photo Albums page, click Add Photo on the right side of the name of the album where you want to insert the photo.").)

Photo Albums

Showing 1 - 2 of 2 albums (1024 KB total) **Add Album**

Album Name	Pictures	Creator	Type	Add Photo	Edit	Delete
Blueraja's BOND GIRL Album	12 (278 KB)	blueraja3	Group	Add Photo		
James Bond	21 (287 KB)	shaner303	Group	Add Photo		

(Neubauer, p.477.) "Click an album to see a list of the photographs stored there, as shown in Figure 21-10 [below]… Click a photo title to see the photo on your screen." (Neibauer, p.477.) Figure 21-10 is shown below:

The James Bond Movie Series Category: James Bond Serie
The James Bond place to talk about the movies Club Type: Liste

Blueraja's BOND GIRL Album Back To: Album List

Created by blueraja3 on 22-Nov-1999

Showing 1 - 12 of 12 photos | View Thumbnails Add Photo

Photo Name and Caption	Contributor	Size	Posted	Edit	Delete
Denise Richards - Stunning Blue Bikini	blueraja3	21 KB	22-Nov-1999		
Denise Richards - Seductive Stare	blueraja3	22 KB	22-Nov-1999		
Denise Richards - Sexiest Denise Pic	blueraja3	48 KB	22-Nov-1999		
Denise Richards - Too Sexy! Too Sexy!	blueraja3	13 KB	22-Nov-1999		
Famke Janssen - Modeling Lingerie	blueraja3	53 KB	22-Nov-1999		
Famke Janssen - Sexiest Bond Girl Ever	blueraja3	13 KB	22-Nov-1999		
Famke Janssen - Sexy Black Leather	blueraja3	10 KB	22-Nov-1999		

FIGURE 21-10 Club photo album

(Neibauer, p.478, Fig. 21-10.)

163. And the same analysis applies to the club chat mobile information channel, because a club member can type in a message and it will appear in the chat. (Neibauer, p.479 ("The Chat option in the Our Pages section opens a private chat area for club members. There is also a Chat section on the page that lists the members who are currently chatting. Click on the Chat section header to enter the

Chat.").) It would have been obvious that the content provided by the club member would have been "*insert*[ed]… *into the mobile information channel*," as it would have been available through the club chat. (Neibauer, p.458 ("To enter a [chat] message, type it in the Chat text box and then press ENTER or click the Send button. Your name and message appears in the conversation box.").)

164. Finally, under each of the examples above, at least some content would have needed to be provided "*by the first user*," i.e., the club founder, because the club founder, as with other club members, would have been permitted to provide content through the club message board, photo sharing feature, or chat features using the techniques described above. Indeed, the founder would likely have been the first content provider for the simple fact that the founder sets up the club at its outset.

e. Limitation [1D]

[1D] receiving additional content relating to the mobile information channel from one or more of said additional users via one or more respective mobile devices associated with at least one wireless network;

165. Limitation [1D] is largely redundant of limitation [1C]. As explained, each of club message board, club photo sharing feature and club chat can receive content from not just the club founder, but other club members ("*one or more of said additional users*").

166. It would also have been obvious based on Neibauer and Miller, in further view of Cheng, that the club members would have provided content relating to the mobile information channel "*via one or more respective mobile devices associated with at least one wireless network*," because the club members would have accessed the club and its features (including the ability to add content) via their mobile devices. It would also have been obvious that the mobile devices would have been "*associated with at least one wireless network*," because mobile device accessing the mobile information channel would have been connected via a wireless network to the Internet.

167. For example, Neibauer discloses in connection with the Yahoo! Mobile service that a mobile PDA could have included a "GSM Phone" modem. (Neibauer, p.171, ¶5.) GSM, which stands for **G**lobal **S**ystem for **M**obile Communication, was a dominant wireless (cellular) mobile network in widespread use in the United States the early 2000s. Cheng similarly discloses wireless network device connectivity. (Cheng, *e.g.*, 2:4-7 ("[T]he present invention provides a system, method, and medium that extracts a portion of web page content and reformats the extracted content for delivery to one or more wireless devices."); *see also id.*, 5:33 (mobile device **108** can include "a cellular telephone").)

168. Cheng explains that the computer system that carries out the conversion and reformatting of web pages can include a communication port **1516**,

which is used for "[c]ommunications with external devices, for example, the other components of the system described herein," which can use transport media such as "wireless communication (e.g., radio frequency (RF), and the like)" (Cheng, 23:44-51.)

169. It therefore would have been obvious that the messaging communication provided under the proposed combination would have been provided over a "*wireless network*," including, for example, a known cellular communications network such as GSM commonly used to communicate information to and from wireless mobile devices. A POSITA would have been motivated to allow for messaging communications over a wireless network, as explained for limitation [1A], in order to take advantage of the growing popularity and availability of mobile device communication, which would have provided portability benefits when compared to communications requiring physical wires or cable.

170. **Addressing Proposed Constructions in Co-Pending Proceedings:** As noted above, I understand that, in the Meta-MDT-IPR, Patent Owner has argued that the term "*wireless network*" should be construed to mean "a network separate from the internet that facilitates connection to the internet by mobile device." I further understand that, based on this proposed construction, Patent

Owner has argued that Neibauer does not teach or suggest connection over a "*wireless network*" that is separate from the Internet:

> Moreover, Neibauer does not teach "receiving additional content relating to the mobile information channel… via one or more respective mobile devices associated with at least one *wireless network*[]" as in Claim 1. As shown in FIG. 1A of the '801 Patent and described above, Claim 1's "wireless network" is a network *separate from the internet* that facilitates connection to the internet by a mobile device. The Petition, however, conflates the internet with Claim 1's wireless network. Ex. 2007 ¶¶235-242.

(EX-1030, 44-45.)

171. I disagree with Patent Owner's arguments.[6] Patent Owner again appears to interpret its patent too narrowly. The '801 patent explains that the "wireless network" need not be separate and distinct from the "internet." The patent states, "The network configuration of system 10 illustratively comprises wireless network 12 and Internet 14. However, the invention does not require this particular network arrangement. A network suitable for use with the invention may

[6] In the Meta-MDT-IPR, Patent Owner argues that limitation [1F], which also recites a "*wireless network*," is not satisfied for the same reasons as set forth for limitation [1D]. (EX-1030, 47.) For limitation [1F] as well, I disagree with Patent Owner's arguments for the reasons set forth here.

include any type of data communication network, including the Internet, an intranet, an extranet, a wide area network (WAN), a metropolitan area network (MAN), a wired local area network (LAN), an IEEE 802.11 or Wi-Fi wireless LAN, a satellite communications network, a virtual private network (VPN), a public switched telephone network (PSTN), a cellular network based on third generation (3G) wideband code division multiple access (CDMA) or other standard, as well as portions of combination of these and other networks." ('801 patent, 4:13-25.) This interpretation of network is consistent with the plain meaning and consistent with how it is disclosed in the combination of Neibauer and Cheng.

172. The combination of Neibauer and Cheng also discloses Patent Owner's narrow construction of "*wireless network*," where the operative network is distinctive from the internet. As I discussed above, the combination of Neibauer and Cheng discloses communications with mobile devices over a GSM network. (*See, e.g.*, Neibauer, p.171, ¶5.) A POSITA would have understood the GSM network discussed in Neibauer to be a network separate from the Internet, as the GSM network provided features that did not require Internet functionality or connectivity, including, for example, voice telephone calls and SMS text messaging. Patent Owner's argument does not appear to address the GSM network.

173. Likewise, Cheng discloses that acceptable networks for communicating consistent with its teachings include networks (114) distinct from the internet. (*See, e.g.*, Cheng, 4:2-4 ("It should be understood that the present invention can be used with networks other than the Internet where visual content is involved.").)

174. As another example, Cheng discloses a "local area network," which would have been a well-known network that can be established independent of the internet. (*See, e.g.*, Cheng 24:4-9.) A local area network could be used to implement all functionalities of Neibauer.

175. Non-internet networks were well known and widely used by 2002. They, in addition to the internet, are envisioned by the teachings of Neibauer, Cheng, and the combination thereof.

176. Thus, even under Patent Owner's proposed construction of "*wireless network*," the combination of Neibauer and Cheng discloses or renders obvious mobile devices that are associated with a wireless network that is separate from the Internet, i.e., the GSM network.

f. Limitation [1E]

[1E] inserting at least a portion of the additional content into the mobile information channel; and;

177. Limitation [1E] is largely redundant of limitation [1C], as the content provided by other club members ("*the additional content*") would have inserted into and made available via the club message board, club photo sharing feature, or club chat, as explained. All of the content insertion techniques described for limitation [1C] apply to both the club founder ("*the first user*") as well as other club members ("*said additional users*").

g. Limitation [1F]

[1F] integrating into the mobile information channel information associated with at least one wireless networking functionality of said at least one wireless network.

178. The '801 patent does not expressly define "*wireless networking functionality*" of the wireless network, but instead provides illustrative examples, including a "messaging action," "collaboration action," and "location-based service action." ('801 patent, 5:63-6:8 ("Advantageously, the information content of a given mobile site generated in the system **10** may be configured so as to integrate therewith information associated with at least one wireless networking functionality of the wireless network **12**… Examples of such information include information specifying at least one messaging action implementable over the

wireless network, information specifying at least one collaboration action implementable over the wireless network, and information specifying at least one location-based service action implementable over the wireless network.").) The proposed combination discloses multiple examples of the claimed information associated with at least one wireless networking functionality of the wireless network, each satisfying limitation [1F].

179. **Messaging or Collaboration Action:** For example, using the patent's own examples of a "messaging action" and "collaboration action," the patent places few if any restrictions on the type of messaging and collaboration actions, and makes clear they can include posting and exchanging information by members to facilitate collaboration. ('801 patent, *e.g.*, 6:38-42 ("For example, the site can be used to generate messages, using instant messaging (IM), SMS, MMS, pages, emails, voice-over-IP (VoIP) calls, cellular telephone calls, or any other suitable messaging format, that are sent to organization members over the wireless network."), 6:46-49 ("Organization members can easily and efficiently post information and generate messages to other members so as to facilitate collaboration and other types of interaction.").)

180. As explained in my discussion of limitation [1C], when other club members provide new messages, new photos and new chat messages, they are integrated into the club message board, club photo sharing feature, and private chat

("*the mobile information channel*"), respectively. This additional information provided by other members is associated with a "messaging action" and "collaboration action" because it provides messaging content being made available to other club members, allowing them to collaborate on topics of interest. The proposed combination thus renders obvious "*integrating into the mobile information channel*," i.e., the club message board, photo sharing feature, or chat, "*information associated with at least one wireless networking functionality of said at least one wireless network*," i.e., a messaging or collaboration action by which another club member (through their mobile device and over a wireless network under the proposed combination) provided messaging content to be made accessible to club members via the club.

181. **Mobile Device Location Information**: Although not required to satisfy limitation [1F], as noted, the '801 patent specification provides a further example of "*information associated with at least one wireless functionality of the mobile device*" as including information specifying location information of a mobile device.[7] This feature would have been obvious over Neibauer, Miller and

[7] Although this feature provides an independent basis for satisfying limitation [1F], it is also separately recited in dependent claim 2 (which depends from claim 1) and will also be addressed below.

Cheng in further view of Squibbs (**EX-1011**), which teaches associating geotracking data with photographs that are taken by, for example, the Ausems PDA.

182. Squibbs describes a technique of recording and displaying data (such as photos) along with the location where the photo was taken. (Squibbs, Abstract.) Squibbs explains that digital cameras that included Global Positioning System (GPS) receivers were known in the art, as were systems that could display the location where the photo was taken on an electronic map. (Squibbs, ¶¶0003-0004.)

183. Squibbs discloses a photo album system that allows a user to record digital images, which can be associated with the geographic location where they were taken. An overview of the system is shown in Figure 3:

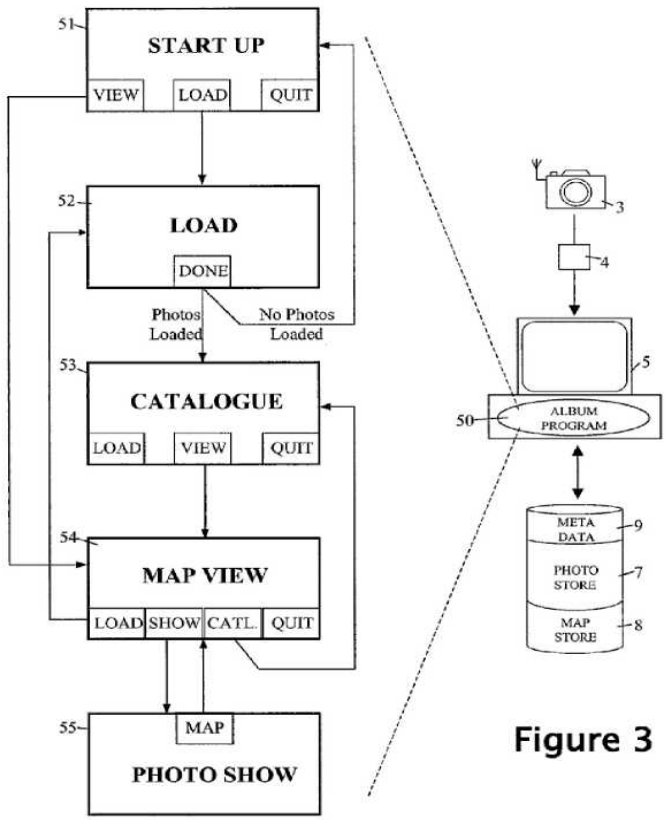


Figure 3

(Squibbs, Fig. 3.)

184. As further explained in Squibbs, with reference to Figure 3:

FIG. 3 depicts a photo system in which a digital camera **3** provided with location determining means (such as a GPS receiver) is used to generate digital photos **4**, each photo (also referred to as 'image data') **4** being stamped with location data indicating where the photo was taken. Other data may also be associated with each photo, such as a timestamp, a camera ID, and a user ID; such associated data (including the location data) is herein referred to as photo meta data. The photos and their meta data are downloaded by any suitable means (USB connection, removable storage device, etc) into a PC **5** where an album program **50** serves to store the photos in a photo store **7** and the photo meta data in

> a meta-data database **9** (each photo and its meta data being linked by a suitable key associated with both). The album program also has access to a map store **8**. The stores **7** and **8** and the meta-data database can be on the PC or external.

(Squibbs, ¶0031.)

185. Squibbs also discloses an album program **50** as shown in Figure 3 that allows the user to "catalogue, manage, and view their photos through a map-based interface, the photos being represented on a displayed may by a marked indicating the location where they were taken." (Squibbs, ¶0032.) The album program as shown in Figure 3 comprises "five main operating modes **51** to **55**," as shown. (Squibbs, ¶0033.) For example, Load Mode **52** allows the user to download data from camera **3**, and Catalog Mode **53** allows the user to manage newly loaded photos using a map based display, and Map View Mode **54** allows the use to browse the photo album and select photos for viewing. (Squibbs, ¶¶0033, 0035-0036.)

186. Figure 6 shows a display generated by the album program in Catalog Mode **53** (Squibbs, ¶0064):

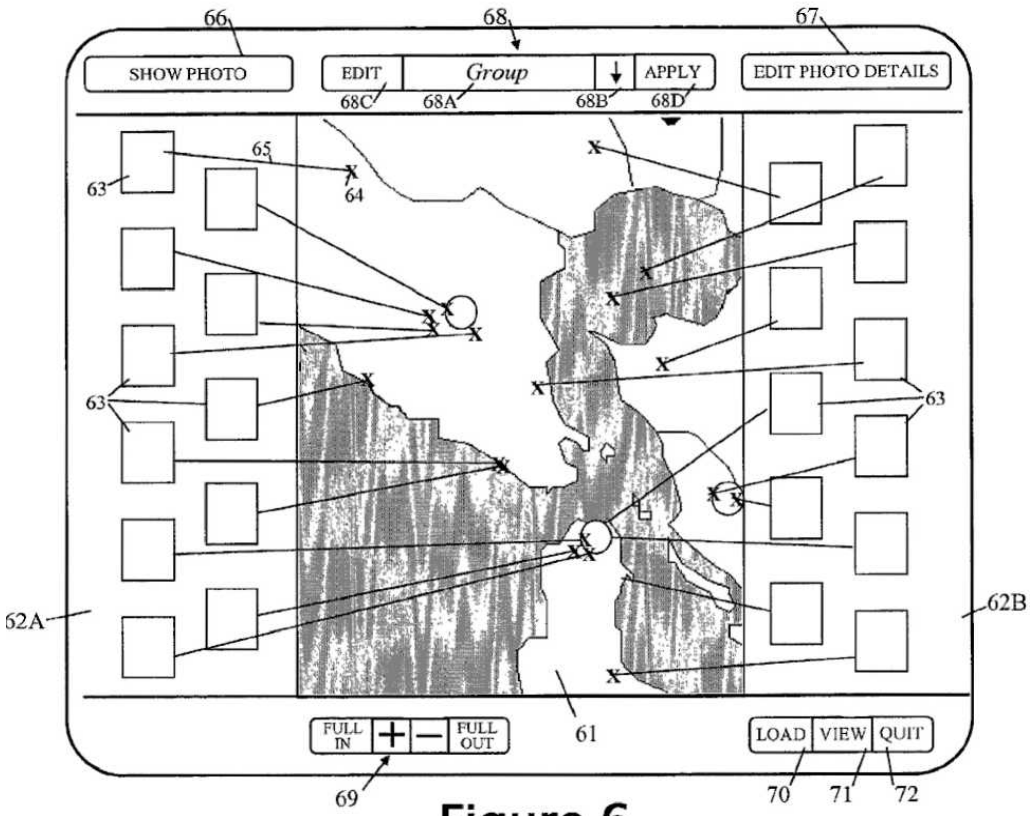


Figure 6

(Squibbs, Fig. 6.)

187. Figure 6 shows a central map area 61 which "is sufficient to encompass the locations registered for the newly loaded batch of photos." (Squibbs, ¶0064.) "A thumbnail **63** of each new photo is shown in one or other of the margin areas **62**A, B and a lead line **65** connects each thumbnail **63** to a corresponding marker 64 showing on the map the location where the photo was taken." (Squibbs, ¶0064.) Figure 6 also shows an upper control bar with, from left-to-right, Show Photo Control **66** for displaying the photo corresponding to a selected thumbnail **63**, Group Control **68** for creating groups and assigning a photo to one or more groups, and Edit Photo Details Control **67** for displaying and

editing the details of a selected thumbnail. (Squibbs, ¶¶0065-0068.) Figure 6 also "includes a zoom control **69** that enables a user to zoom in or out around a particular point on the displayed map." (Squibbs, ¶0071.)

188. Figure 7 shows a display generated by the album program in Map View **54** (Squibbs, ¶0074):

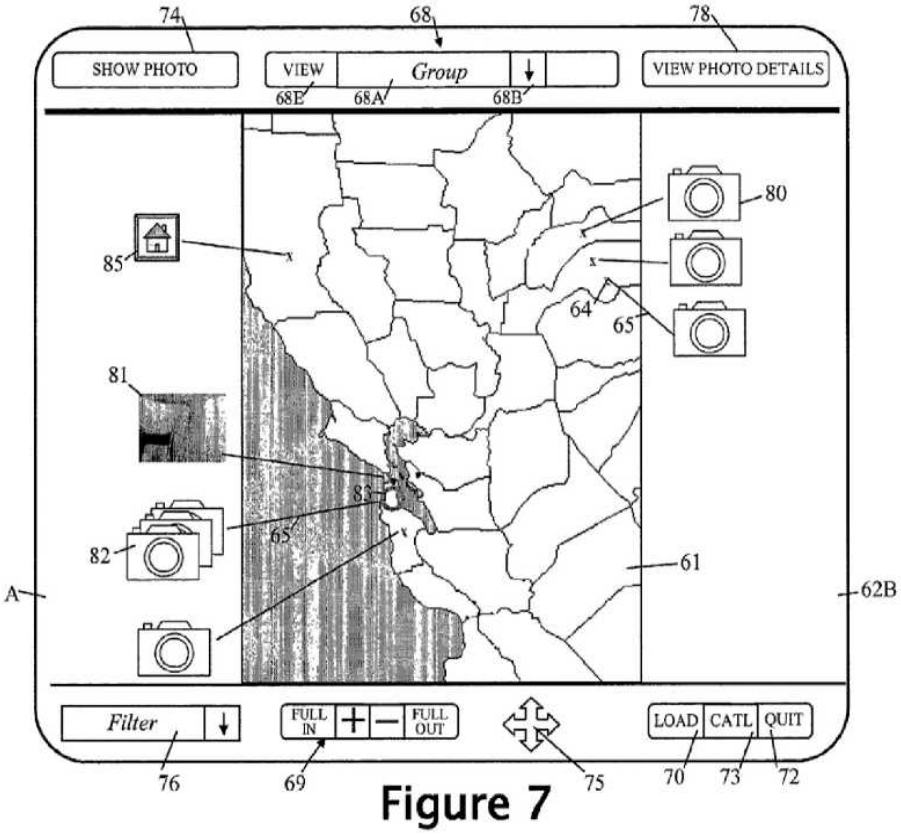


Figure 7

(Squibbs, Fig. 7.)

189. The Map View mode shown in Figure 7 allows a user to browse the album after it has finished editing the photo metadata and assigning the photos to groups. (Squibbs, ¶0074.) Squibbs explains that "[t]he starting map displayed in

the Map View Mode is, for example, a world map or a map encompassing the locations of all the photos recorded in the album; alternatively, the map displayed could be the same map as being used in the Catalogue Mode before transiting to the Map View Mode." (Squibbs, ¶0075.) Figure 7 shows photos represented "either as thumbnails **81**, individual photo icons **80**, group icons (see current-abode group icon **85**), or concentration icons (see icon **82**)." (Squibbs, ¶0075.) Squibbs also discloses (in Figure 8) the ability to display a full-size image of a photo selected from the Map View Mode. (Squibbs, ¶0091, Fig. 8.)

190. Squibbs discloses a number of ways in which a photo can be associated with location data. In the example above shown in Figure 3, the digital camera itself has a built-in GPS receiver. In another embodiment shown in Figure 11, a digital camera **90** transmits the photo image data to a cell phone **20**, which in turn uploads the image data over a cellular connection to service system **40** for storage on network store **43**. (Squibbs, ¶0101, Fig. 11 (showing transfer **105**); *see also id.*, ¶0031 (noting that the photo store can be "external").) The cell phone, concurrently with the upload of photo image data, also transmits location information associated with the photo image data. (Squibbs, ¶0101.) Squibbs explains that the cell phone can determine location information in a number of ways, including from "a location server of the mobile radio infrastructure," or

using "a GPS system built into the cell phone." (Squibbs, ¶0098; *see also id.*, ¶0101.)

191. For these reasons, the combination of Neibauer, Miller, Cheng, and Squibbs thus teaches that the "*at least one wireless networking functionality of the mobile device*" comprises location information of the mobile device, further rendering limitation [1F] obvious.

192. **Addressing Proposed Constructions in Co-Pending Proceedings:** I understand that the phrase "*wireless networking functionality of the mobile device*" is subject to dispute in the Meta-MDT-IPR. The dispute in the Meta-MDT-IPR, however, is not related to the type of data that qualifies as "*wireless networking functionality*" data such as that disclosed by Neibauer in the first instance and Squibbs' geotracking data in the second instance.

193. Rather, Patent Owner builds in its proposal that the mobile device in the architecture must have "functionality implementable by a mobile device via a wireless network *independent of the Internet*." Relatedly, Patent Owner also asserts that the term "*wireless network*" means "a network separate from the internet that facilitates connection to the internet by mobile device."

194. In the Meta-MDT-IPR, Patent Owner does not rely on its construction of "*wireless networking functionality of the mobile device*" to distinguish the prior art. (EX-1030, 41-42.) I nevertheless address this construction.

195. Patent Owner appears to interpret its patent too narrowly. The '578 patent explains that the "*wireless network*" need not be separate and distinct from the "internet." The patent states, for example,

> The network configuration of system 10 illustratively comprises wireless network 12 and Internet 14. However, the invention does not require this particular network arrangement. A network suitable for use with the invention may include any type of data communication network, including the Internet, an intranet, an extranet, a wide area network (WAN), a metropolitan area network (MAN), a wired local area network (LAN), an IEEE 802.11 or Wi-Fi wireless LAN, a satellite communications network, a virtual private network (VPN), a public switched telephone network (PSTN), a cellular network based on third generation (3G) wideband code division multiple access (CDMA) or other standard, as well as portions of combination of these and other networks.

('578 patent, 4:19-32.) This interpretation of network is consistent with the plain meaning and consistent with how it is disclosed in the combination of Neibauer and Cheng.

196. Regardless, the combination of Neibauer, Cheng, Ausems, and Squibbs renders obvious limitation [1B] if the claims are interpreted such that they require the mobile device to include functionality implementable by a mobile device via a wireless network that is independent of the Internet.

197. For example, Cheng explicitly discloses a "local area network," which would have been a well-known network that can be established independent of the internet. (*E.g.*, Cheng 24:4-9). A local area network could be used to implement all functionalities of Neibauer.

198. Separately, geotracking data is well known to be used via satellite channels, not the internet. In Squibbs, the information associated with "*at least one wireless networking functionality of the mobile device*" comprises location information of the mobile device, and a way for a mobile device to obtain its location information is using a built-in GPS receiver. A POSITA would have known that obtaining location information of the mobile device through GPS was a wireless networking functionality that was "*independent*" of the Internet, as the location information was calculated by using GPS signals wirelessly received by the device from satellites, which were used by the device to calculate its current location. (Squibbs, ¶¶0004 ("… digital camera **3** equipped with a GPS receiver for determining camera location using signals from satellites **2**…").) Receipt and processing of GPS signals from satellites to determine a device location, as disclosed in Squibbs, is a wireless networking functionality that is independent of the Internet. GPS signals from satellites are directly transmitted wirelessly to GPS receivers using specific carrier wave frequencies—they are not delivered over the Internet.

7. Claim 2

[2] The method of claim 1 wherein the information associated with at least one wireless networking functionality of said at least one wireless network comprises location information of a given one of the mobile devices from which at least a portion of the additional content is received.

199. As explained above for limitation [1F], under the combination in view of Squibbs, when a club member uploads a photo via their mobile device ("*the additional content*") to the club photo sharing feature in Neibauer, the location of the photo received would also have been provided, which is "*at least one wireless networking functionality*" content under any construction.

8. Claim 3

[3] The method of claim 1 wherein integrating into the mobile information channel information associated with at least one wireless networking functionality of said at least one wireless network comprises: obtaining location information of a given one of the mobile devices from which at least a portion of the additional content is received; and inserting content into the mobile information channel based on the obtained location information.

200. As explained above for limitation [1F], under the combination in view of Squibbs, when a club member uploads a photo via their mobile device ("*the additional content*") to the club photo sharing feature in Neibauer, the mobile device would have "*obtain[ed] location information*" (e.g., via GPS or mobile radio infrastructure) of the mobile device that is used to upload the photo. (Squibbs, ¶¶0101, 0098.) The combination with Squibbs, moreover, would have resulted in "*inserting content into the mobile information channel based on the*

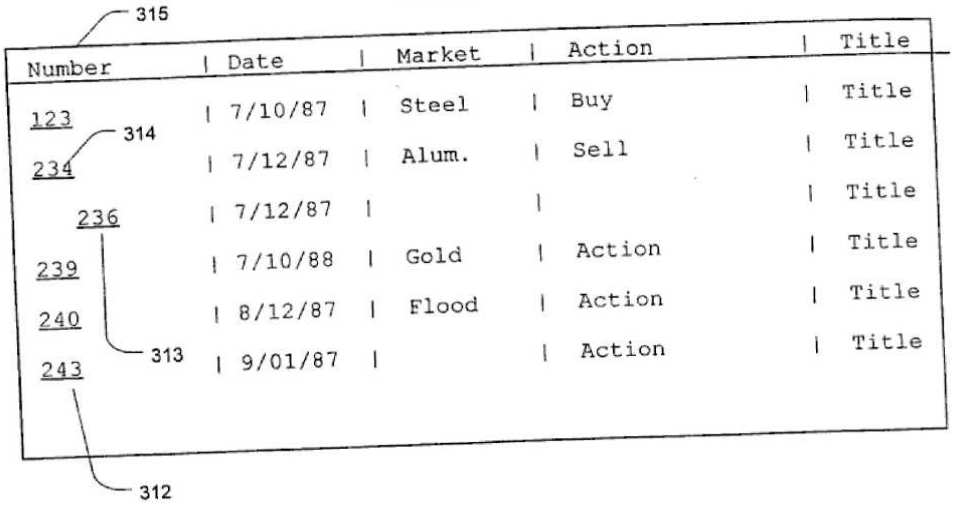
obtained location information," because the mobile information channel would have displayed a map-based view ("*content*") based on the mobile device location, as described in Squibbs and explained for limitation [1F].

9. Claim 4

[4] The method of claim 1 wherein integrating into the mobile information channel information associated with at least one wireless networking functionality of said at least one wireless network comprises: obtaining product-identifying information over said at least one wireless network; and inserting content into the mobile information channel based on the obtained product-identifying information.

201. The '801 patent makes clear that information associated with at least one wireless networking functionality can comprise a "messaging action" or "collaboration action" implemented over a wireless network. ('801 patent, 5:63-6:8, claims 7 & 8.) Claim 4 is obvious in view of the bulletin board feature of Miller, which provides substantially similar functionality to the message board feature in Neibauer. (Miller, Fig. 2, 0046:20-33.) "A bulletin board (see, e.g., FIG. 2) lists notices posted by group members, which may be offers to buy or sell, but need not be limited to such offers. Many types of bulletin board services are of course conventional and no further discussion is necessary in order to implement one of these services." (Miller, 0046:20-22.) For example, Miller's Figure 2 shows a bulletin board with messages relating to buying and selling raw material products:

FIG. 2



(Miller, Fig. 2.) Figure 2 in this example shows messages that include offer **315** and response **313**, among others. (Miller, 0011:22-32.) Figure 2 also shows hyperlink **312** that, when clicked, displays details of the listing. (Miller, 0011:33-12:2.)

202. Neibauer also expressly suggests use of the club message board for selling items by disclosing Yahoo! Classifieds, described in the same chapter of Neibauer as Yahoo! Clubs. (Neibauer, p.491.) Yahoo! Classifieds, as its name implies, provided a service in which users would post classified ads with a name and textual description of an item they wish to sell, as shown in Figure 21-20 below. (*Id.* ("Classifieds are ads that you post to sell a product or service-from stuff you have sitting around the garage, to the house and the car themselves.").)

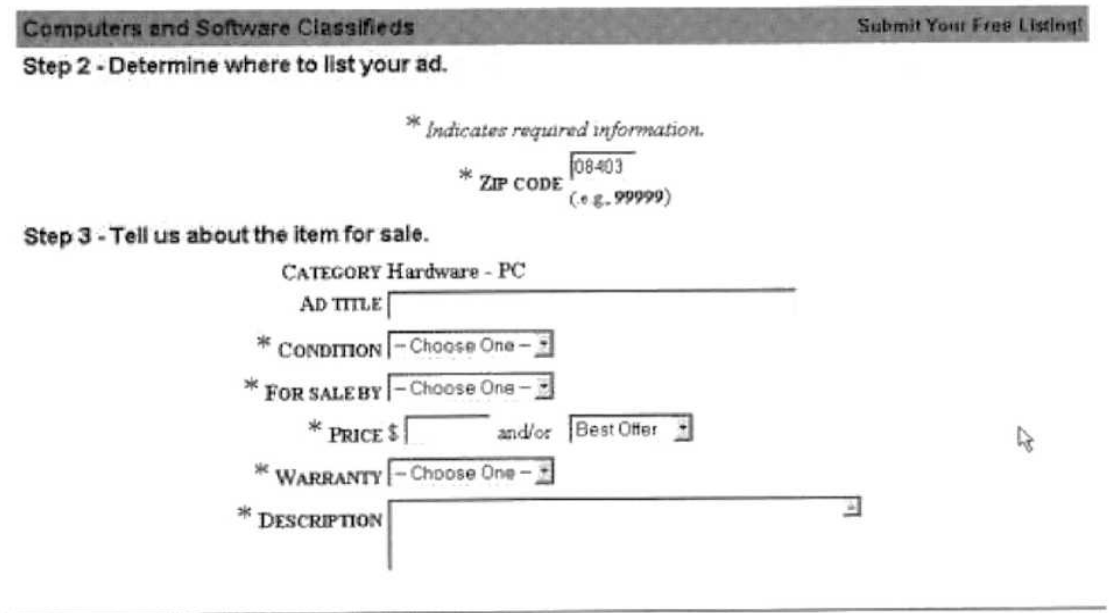


FIGURE 21-20 Posting a classified ad

(Neibauer, p.491, Fig. 21-20.) As shown, the club member enters product identifying information such as the ad title or description. (*Id.*) It would have been obvious to apply the Yahoo! Classifieds teachings to the club message board feature, which would have predictably resulted in the club message board being used by club members to post messages relating to items they are offering for sale. Miller expressly discloses use of a discussion board for this purpose.

203. In sum, it would have been obvious, based on the combination of Neibauer alone or with Miller, that one or more messages posted in the club message board of Neibauer ("*the mobile information channel*") could have included information identifying a product being offered for purchase or sale ("*product-identifying information*"). This information would have been obtained "*over said at least one wireless network*" because it would have been obtained

from the club member posting the listing via a mobile device connected over the wireless network. The proposed combination would also have resulted in "*inserting content into the mobile information channel based on the obtained product-identifying information*," because the product-identifying information ("*content*") would have been included in the title and/or body of the message posted by the club member, which would have been displayable to club members through the club message board ("*the mobile information channel*").

10. Claim 5

[5] The method of claim 4 wherein inserting content into the mobile information channel based on the received product-identifying information comprises inserting information relating to at least one of product ordering and product purchase support.

204. As explained above, Neibauer discloses that content would have comprised pricing and sales conditions information ("*product ordering*") and warranty information from the seller ("*product purchase support*"). (Neibauer, p.491 ("Complete the form by describing the item and your sales conditions, and then click Submit Entry."), Fig. 21-20 (Condition, Price, and Warranty information).) It would have been obvious to a POSITA that many other well-known types of product ordering or purchase support information could have been provided, including whether the seller accepted returns or all sales were final, who payment and delivery/shipping were to be effectuated, among others.

11. Claim 6

[6] The method of claim 1 wherein the information associated with at least one wireless networking functionality of said at least one wireless network comprises location-based service information.

205. As explained for limitation [1F], the information associated with at least one wireless networking functionality would have comprised location-based service information, e.g., the location of the user as obtained either through the mobile radio infrastructure or via GPS. (Squibbs, ¶¶0098, 0101.)

12. Claims 7 and 8

[7] The method of claim 1 wherein the information associated with at least one wireless networking functionality of said at least one wireless network comprises one or more messaging actions implementable over the wireless network. [8] The method of claim 1 wherein the information associated with at least one wireless networking functionality of said at least one wireless network comprises one or more collaboration actions implementable over the wireless network.

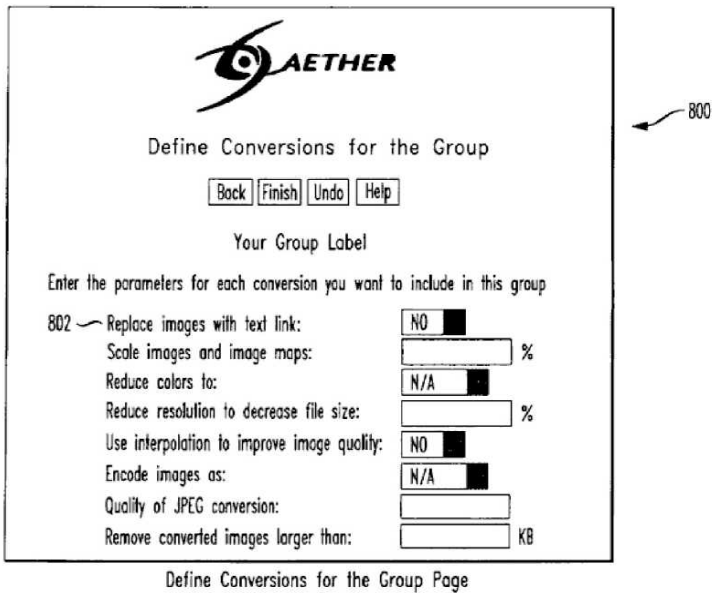
206. As explained for limitation [1F], the information associated with at least one wireless networking functionality can comprise either "*one or more messaging actions*" or "*one or more collaboration actions*," both of which would have been implemented over the wireless network. As explained, the mobile information channels of Neibauer support both "messaging" and "collaboration" actions, and under the proposed combination, would have been implemented over the wireless network used by the mobile devices of the club members.

13. Claim 9

[9] The method of claim 1 further comprising providing one or more content integration options to the first user and the plurality of additional users.

207. As explained for limitation [1A], one of the mobile information channels available in Neibauer is a club photo sharing feature. (Neibauer, pp.477-479.) Neibauer explains that, in connection with uploading a photo, the member has the option of resizing the photo. (Neibauer, p.478, ¶4 ("Select an option from the Resize Photo section. Resizing allows Yahoo! to adjust the photograph to make better use of the club's Web space and make photos easier to view. You can select Don't Resize, Large, Medium, or Small.").) Cheng similarly discloses that, in one embodiment, images can undergo a number of conversions based on options selected by a user, as shown in Figure 8:

FIG. 8



Define Conversions for the Group Page

(Cheng, Fig. 8.)

208. As shown, the user can define a number of conversions to reduce the size of an image including, among other things, scaling, color reduction, resolution reduction, and reducing the quality of the JPEG image conversion, among other things. (Cheng, 10:63-11:19.) The user can also specify a maximum file size for a converted image. (Cheng, 11:17-19, 12:47-50.) It would have been obvious to also include these conversion options from Cheng with the photo sharing feature of Neibauer (along with its existing resizing capability), to provide further control over the conversion of images for display on mobile devices. Any one of the conversion options disclosed in Neibauer or Cheng qualifies as a "*content integration option*," because each option allows club members to specify how uploaded photos will be transformed or altered before being integrated into the mobile information channel, thus affecting how they appear when viewed through the photo sharing feature of the club.

14. Claim 10

[10] The method of claim 9 wherein the one or more content integration options are based in part on respective wireless networking functionalities available to the first user and the plurality of additional users.

209. It would have been obvious that the content integration options of claim 9 would have been based, at least in part, "*on respective wireless networking functionalities*" available to the club founder and other club members. First, the "*content integration options*" under the proposed combination address bandwidth

limitations of mobile devices by reducing the size of photos, thus reducing the amount of data that needs to be sent to the mobile device. The option to specify a maximum image file size discussed for claim 9, for example, allows the user to specify that images greater than a certain size will not be transmitted to mobile devices. (Cheng, *e.g.*, 11:15-19, 12:48-50.) Cheng explains that maximum image file size "can be based on the type of Internet connection the mobile device **108** uses. For example, if the mobile device **108** has a slow connection, the conversion engine **118** can be configured to omit images over a specified size. If the mobile device **108** has a faster connection, larger file size value can be specified." (Cheng, 12:50-55.) In this way, the content integration option of the maximum image file size is based in part on the wireless networking functionalities of the wireless devices of the club founder and the other club members.

210. It would also have been obvious that the same rationale would have applied to the other content integration options, including image resizing as disclosed in Neibauer, as well as image scaling, color reduction, resolution reduction, and reducing the quality of the JPEG image conversion in Cheng. (Cheng, 10:63-11:19.) Each of these options would have allowed the club founder and other club members to tailor their uploaded content based on the bandwidth limitations of their mobile devices ("*based in part on respective wireless networking functionalities available to the first user and the plurality of additional*

users"), thus conserving network bandwidth, improving performance, and overall enhancing the user's experience.

15. Claims 11 and 12

[11] The method of claim 1 wherein the additional content is associated with the mobile information channel via one or more user-activatable control mechanisms. [12] The method of claim 11 wherein the one or more user-activatable control mechanisms comprise a hyperlink.

211. Neibauer discloses multiple examples where content provided by other club members ("*the additional members*") is associated through a user-activatable control mechanism such as a hyperlink, as claimed.

212. With respect to the example of a "*mobile information channel*" of a club message board in Neibauer, a club member can write a new message and "[c]lick the Post Message button" to add it to the message board. (Neibauer, p.471, ¶4.) Clicking on this button (*i.e.* a "*user-activatable control mechanism*") adds ("*associates*") the new message ("*the additional content*") with the club message board ("*the mobile information channel*"). Additionally, club members can view the message by clicking on its topic. (Neibauer, p.470 ("Click a topic to read the first message in the thread, as shown in Figure 21-4."), p.477 ("… click View All or Messages in the Our Pages section to access the entire board.").)

213. Similarly, for the "*mobile information channel*" of a club photo sharing feature, a club member can specify a photo file, enter a name and

description, and "click Upload to move a copy of the photo into the club's Web space." (Neibauer, p.478, ¶¶2-4.) As with the club message board example, clicking the Upload link associates the new photo with the photo sharing feature of the club. Additionally, club members can view the photo by clicking on the photo's title. (Neibauer, p.477 ("Click a photo title to see the photo on your screen.").

214. And finally, the "*mobile information channel*" of a club chat, a club member participating in the chat can type in a textual message and click "Send" to have that message sent to other users in the chat. (Neibauer, p.458 ("To enter a message, type it in the Chat text box and then press ENTER or click the Send button. Your name and message appears in the conversation box.").) Additionally, club members can view the chat by clicking on the chat feature from the club page. (Neibauer, p.479 ("Click in the Chat section header to enter the Chat.").) In each of these examples, content is associated with the mobile information channel, *e.g.*, by being added to or displayed through the club message board, photo sharing feature, or chat, by a user-activatable control mechanism.

215. It would also have been obvious that, in each of these examples, the user-activatable control mechanism, whether in the form of a button or textual link on the webpage, comprises "*a hyperlink*," as recited in claim 12, because it is a clickable element that causes the website to take action and change the display to the user, for example, by showing the newly added content in the mobile

information channel. Neibauer explains that "[a] *hypertext link*, better known as a *hyperlink*, is a graphic or line of text that you can click to move to another Web location." (Neibauer, p.116 (italics in original).) This statement is consistent with how a POSITA would have understood "*hyperlink*" as recited in claim 12, and each of the user-activatable control mechanisms discussed above qualify as a hyperlink as claimed.

16. Claim 13

[13] The method of claim 1 wherein inserting at least a portion of the additional content into the mobile information channel comprises inserting advertising content into the mobile information channel along with said portion of the additional content.

216. Neibauer discloses that a club can also be used to distribute advertising content to other club members, along with user-provided content:

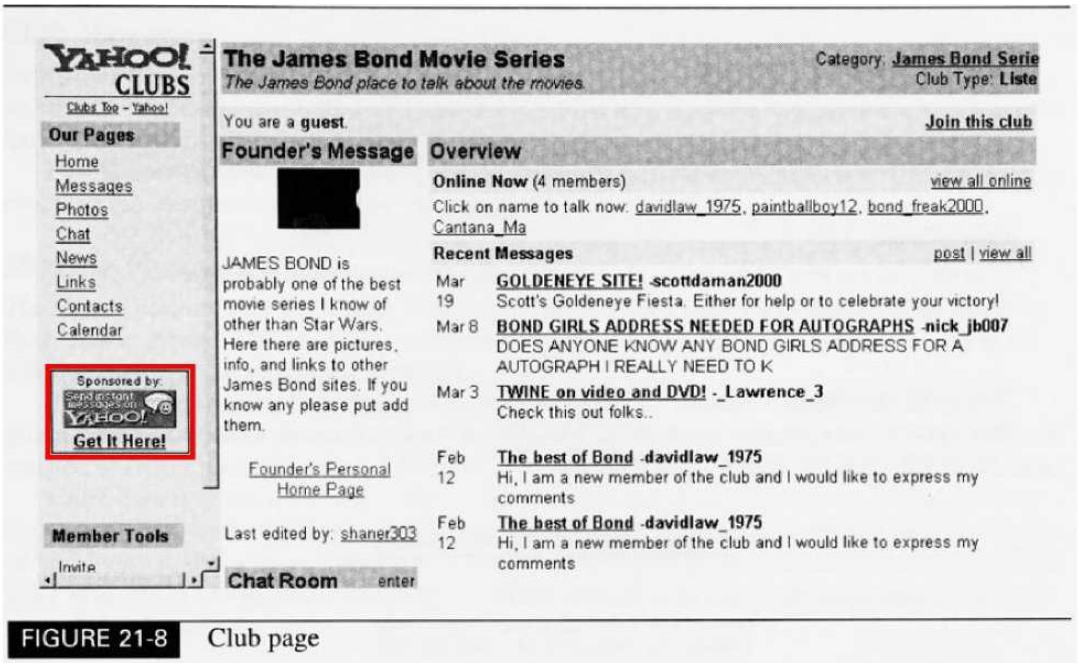


FIGURE 21-8 Club page

(Neibauer, p.475, Fig. 21-8 (red box added).) As shown in the red box, the exemplary club shown in Figure 21-8 includes an advertisement showing that the club was sponsored and includes a link to the sponsored item. The advertising content is also shown accompanying the club message board (an example of a "*mobile information channel*" as explained for limitation [1A]), thus disclosing that inserting of the additional content as recited in claim 1 further "*comprises inserting advertising content into the mobile information channel along with said portion of the additional content*."

217. This is consistent with Miller, which confirms that it would have been obvious to include advertising content on a web page. Miller explains that "[i]n a typical environment of a dynamically created network there are a number of fixed places for advertisements – the top of a page for a banner, the bottom of a page for a banner, and space on the side for small ads. The creator of the environment may choose to use none, any, or all of these spaces for advertisements." (Miller, 0047:1-5.) The claimed ability to distribute advertising content via a web page, in my opinion, adds nothing of patentable significance as this was a well-known and widespread practice long before June 2002. A POSITA would have been motivated to distribute advertising content via a mobile information channel, among other reasons, in order to earn advertising revenue.

218. Claim 13 is also obvious in view of the bulletin board feature of Miller, which provides substantially similar functionality to the message board feature in Neibauer. (Miller, Fig. 2, 0046:20-33.) "A bulletin board," as explained in Miller, "lists notices posted by group members, which may be offers to buy or sell, but need not be limited to such offers. Many types of bulletin board services are of course conventional and no further discussion is necessary in order to implement one of these services." (Miller, 0046:20-23.) It therefore would have been obvious, based on the combination of Neibauer and Miller, that one or more messages posted in the club message board of Neibauer ("*mobile information channel*") could have included advertising content posted by the founder or other club members (such as offers to buy or sell items), which would have been distributed to other club members when they viewed those messages. Advertising content, such as a "wanted" or "for sale" message on an electronic bulletin board, was well-known long before June 2002. Neibauer, for example, discloses a classified ads system allowing users to post such messages. (Neibauer, p.491.) It therefore would have been obvious that the message board feature in Neibauer could have been used by a club member such as the founder to post and distribute advertising content to other club members.

219. Finally, the advertising content would have been inserted "*along with said portion of the additional content*," as claimed. In the first example referring to

Figure 21-8 of Neibauer, the sponsorship advertisement appearing on the club page ("*advertising content*") was inserted on the page alongside messaging content in the club message board. In the second example described above, the advertising content takes the form of actual advertising messages that would have appeared alongside other types of messages on the club message board. Each of the examples described above thus discloses advertising content being inserted "*along with said portion of the additional content*," i.e., along with the one or more other messages in the club message board posted by other club members.

17. Claim 14

[14] The method of claim 1, wherein at least a portion of the additional content is obtained from a device-captured data source of the given user, the device-captured data source comprising a source of at least one of device-captured video data, device-captured audio data and device-captured location coordinates.

220. It would have been obvious that the additional content would have been obtained from a "*device-captured data source of the given user*" that includes at least a source of "*device-captured location coordinates*."[8] As noted for claim 1, Neibauer discloses a photo sharing feature in which the club founder and other

[8] I note that the term "*the given user*" in claim 14 appears to have no antecedent basis in claim 1. I have nevertheless interpreted "*the given user*" as "*the first user*" recited in claim 1.

club members can upload and share photos. (Neibauer, pp.477-479.) Under the proposed combination with Squibbs, as explained for limitation [1F], it would have been obvious that photos uploaded by the user would have included location coordinates associated with the photo. (Squibbs, Fig. 4 (showing "LOCATION COORD" field for photo), ¶0049 (referring to "the coordinates provided by the location data").) These location coordinates are "*device-captured*" because they were obtained by the mobile device, for example, using "the mobile radio infrastructure" or "a GPS system built into the cell phone." (Squibbs, ¶0098.)

18. Claim 15

[15] The method of claim 1 wherein the mobile information channel comprises a collaborative workspace.

221. As explained for limitation [1A], the mobile information channel can include, for example, a club message board, club photo sharing feature, or club chat. Each of these "*comprises a collaborative workspace*," as claimed because each of these features provides a location within the club where club members can communicate and collaborate on topics of interest, *e.g.*, by allowing each multiple club member to post or send messages and/or photos, and respond to the messages and/or photos posted or sent by other club members.

19. Claim 16

[16] The method of claim 1 further comprising permitting the first user to establish a title for the mobile information channel.

222. As explained for claim 1, one of the steps for creating a club using the "*interface*" involves the club founder ("*the first user*") providing a title or name for the club. (Neibauer, *e.g.*, p.481, ¶4 ("Enter a name for the club.").) This name is then used as the title for the club page containing the mobile information channels, as shown in Figure 21-13:

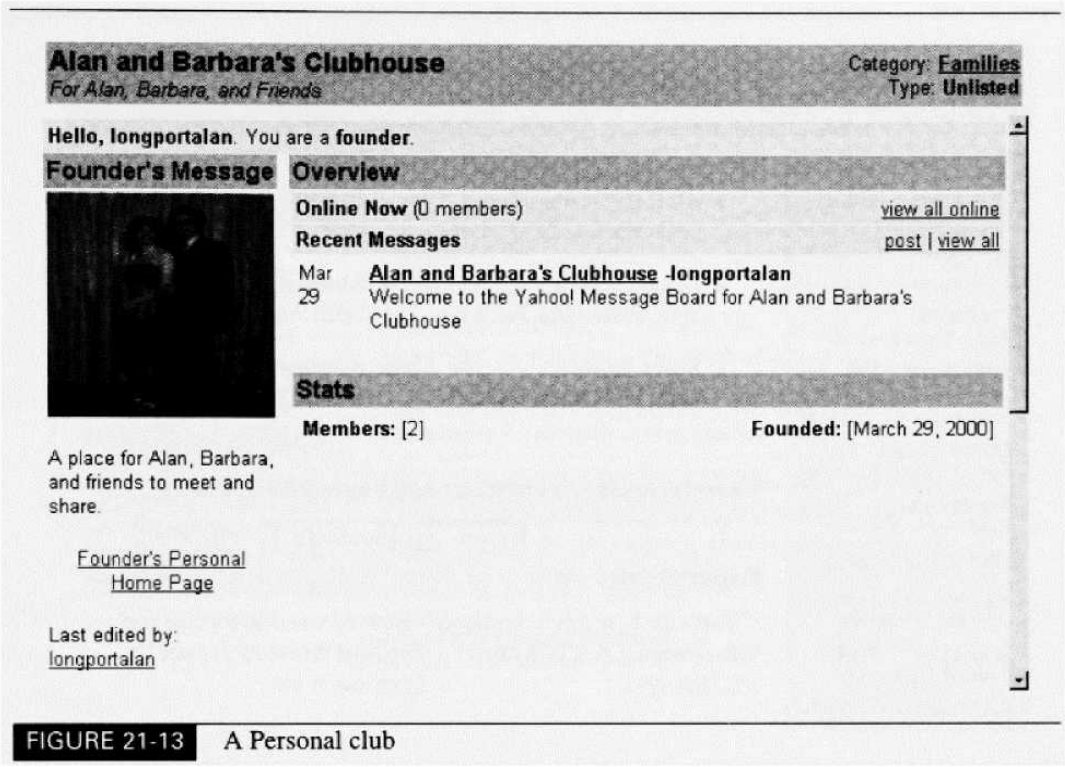


FIGURE 21-13 A Personal club

(Neibauer, p.483, Fig. 21-13.) "Figure 21-13 shows an example of a personal club page. The page contains all of the elements found on other club pages." (Neibauer, p.482.) As shown, the title of the club page in this example is "**Alan and**

Barbara's Clubhouse," which serves as a title for the club and thus all of its mobile information channels. As shown in Figure 21-13, this title also serves as the title for the club message board information channel itself, shown on the club home page.

223. Neibauer discloses other examples in which the first user can establish a title for a mobile information channel. With respect to the club photo sharing feature, the user can create a new photo album and "enter an album name." (Neibauer, p.479; *see also id.*, p.478, Fig. 21-10 (showing photo album titled "Blueraja's BOND GIRL Album" displayed using the club photo sharing feature).) Similarly for the club message board, a user can specify a new message topic (thread) and title it by giving it a heading. (Neibauer, p.471.) In each of these further examples, the first user was permitted to establish a title for a mobile information channel.

20. Claim 17

[17] The method of claim 1 wherein the mobile information channel comprises a chat channel facilitating interaction between the first user and the plurality of additional users.

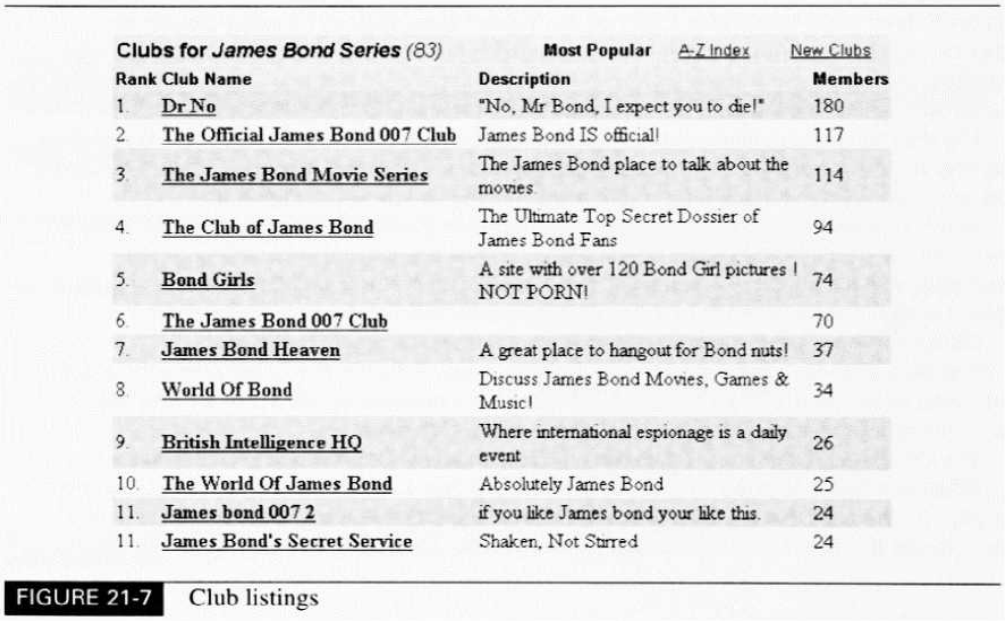
224. As explained for claim 1, Neibauer discloses a mobile information channel in the form of a chat channel, which could have facilitated communication between at least the club founder and other club users. (Neibauer, p.479 ("The Chat option in the Our Pages section opens a private chat area for club members.

There is also a Chat section on the page that lists the members who are currently chatting. Click in the Chat section header to enter the chat.").)

21. Claims 18 and 19

[18] The method of claim 1 wherein the mobile information channel is associated with an entertainment- related entity. [19] The method of claim 18 wherein the entertainment-related entity comprises at least one of a television program, a movie and a music artist.

225. It would have been obvious that a mobile information channel could have been associated with an entertainment-related entity, such as a club devoted to a particular movie or movie series. Figure 21-7, for example, shows a screenshot showing Yahoo! clubs relating to the James Bond series:



Clubs for *James Bond Series* *(83)* **Most Popular** A-Z Index New Clubs

Rank	Club Name	Description	Members
1.	Dr No	"No, Mr Bond, I expect you to die!"	180
2.	The Official James Bond 007 Club	James Bond IS official!	117
3.	The James Bond Movie Series	The James Bond place to talk about the movies	114
4.	The Club of James Bond	The Ultimate Top Secret Dossier of James Bond Fans	94
5.	Bond Girls	A site with over 120 Bond Girl pictures ! NOT PORN!	74
6.	The James Bond 007 Club		70
7.	James Bond Heaven	A great place to hangout for Bond nuts!	37
8.	World Of Bond	Discuss James Bond Movies, Games & Music!	34
9.	British Intelligence HQ	Where international espionage is a daily event	26
10.	The World Of James Bond	Absolutely James Bond	25
11.	James bond 007 2	if you like James bond your like this.	24
11.	James Bond's Secret Service	Shaken, Not Stirred	24

FIGURE 21-7 Club listings

(Neibauer, p.474, Fig. 21-7.) In the example of Figure 21-7, there are "83 clubs [about James Bond] and they are shown in order of popularity." (Neibauer, p.473.)

Neibauer explains that, to visit a club of interest, the user simply clicks the hyperlink for the club. (Neibauer, p.473.) For example, clicking on the third link above (for "**The James Bond Movie Series**") shows the club page shown in Figure 21-8:

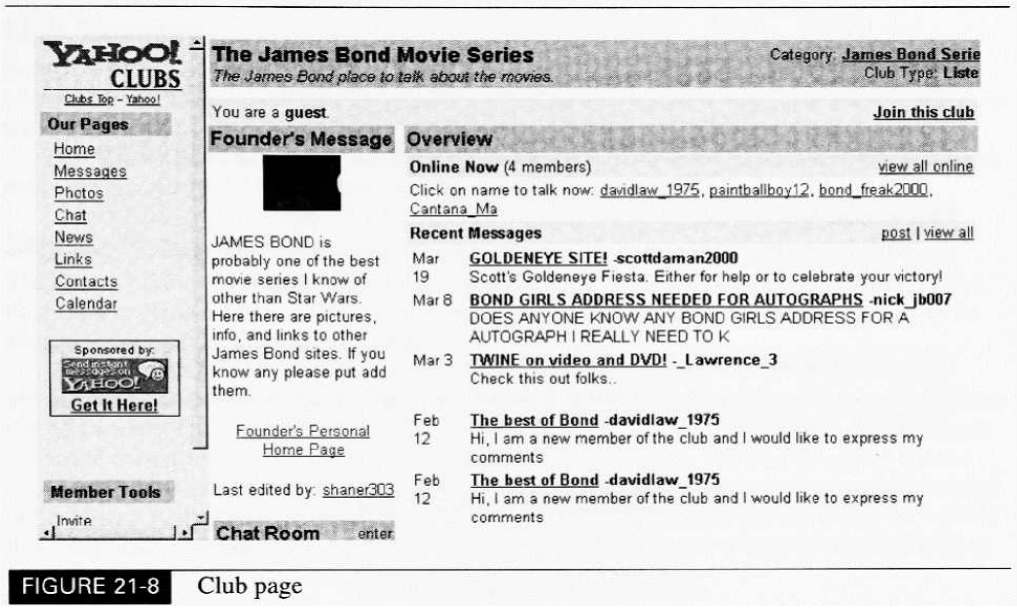


FIGURE 21-8 Club page

(Neibauer, p.475, Fig. 21-8.) The user can join this club by clicking "**Join this club**," shown on the top-right above. (Neibauer, p.475.) After joining, "other members will see your name on the top of the page with the list of members who are online." (*Id.*) As shown in Figure 21-8, the left side of the page shows links shown under "**Our Pages**" on the left side of Figure 21-8 above, for the club message board ("**Messages**"), club photo sharing feature ("**Photos**"), and club chat ("**Chat**"), among others. This thus discloses multiple examples of a "*mobile information channel*" associated with an entertainment-related entity, *i.e.*, the James Bond Movie Series, which is devoted to the movie franchise.

22. Claim 20

[20] The method of claim 1 wherein the mobile information channel is associated with a mobile device application.

226. Each of the mobile information channels is associated with "*a mobile device application*," which takes the form of a browser application that executes on a mobile device. (Cheng, *e.g.*, 2:11-15 (listing exemplary mobile browsers).) This is consistent with the '801 patent, which similarly specifies that a mobile device can access a mobile website using a browser. ('801 patent, 12:64-66 ("The mobile site home page **400** may be accessed, for example, by entering a corresponding URL of the mobile site into a browser at one of the mobile devices **15**.").) Each mobile information channel is thus "*associated with a mobile device application*," because the web browser on the mobile device is used to access the mobile information channel over the wireless network and use the features of the club as described in Neibauer, as fully explained in claim 1.

23. Claim 21

[21] The method of claim 20 wherein the mobile device application comprises a personalized content application."

227. The web browser on the mobile device also comprises a "*personalized content application*." For example, as explained for claim 1, a club founder in Neibauer can post its own personalized messages using the private message board. (Neibauer, p.483, Fig. 21-13 (showing personalized "Welcome" message posted by

club founder).) The founder can also engage in online chat with other club members. (Neibauer, p.479.) And the club founder can add its own personalized photos or create its own personalized photo albums. (Neibauer, pp.477-479.) In each of these examples, the mobile browser enables a club member to access "*personalized content*" because, in the case of the club founder for example, the content would have included messages written by or directed to the founder, or in the case of private club chat, moreover, would have included messaging content specifically directed to the club founder by one or more other members. By allowing the user to access personalized content, the web browser application on the mobile device "*comprises a personalized content application*."

228. As a separate and independent theory, Neibauer discloses the ability of a user to customize their own Yahoo! home page using Yahoo! Companion, a toolbar added to the web browser window. (Neibauer, pp.56.) This feature allows the user, among other things, to personalize and customize aspects the content of the user's My Yahoo! home page. (Neibauer, pp.66-74.)

229. Under either theory, the web browser "*comprises a personalized content application*" because, in both cases, the browser allows a user to access personalized content through the features described in Neibauer.

24. Independent Claim 22

[22] A non-transitory computer-readable storage medium having embodied therein executable code of one or more software programs for use in

managing information content in a network-based communication system, wherein said executable program code when executed by a processing element of the communication system implements the steps of the method of claim 1.

230. Claim 22 adds nothing of patentable significance, as it would have been obvious and required that the functionalities from Neibauer, Miller, Cheng, and Squibbs relied upon for claim 1 would have been carried out and implemented by software comprising code that is executed by "*a processing element of the communication system*," i.e., by at least one server computer. This software would have been stored on at least one "*non-transitory computer-readable storage medium*," such as a hard disk drive. (Cheng, *e.g.*, 23:64-24:4 (explaining that instructions may be stored in random access memory or hard disk storage until required by the computer system).) It would have been obvious that all of the steps of claim 1 would have been carried out by program code stored in a non-transitory computer-readable storage medium and executed by at least one processing element (such as hard disk drives on the web server and proxy server described in Cheng), to carry out a method of managing information content in a network-based system.

231. Mapping the claimed "*processing element*" to origin web server **102** and proxy server **110** is consistent with the '801 patent, which makes clear that a processing element or server can itself comprise multiple servers. ('801 patent, 9:8-10 ("Each of the servers **33**, **35**, **37** and **39** [of processing elements **30**] may

comprise one or more of the servers **16** or other elements shown in FIG. 1A, or suitable portions or combinations thereof.").)

232. Even if the claim required that the "*processing element*" be contained within a single physical server (it does not), it would have been obvious to combine proxy server **110** and origin server **102** into a single server. This implementation is disclosed by Cheng itself, which explains that the computer system implementing the proxy server can "be replaced by, or combined with, any suitable processing system operative in accordance with the principles of the present invention…." (Cheng, 23:20-25.) It therefore would have been obvious that the functionality of origin web server **102** could have been combined with proxy server **110**, to provide a combined server that performs the functions of claim 9. This would have been plainly obvious and trivial in view of Cheng, as ordinarily skilled artisans would have been familiar with known techniques for dividing tasks among servers, including dividing tasks into multiple servers or consolidating tasks within a single server, as needed. For example, a skilled artisan would have been motivated to combine origin web server **102** with proxy server **110** to improve the performance of Cheng's proxy server techniques, as this would have eliminated the step (and network overhead associated with) origin server **102** having to send the original web page to the proxy server over the Internet.

25. Independent Claim 23

a. Preamble [23P]

[23P] An apparatus comprising:

233. Claim 23 is similar, in many respects, to claim 1 but written in the form of an apparatus claim. I will therefore refer back to my analysis of claim 1 as appropriate. The claimed "*apparatus*" for claim 23, under the proposed combination, includes the web server providing the functionality of Neibauer and Miller, which also corresponds to the origin web server **102** in Cheng. (Cheng, 3:36-37 ("In this context, an origin web server **102** is a web server that contains the original web page **104**."); *see also* Miller, 0041:32-0042:2 ("As shown in FIG 12, an Internet Protocol-accessible web server **1201** is coupled through a firewall **1202** to the Internet **1203**. The web server includes an environment generator **1201a** which can comprise a computer program that generates user-defined environments as described above.").) The "*apparatus*" for claim 23 also includes, under the proposed combination with Cheng, proxy server **110** that, as explained for claim 1, reformats and translates the web pages from Neibauer for delivery to a mobile device. (Cheng, 3:31-33 ("The proxy server **110** of the present invention 'sits' between the clients (e.g., the mobile device(s) **108**) and the origin web server(s) **102** that provide Web content **104**.").) As explained for claim 1 and under the proposed combination, the web server providing the functionality of Neibauer,

Miller and Squibbs, and the proxy server in Cheng, work together to carry out each of the claim steps of claim 1.

b. Limitation [23A]

[23A] a processing element comprising a processor coupled to a memory;

234. It would have been obvious that the claimed apparatus includes at least one "*processing element*," such as at least one server that includes a processor and "*a memory*." (Cheng, *e.g.*, 23:16-20 ("Although computer system **1100** is illustrated having a single processor, a single hard disk drive or a single local memory, the system **1100** is optionally suitably equipped with any multitude or combination of processors or storage devices. Computer system **1100** is, in point of fact, able to be replaced by, or combined with, any suitable processing system operative in accordance with the principles of the present invention."); Miller, 0041:32-0042:2.) Dependent claim 24, which depends from claim 23 and is addressed below, expressly recites that "*the processing element comprises at least one server*," thus confirming that the claimed processing element can comprise one or more servers.

235. It would have apparent and obvious that origin web server **102** in Cheng (which would take the form of the web server providing the Yahoo! features deceived in Neibauer and the relied-on features described in Miller and Squibbs), and proxy server **110** would have comprised "*a processing element comprising a*

processor coupled to a memory." The functions in Neibauer, Miller, Squibbs, and Cheng could not function, in fact, without these servers, which in turn could not function without memory for storing software instructions for carrying out their respective functions. I note that my mapping of the claimed "*processing element*" as including a web server and proxy server **110** is entirely consistent with the '801 patent, which makes clear that a processing element or server can comprise multiple servers. ('801 patent, 9:8-10 ("Each of the servers **33**, **35**, **37** and **39** [of processing elements **30**] may comprise one or more of the servers **16** or other elements shown in FIG. 1A, or suitable portions or combinations thereof.").) And as I explained for claim 22 above, it would also have been obvious to combine origin server **102** and proxy server **110**, to the extent the claim were construed to impose such a requirement.

c. Limitation [23B]

[23] the processing element providing at least a portion of an interface permitting a first user to control activation of a mobile information channel through which the first user can share access to content with a plurality of additional users;

236. The step recited in limitation [23B] is substantially identical to limitation [1A], except that limitation [23B] only requires providing "*at least a portion of*" an interface. Limitation [23B] is therefore obvious for the same reasons as limitation [1A]. This step would also have been provided by the claimed

processing element as described for limitation [23A]. Under the proposed combination, therefore, the origin web server **102** and proxy server **110** (the "*at least one processing element*") would have worked together to provide the interface to a first user as, fully described in my discussion of limitation [1A].

d. Limitations [23C]-[23H]

[23C] the processing element being configured to: [23D] activate the mobile information channel responsive to input received from the first user via the interface; [23E] insert content provided by the first user into the mobile information channel; [23F] receive additional content relating to the mobile information channel from one or more of said additional users via one or more respective mobile devices associated with at least one wireless network; [23G] insert at least a portion of the additional content into the mobile information channel; and [23H] integrate into the mobile information channel information associated with at least one wireless networking functionality of said at least one wireless network.

237. The functions recited in limitations [23C]-[23H] are substantially identical to the steps recited in limitations [1B]-[1F] and are therefore obvious for the same reasons. Each of these functions would have been performed by "*the processing element*," as required by limitation [23C]. Under the proposed

combination, therefore, the origin web server **102** and proxy server **110** would have worked together to provide the functions recited in limitations [23C]-[23H].

26. Claim 24

[24] The apparatus of claim 23 wherein the processing element comprises at least one server accessible over the Internet via a network interface.

238. As explained for limitation [23A], the processing element comprises at least origin web server **102** (corresponding to the Yahoo! web server that provides the functions of Neibauer) and proxy server **110** ("*at least one server*"). The servers of claim 23 are both accessible over the Internet. (Cheng, 3:67-4:2 ("As shown [in Figure 1], the proxy server **110** and the server **102** are connected via a network **114** such as the Internet.").)

239. It would have been obvious that these servers would also have been accessible over the Internet "*via a network interface*," as a network interface such as a communications port is a basic component for allowing a computer (such as a server) to communicate with other devices over a network such as the Internet. (Cheng, 23:44-51 ("Communications with external devices, for example, the other components of the system described herein, occur utilizing communication port **1516**. For example, optical fibers and/or electrical cables and/or conductors and/or optical communication (e.g., infrared, and the like) and/or wireless communication (e.g., radio frequency (RF), and the like) can be used as the transport medium between the external devices and communication port **1516**."); Neibauer, p.4

(explaining that Yahoo! members need access to an Internet connection), p.473 ("Access Yahoo! clubs by clicking Clubs on the Yahoo! home page or by going directly to http://clubs.yahoo.com to open the page shown in Figure 21-6."), p.64 ("**http://** This is the prefix for the standard type of Internet Web site. The letters stand for Hypertext Transfer Protocol.") (bold in original).)

27. Independent Claim 25

240. Claim 25 is little more than a system claim counterpart to method claim 1. I will therefore, in the interests of brevity, consistency and ease of review, refer back to the analysis of claim 1 where appropriate.

a. Preamble [25P]

[25P] A network-based communication system, comprising:

241. The preamble of claim 25 recites "[*a*] *network-based communication system*," which is disclosed by the proposed combination as described below.

b. Limitation [25A]

[25A] a plurality of servers configured to communicate over a network;

242. As explained for claim 1 and limitation [23A], the proposed combination of Neibauer and Cheng discloses a network-based communication system that includes at least two servers that communicate over the Internet. First, the system comprises the web server providing the functionality of Neibauer and Miller, which also corresponds to the origin web server **102** in Cheng. (Cheng,

3:36-37 ("In this context, an origin web server **102** is a web server that contains the original web page **104**.").) The network-based system under the proposed combination also includes proxy server **110** in Cheng that, as explained for claim 1, reformats and translates the web pages from Neibauer for delivery to a mobile device. (Cheng, 3:31-33 ("The proxy server **110** of the present invention 'sits' between the clients (e.g., the mobile device(s) **108**) and the origin web server(s) **102** that provide Web content **104**.").)

243. Both of these servers are also "*configured to communicate over a network*," *i.e.*, the Internet. (Cheng, 3:67-4:2 ("As shown [in Figure 1], the proxy server **110** and the server **102** are connected via a network **114** such as the Internet."); Neibauer, p.4 (explaining that Yahoo! members need access to an Internet connection), p.473 ("Access Yahoo! clubs by clicking Clubs on the Yahoo! home page or by going directly to http://clubs.yahoo.com to open the page shown in Figure 21-6."), p.64 ("**http://** This is the prefix for the standard type of Internet Web site. The letters stand for Hypertext Transfer Protocol.") (bold in original).)

c. Limitation [25B]

[25B] at least one of the servers providing at least a portion of an interface permitting a first user to control activation of a mobile information channel

through which the first user can share access to content with a plurality of additional users;

244. The step of limitation [25B] is substantially similar to limitation [1A] and the method step (everything after "*providing*") is identical to limitation [23B]. Under the proposed combination of Neibauer and Cheng, as described for limitation [1A], at least one of the servers in the network-based system would have performed this step. For example, the web server that corresponds to the origin web server **102** in Cheng would have provided the web-based interface for creating a Yahoo! club ("*an interface*") to a club founder ("*a first user*"). If the club founder was accessing the first web-based interface using a mobile device, that web-based interface provided by the Yahoo! web server would have been reformatted and converted by proxy server **110** in Cheng into a form suitable for the founder's mobile device, which proxy server **110** would then provide to the mobile device. In either case, the claimed interface would have been provided to the club founder by "*at least one of the servers*," as claimed.

d. Limitations [25C]-[25H]

[25C] wherein said at least one server is configured to: [25D] activate the mobile information channel responsive to input received from the first user via the interface; [25E] insert content provided by the first user into the mobile information channel; [25F] receive additional content relating to the mobile information channel from one or more of said additional users via one or more respective mobile devices associated with at least one wireless network; [25G] insert at least a portion of the additional content into the mobile information channel; and [25H]integrate into the mobile information channel information associated with at least one wireless networking functionality of said at least one wireless network.

245. The functions recited in limitations [25D]-[25H] are substantially identical to the steps recited in limitations [1B]-[1F] and are therefore obvious for the same reasons. Each of these functions would have been performed by "*said at least one server*," as required by limitation [25C]. Under the proposed combination, therefore, the origin web server **102** and proxy server **110** would have worked together to provide the functions recited in limitations [25D]-[25H].

B. Ground 2: Obviousness in Further View of Harvey.

246. Harvey, U.S. Patent No. 6,487,583 B1, is entitled "System and Method for Information and Application Distribution." I am informed that Harvey

qualifies as prior art because it is a U.S. patent issuing from an application filed on February 25, 2000, which is before the priority date of the challenged claims.

247. Ground 2 is substantially the same as Ground 1, except that it adds Harvey (**EX-1010**) to account for a narrower construction of "*mobile information channel*" that was proposed in the MDT-Meta-Litigation. As explained for Ground 1, limitation [1A], Meta has argued in the MDT-Meta-Litigation that "*mobile information channel*" should be construed as "a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site." I understand that Patent Owner does not agree that this construction is appropriate. In any case, the key feature of this construction, for purposes of Ground 2, is the ability of user-authored content to be added "at a content management site," which Meta has defined in the MDT-Meta-Litigation as "a web site that allows a user without programming to create and manage content on a mobile web site, or a portion thereof." The "*content management site*," as explained for Ground 1, corresponds to the website for creating a new Yahoo! club based on the proposed combination, and the "*mobile website*" to the Yahoo! club made available to club members via mobile devices, under the proposed combination of Neibauer, Miller and Cheng. With respect to the requirement that the "content management site" permit the user to add "user-authored content," this

would have been obvious in further view of Harvey. With respect to all other claim limitations in the challenged claims, my analysis from Ground 1 applies here.

248. Harvey discloses techniques for allowing users to create on-line communities in which users can communicate and share information. In one exemplary embodiment, Harvey discloses an on-line community that is very similar, in terms of its purpose and features, to the type of web-based clubs disclosed in Neibauer and collaborative environments described in Miller:

> A creator accesses a central controller over a network to create a community using a community creating module. In this example, the title of the community is "The William Henry Harrison Historical Preservation Society." The community creating module permits the creator to create a community, and designate applications and content presented. in the community by a user interface. The applications in the present example include a chat application object for users to interact with each other in chat format, a schedule application object for scheduling appointments for the events, a pledge application object for pledging a donation, a photo album application object for viewing photos related to William Henry Harrison, and other application objects. Content in the present example includes information about upcoming fund raising events and meetings for the Society, information about current funds collected, biographical information about William Henry Harrison, and other information. Different applications may provide different levels of interaction between a user, other users, and the central controller module.

(Harvey, 4:24-43.)

249. The key feature of Harvey, for purposes of this ground, is its disclosures of a community creator being able to add content to a community before the community is created and launched. As noted, Harvey explains that "[t]he community creating module permits the creator to create a community, and designate applications and content presented in the community by a user interface." (Harvey, 4:28-30.) More specifically, a user can access a creating module **165** in order to create a new community, which may include web-based community creation. (Harvey, 7:49-54, 7:55-56 ("According to another embodiment of the invention, community creation may comprise a web-based creation.").) "A creator accesses community creating module **165** through a central controller module **115** at step **200** [of Figure 2]." (Harvey, 8:49-50.) "At step **202**, a creator provides community identification information," such as a community name. (Harvey, 7:58-61.) "At step **210**," Harvey explains, "a configuration editor is presented to a creator. A configuration editor may allow a user to build a community, designate content and application objects, subscribe to subscription objects, and add other information associated with the community." (Harvey, 8:63-67; *see also id.*, 9:41-47 ("Options may include… creating specific content….").) Later, "[a]t step **230**, a creator may launch a community." (Harvey, 12:67-13:1.) A

user can establish a connection with a community, among other ways, "through browser access to an appropriate website." (Harvey, 29:59-62.)

250. **Motivation to Combine with Harvey**: It would have been obvious to combine the prior art cited for Ground 1 with Harvey, predictably resulting in the club creation system under the proposed combination, with the further ability of the web-based club creation interface to allow the club founder to add content to one or more mobile information channels. For example, in one exemplary and obvious embodiment of the proposed combination, the web-based club creation interface under the Neibauer + Miller combination would have further allowed the club founder to add content to one or more mobile information channels, such as by adding messages to the club message board, before the club is created and launched.

251. This would have satisfied Meta's proposed construction of "*mobile information channel*" as "a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site." Under the proposed combination, therefore, the "content management site" would have included the web-based interface for allowing the founder to create a club disclosed in Neibauer, and that interface would have further permitted the club founder – in addition to the ability to activate features such as the club message board – to add content for the club, such as initial club messages, initial

photos, and so forth. This information would have been made available for transmission to "the mobile website," i.e., the club site as delivered to mobile users, on the club page itself.

252. Harvey is an analogous reference. The '801 patent describes its "Field of the Invention" as relating generally to "network-based communication systems, and more particularly to techniques for information content management in such systems." ('801 patent, 1:23-25.) Harvey, like Neibauer and Miller described for Ground 1, is an analogous reference in the same field as the '801 patent as it discloses similar functionality for managing information content accessible through the Internet, through a series of information channels that provide the ability to exchange messages and collaborate among multiple users. Harvey would also have been reasonably pertinent to problems facing the patent inventors, including how to implement a web-based system for managing information content and making that content available to users over the Internet.

253. A POSITA would have been motivated to combine in order to provide greater customizability to the clubs created under the proposed combination. This is because the club creator, under the proposed combination, would have been able to use the club-creation interface to populate the mobile information channels with initial content, before the club is launched and made available to other members. This would have allowed the club founder to ensure that other members would not

experience a "blank" club devoid of content, because under the proposed combination, the club founder could have populated its mobile information channels (such as the club message board) with at least some initial content, thus providing a more engaging club experience for other members, featuring content available from the moment of the club's creation.

254. A POSITA would also have had a reasonable expectation of success. The features that I rely upon in Harvey, namely the ability to allow content to be added to mobile information channels through the club creation interface, involved nothing more than straightforward web programming techniques using standard technologies such as HTTP, HTML, and could have been implemented using off-the-shelf web browser and web server software. A POSITA would have found the disclosures of Harvey sufficiently detailed to implement the techniques on which I rely, without undue experimentation.

V. CONCLUSION

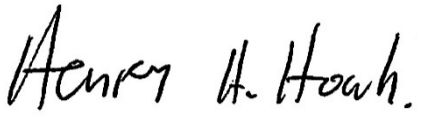
255. In signing this Declaration, I recognize that the Declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in this proceeding. If required, I will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

the invalidity of the challenged claims at issue and/or offer testimony in support of this Declaration.

256. I hereby declare that all statements made herein of my own knowledge are true and that all statements are made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Dated: February 3, 2025

Respectfully submitted,



Henry Houh, Ph.D.

APPENDIX A

Henry H. Houh

15 Ballard Ter.
Lexington, MA 02420
henry.houh@gmail.com
cell: 781-325-8273

Education

Massachusetts Institute of Technology, Cambridge, MA

- PhD in Electrical Engineering and Computer Science, February 1998. “Designing Networks for Tomorrow's Traffic,” thesis supervised by Professor David Tennenhouse and Professor John Guttag. GPA 4.7/5.0
- Master of Science in Electrical Engineering and Computer Science, February 1991. “Demonstration of a laser repetition rate multiplier,” thesis. GPA 4.5/5.0
- Bachelor of Science in Electrical Engineering and Computer Science, June 1989. “Boundary element analysis of arbitrarily shaped dielectric structures,” thesis. GPA 4.7/5.0
- Bachelor of Science in Physics, February 1990. GPA 4.7/5.0

MITx, Cambridge, MA

- September 2020 – present: Enrolled in Statistics and Data Science MicroMasters program, a sequence of five MIT-offered graduate-level courses in statistics and machine learning, culminating in a MicroMasters certificate. Have completed four of five required courses.

Experience

Houh Consulting Inc. / Independent Consultant

- 2009 - present: Technical consultant specializing in Social Networking, Web 2.0, Web Site Development, Data Networking, Optical Networking, Telecommunications, Media Streaming and Voice Over IP. Clients include: Akin Gump Strauss Hauer & Feld LLP, Arnold & Porter Kaye Scholer LLP, BBN, Baker Botts LLP, Barnes & Thornburg LLP, BBN Technologies, Beus Gilbert McGroder PLLC, Bracewell LLP, Christensen O'Connor Johnson Kindness PLLC, Cooley LLP, Covington & Burling LLP, Cozen O'Connor P.C., DLA Piper, Davis Polk & Wardwell LLP, Desmarais LLP, Duane Morris LLP, Erise IP, P.A., Faegre Baker Daniels LLP, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Fish & Richardson P.C., Goldman Ismail Tomaselli Brennan & Baum LLP, Haynes and Boone, LLP, Kaye Scholer, Kellogg Huber Hanson Todd Evans & Figel PLLC, Kirkland & Ellis LLP, Klarquist Sparkman, LLP, McCarthy Tetrault LLP, McGuireWoods LLP, Morgan, Lewis & Bockius LLP, Munger Tolles & Olson LLP, Orrick, Herrington & Sutfliffe LLP, O’Melveny & Myers LLP, Orrick, Herrington & Sutcliffe LLP, Paul Hastings LLP, Paul, Weiss, Rifkind, Wharton & Garrison LLP, Perkins Coie LLP, Quinn Emanuel Urquhart & Sullivan, LLP, Sidley Austin LLP, Smith Baluch LLP, Sterne, Kessler, Goldstein & Fox PLLC, Troutman Sanders LLP, Venable LLP, Weil, Gotshal &

Manges LLP, Wiley Rein LLP, Wilmer Cutler Pickering Hale and Dorr LLP, and Winston & Strawn LLP.

BlocksCAD Inc. (H3XL spin-out)

- 2014 - present: Founder and member of Board of Directors. BlocksCAD is a visual Computer-Aided Design (CAD) program, designed to teach children mathematics and geometric visualization. BlocksCAD is being used in U.S. schools and worldwide in maker spaces, with 350,000+ users. BlocksCAD was selected to be part of the LearnLaunch 2017 Boost Accelerator, the MIT Play Labs 2018 Summer Accelerator, and the MassChallenge 2018 Boston Cohort. Recipient of DARPA DSO grant in 2014, and SBIR grant from the USDA in 2019.

H3XL Inc. d/b/a Einstein's Workshop (formerly Lexington Robotics)

- 2009 - 2022: Founder and President. Started a science, technology, engineering and math enrichment program and creative/maker space, in 7,000 square feet of space. Serve 2,000+ kids and families annually. As of end of 2022, have delivered an estimated 250,000 student-instruction-hours of STEM courses. Principle Investigator for 2-year DARPA grant to improve 3D Computer Aided Design tool developed in-house for the purposes of teaching 8 year olds and up 3D CAD.

Eons

- 2008 - 2009: Chief Technology Officer. Created product that Eons acquired from BBN Technologies. Integrated BBN product with Eons social networking platform and significantly increased the Eons group creation rate. Helped evaluate advertisement platform offerings and rolled out the "Boom Network" advertising network. Eons raised $32 million from General Catalyst Partners, Charles River Ventures, Sequoia Capital, and Intel Capital.

BBN Technologies

- 2007 - 2008: Delta Division, Vice President of Technology. Grew "Boomerang" counter-sniper project engineering team and significantly de-risked $10 million worth of product deliveries. Identified sales team leading to $10 million dollars of new sales within 6 months and $100+ million in additional orders in the following two years. Boomerang was a significant asset leading to the acquisition of BBN by Raytheon in 2009. Created new business plan and grew team; launched new fully-featured social networking web site in 5 months. Served as lead expert witness in patent infringement lawsuit, resulting in $58 million jury award to client; verdict for patents I testified on were upheld on appeal which resulted in a $120 million settlement.
- 2004 - 2007: Delta Division, Director of Technology, responsible for commercializing IP and creating new businesses. Hired and grew division's initial engineering team. Wrote three business plans, two of which were funded. For call center business plan, acted as general manager, hiring and managing engineering team, inside sales team, and identifying and recruiting a new general manager. Identified and recruited other key employees to Delta Division, including senior members of team leading to successful internal sales growth and spin-outs of projects. Contracted by BBN to BBN spin-out PodZinger as VP of Operations and Technology. Additional areas studied include mesh networking, network security, satellite communications, and semantic web.

PodZinger Inc. (BBN spin-out, also known as EveryZing and now RAMP)

- 2006: Vice President of Operations and Technology. Significantly upgraded capability of consumer-facing search site and redeployed web site from company to co-location facility. Identified key portions of infrastructure for upgrading and cost reduction. Helped write business plan, evaluating advertisement models of revenue. Hired in operations replacement and phased back to BBN.

Commonwealth Capital

- 2004: Entrepreneur-in-residence (informally), performed technical due diligence on business plans, brainstormed ideas for new businesses with venture partner. With venture partner, left for portfolio company BBN to form core of commercialization team.

Empirix, Inc./Teradyne, Inc.

- 2001 - 2004: Chief Technologist, Engineering Manager, Web Application Test Group. Researched potential new product areas; developed product plan and prototype. Responsible for three new and existing products. Managed off-shore development team. Chief architect for all web testing products. Re-architected core testing product, helped write javascript interpreter. Provided technical vision for core product.
- 2000 - 2001: Chief Technologist, Communication Infrastructure Test Group. Responsible for incorporating new technology internally, tracking new technologies, technical evaluation of partnerships and potential acquisitions. Helped develop division strategy. Developed plans which formed core capabilities for successful new products introduced in 2004-5.
- 2000 - 2001: Engineering Manager, Communications Infrastructure Test Group. Execution of new product plan developed in prior role. Grew team from four existing engineers to team of over 30 on immediate team and over 40 on project. Delivered new platform in one year. Platform and derivatives accounted for large portion of booked products for the division within 2 years and is currently (2008) a key portion of new product offerings.
- 2000: Empirix was formed as a spin-out of Teradyne in January 2000. Reported to CEO in carve-out of Empirix from Teradyne.
- 1999: (Teradyne) Director of Business Development, Software Test Units. Reported directly to Chairman of the Board/Founder and then to general manager of software test unit (6 divisions of Teradyne). Evaluated and researched acquisition and partnership candidates. Internally assessed technology position in market and gaps in product lines. Worked with senior division staff to develop new product strategies. Attended internal Teradyne divisional board meetings. Chairman served as my mentor.

3Com Corporation/NBX Corporation

- 1999: Software Engineer 5. Continued work after 3Com acquisition of NBX. Built cross-division relationships for new products and research directions. NBX was acquired by 3Com in March 1999.
- 1997 - 1999: (NBX) Senior Scientist and Engineer. Work in IP Telephony. Architected next-generation product. Protocol design and validation for core protocol now used tens of millions of times daily. Led team in integration of IP protocols into current product. Designed audio reconstruction algorithms. Developed applications for bug analysis and diagnosis of system

problems. Implementation of network simulator. Work on collaborative projects with external partners. Worked to identify gaps in product. Representative at numerous trade shows. Innovated novel methods of using product.

MIT Department of Electrical Engineering and Computer Science, Cambridge, MA

- 1991 - 1998: Research assistant, Telemedia Network Systems Group. Design, development, and implementation of Gigabit ATM network for distributed multimedia system. Studied host interface design issues. ATM network simulation.
- Spring 1989, Fall 1990, Spring 1995: Teaching assistant, Computation Structures digital systems course. (Spring 1995 Head TA)
- 1988 - 1989: Head laboratory teaching assistant for Computation Structures. Responsibilities included writing and revising lab assignments, and maintaining the lab.
- 1987: Laboratory teaching assistant for Computation Structures.
- 1987: Design, construction, and programming of 16-bit computer.

Agora Technology Group, Incorporated

- 1994 - 1996: Founder and CEO. Conceived and oversaw development of targeted advertising-supported Web sites. Responsible for company's vision and direction. Attended the first two WWW Conferences, presenting a workshop and paper at the first, and appearing on the "Commercialization and Economics of the Web" panel and chairing the "Where Commercial Services and the Web Are Headed" panel at the second. Sold company intact; is currently an operating stand-alone company.

AT&T Bell Laboratories, Holmdel, NJ

- 1989 - 1990: Implementation of cascadable all-optical fiber logic gate. Modelocking of all-fiber erbium laser. Construction of modelocked laser repetition rate booster. Strong optics laboratory and fiber optic experience.
- Summer 1988, 1987: Research in integrated optics. Analysis of rectangular waveguides using microwave modeling. Fabrication of integrated optical components.

Honors

- MIT Alumni Association Great Dome Award, 2010, Baker 60th Anniversary Reunion Co-Chair (highest group award given by MIT Alumni Association)
- MIT Alumni Association Presidential Citation Award (now known as Great Dome), 2008, Member of MIT Chairman's Salon committee
- MIT Alumni Association Bronze Beaver Award, 2007 (highest individual award given by MIT Alumni Association)
- MIT Alumni Association Volunteer Honor Roll, February 2004
- MIT Alumni Association Lobdell Award, 1999
- Boston Museum of Science Gold Pin for 1000 hours of Volunteer Service, April 1999
- MIT Alumni Association Presidential Citation Award (now known as Great Dome), 1997, Member of Alumni Online Communications Committee

Patents and Patent Publications

- U.S. Patent #9,697,231, H. Houh, J. Stern, R. Spina, M. Meteer, "Methods and apparatus for providing virtual media channels based on media search," July 4, 2017.
- U.S. Patent #9,697,230, H. Houh, J. Stern, "Methods and apparatus for dynamic presentation of advertising, factual, and informational content using enhanced metadata in search-driven media applications," July 4, 2017. See also WO2007056485.
- U.S. Patent #7,975,296, L. Apfelbaum, H. Houh, T. Mayberry and G. Friedman, "Automated security threat testing of web pages," July 5, 2011. See also US20030159063, WO2003067405.
- U.S. Patent #7,877,736, H. Houh and J. N. Stern, "Computer language interpretation and optimization for server testing," January 25, 2011. See also US20050138104, WO2005043300.
- U.S. Patent #7,801,910, H. Houh and J. N. Stern, "Method and apparatus for timed tagging of media content," September 21, 2010. See also US20070112837, US20090222442, WO2007056535.
- U.S. Patent #7,590,542, D. C. Williams, W. C. Hand, H. Houh, A. R. Seeley, "Method of Generating Test Scripts Using a Voice-Capable Markup Language," September 15, 2009. See also EP1530869, US20030212561, WO2003096663.
- U.S. Patent #6,967,963, H. H. Houh, P. Anderson, C. Gadda, "Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data," November 22, 2005. See also EP1060400, WO2000033092, CA2318774.
- U.S. Patent #5,144,375, M. C. Gabriel, H. H. Houh, N. A. Whitaker, "Sagnac Optical Logic Gate," September 1, 1992. Also issued as European Patent # EP0456422, July 23, 1997, German Patent #DE69126913, August 28, 1997
- U.S. Patent Application Publication No. 20020015387, "Voice Traffic Packet Capture and Analysis Tool for a Data Network" (Abandoned in 2007)
- U.S. Patent Application Publication No. 20020016708, "Method and Apparatus for Utilizing a Network Processor as Part of a Test System" (Abandoned in 2007)
- U.S. Patent Application Publication No. 20020016937, "Method and Apparatus for Utilizing a Network Processor as Part of a Test System." (Abandoned in 2007) See also WO2002011413.
- U.S. Patent Application Publication No. 20070106646, "User-directed navigation of multimedia search results" (Abandoned in 2009)
- U.S. Patent Application Publication No. 20070106660, "Method and apparatus for using confidence scores of enhanced metadata in search-driven media applications" (Abandoned in 2009)
- U.S. Patent Application Publication No. 20070106685, "Method and apparatus for updating speech recognition databases and reindexing audio and video content using the same" (Abandoned in 2015)
- U.S. Patent Application Publication No. 20070118873, "Methods and apparatus for merging media content" (Abandoned in 2015)
- U.S. Patent Application Publication No. 20090222442, "User-directed navigation of multimedia search results" (Abandoned in 2016)
- U.S. Patent Application 11/395,732, "Search snippet creation for audio and video data" (Abandoned in 2009)
- U.S. Patent Application 11/774,931, "Methods and apparatus for managing a social networking web site"
- U.S. Patent Application 11/774,947, "Methods and apparatus for organizing media files"
- U.S. Patent Application 11/774,956, "Methods and apparatus for managing an online event"

- U.S. Provisional Patent Application 61/086,909, “Measuring and ranking relationship activity”
- U.S. Provisional Patent Application 61/086,914, “Detecting media object commonality”
- U.S. Provisional Patent Application 61/086,904, “Message categorization based on message characteristics”
- U.S. Provisional Patent Application 61/086,905, “Photo tagging to request action”

Trials, Testimony and Depositions

- Case No. 1:06CV682 (CMH/BRP), Verizon vs. Vonage, U.S. District Court for the Eastern District of Virginia, filed expert report, was deposed and testified at trial.
- Case No. 1:08CV157 (CMH/TRJ), Verizon vs. Cox, U.S. District Court for the Eastern District of Virginia, was deposed and testified at trial.
- Case No. 5:09-cv-476, Two-Way Media vs. AT&T, U.S. District Court for the Western District of Texas, filed expert report, testified at trial.
- Case No. 2:10-cv-248 (RAJ/FBS), ActiveVideo Networks vs. Verizon, U.S. District Court for the Eastern District of Virginia, filed expert report and was deposed as an expert witness.
- Case No. 1:11-cv-00880-TSE-JFA, Bear Creek Technologies, Inc. vs. Verizon Services Corp., et al, U.S. District Court for the Easter District of Virginia, was deposed as an expert witness.
- Case No. 3:10-CV-298-BBC, AlmondNet, Inc. vs. Microsoft Corp., U.S. District Court for the Western District of Wisconsin, filed expert report.
- Case No. 6:10-cv-00597, Guardian Media Technologies, Ltd. Vs. AT&T Operations, Inc. et al., U.S. District Court for the Eastern District of Texas, Tyler Division, filed expert report.
- Case No. ESCV2010-02282C, The Octopus Solution LLC v. Gary Brown et al., Essex, MA Superior Court, testified at trial.
- Investigation No. 337-TA-882, In the matter of Certain digital media devices, including televisions, Blu-ray disc players, home theater systems, tablets and mobile phones, components thereof and associated software, U.S. International Trade Commission, filed expert reports, was deposed and testified at hearing.
- Investigation No. 337-TA-995, In the matter of Certain communications or computing devices, and components thereof, U.S. International Trade Commission, filed expert reports, and was deposed.
- Case No. 8:12-cv-122-LES-TDT, Prism Technologies LLC v. AT&T Mobility LLC, U.S. District Court for the District of Nebraska, filed expert report, was deposed and testified at trial.
- Case No. 11-2684 (JWL), Sprint Communications Co., L.P., v. Comcast Cable Communications, LLC, et al., U.S. District Court for the District of Kansas, filed expert report and was deposed.
- Case No. 11-2686 (JWL), Sprint Communications Co., L.P., v. Time Warner Cable, Inc., et al., LLC, et al., U.S. District Court for the District of Kansas, filed expert report, was deposed, and testified at trial.
- Case No. 12-487 (SLR), Cox Communications, Inc., et al., v. Sprint Communications Company L.P., et al., U.S. District Court for the District of Delaware, filed expert report and was deposed.
- Case IPR 2014-00039, Microsoft Corporation v. B.E. Technology LLC, U.S. Patent No. 6,628,314. Submitted declaration and cross-examined in deposition.
- Case IPR 2014-00086, Apple, Inc. v. Evolutionary Intelligence, LLC, U.S. Patent No. 7,010,536. Submitted declaration and cross-examined in deposition.
- Case No. 6:11-CV-421, Stragent, LLC v. Intel Corporation, U.S. District Court for the Eastern District of Texas, Tyler Division, deposed and testified at trial as a fact witness.

- IPR2014-01366, IPR2014-01367, IPR2014-01368, Samsung et al. v. Straight Path, submitted IPR declarations and was deposed.
- IPR2015-1006, IPR2015-1007, Cisco v. Straight Path, submitted IPR declarations.
- IPR2014-01457, IPR2014-01459, Microsoft v. Biscotti, submitted IPR declaration and was deposed.
- IPR2016-00302, Apple v. Nonend, submitted IPR declaration.
- IPR2014-00812, Yelp and Twitter v. Evolutionary Intelligence, submitted IPR declaration.
- IPR2015-00307, Cisco v. AIP, submitted IPR declaration.
- Microsoft v. Acacia, submitted IPR declaration.
- IPR2015-00342, AT&T Mobility LLC and Cellco Partnership d/b/a Verizon Wireless v. Solocron, submitted IPR declaration.
- Mediatube v. Bell Canada, Canadian Federal Court, submitted expert report and testified at trial.
- CBM2016-00036, Google v. At Home Bondholder's Liquidating Trust, submitted CBM declaration.
- IPR2016-01198, IPR2016-01201, Apple, Inc. v. VoIP-Pal.com, Inc., submitted IPR declaration and was deposed.
- Case No. 3:14-cv-2824-VC, Trend Micro Incorporated v. Rpost Holdings, Inc., et al, submitted expert report and was deposed
- Akamai v. Limelight Networks, IPR2016-01631, IPR2016-01711, IPR2017-00249, IPR2017-00349, submitted IPR declarations and was deposed
- Hyperlync Technologies v. Verizon Sourcing, No. 650151/2015 New York Supreme Court, submitted declaration and was deposed
- Cascades Streaming Technologies v. Big Ten Networks, submitted expert reports and was deposed
- Klaustech, Inc. v. Google LLC., Case No. 4:10-CV-05899-JSW (N.D. Cal.), submitted expert report and was deposed
- Cisco v. Uniloc, IPR2017-00198, IPR2017-00058, submitted IPR declarations and was deposed.
- Cisco v. Uniloc, IPR2017-00597, submitted IPR declaration and was deposed
- Twitter v. Youtoo Technologies, LLC, IPR2017-01133, IPR2017-01131, submitted IPR declarations and was deposed
- Taser International Inc. (now Axon Enterprise, Inc.) v. Digital Ally Inc., IPR2017-00375, submitted IPR declaration and was deposed
- Taser International Inc. (now Axon Enterprise, Inc.) v. Digital Ally Inc., IPR2017-00376, IPR2017-00515, IPR2017-00775, submitted IPR declarations
- HTC Corporation v. IPA Technologies, IPR2018-00306, IPR2018-00307, submitted IPR declaration
- Hulu v. Soundview, IPR2018-00864, IPR2018-01023, submitted IPR declarations and was deposed
- XpertUniverse v. Cisco, 3:17-cv-3848, U.S. District Court for Northern District of California, submitted declaration in support of claim construction and was deposed
- Improved Search v. Microsoft, C.A. No. 16-cv-650-JFB-SRF (Del.), submitted declaration in support of claim construction
- Apple v. Uniloc, IPR2018-00361, IPR2018-00394, IPR2018-00395, IPR2019-00700, IPR2019-00701, IPR2019-01667, submitted IPR declarations
- LG Electronics v. Uniloc, submitted IPR declaration
- SRC Labs and Saint Regis Mohawk Tribe v. Microsoft, 2:18-cv-00321-JLR, U.S. District Court for Western District of Washington at Seattle, submitted declaration in support of claim construction and was deposed

- Verizon Wireless v. Barkan Wireless IP Holdings LP, submitted IPR declarations
- Verizon Wireless and Samsung Electronics America Inc. v. Barkan Wireless IP Holdings LP, IPR2019-199, IPR2019-200, IPR2019-234, IPR2019-631, IPR2019-632, submitted IPR declarations
- Samsung Electronics America Inc. v. Barkan Wireless IP Holdings LP, IPR2019-100, submitted IPR declaration
- Cisco Systems Inc. v. Meetrix IP LLC, IPR2019-539, IPR2019-540, IPR2019-541, IPR2019-542, IPR2019-543, IPR2019-544, submitted IPR declarations
- GMG Products LLC v. Traeger Pellet Grills LLC, PGR2019-24, PGR2019-34, PGR2019-35, PGR2019-36, submitted PGR declaration and was deposed
- Uniloc 2017 LLC v. Google LLC, 2:18-cv-00502-JRG-RSP, U.S. District Court for the Eastern District of Texas, Marshall Division, submitted declaration in support of claim construction
- Microsoft Corporation v. Uniloc 2017 LLC, IPR2020-00102, IPR2020-00103, submitted IPR declarations
- Microsoft Corporation and HP Inc. v. Synkloud Technologies, LLC, IPR2020-00316, IPR2020-01031, IPR2020-01032, IPR2020-01269, IPR2020-01270, IPR2020-01271, submitted IPR declarations
- Seven Networks, LLC v. Apple Inc, 2:19-cv-115-JRG, U.S. District Court for the Eastern District of Texas, Marshall Division, submitted declaration in support of claim construction
- Unified Patents Inc. v. Ortiz & Associates Consulting, LLC, IPR2019-00743, submitted IPR declaration
- Uniloc 2017 LLC v. Apple Inc., 3:19-cv-01905-JD, U.S. District Court for the Northern District of California, San Francisco Division, submitted declaration in support of claim construction and was deposed
- ClearPlay Inc. v. Dish Network LLC et al.; 2:14-cv-00191, U.S. District Court for the District of Utah, Central Division, submitted expert report and re-examination declarations, was deposed, and testified at trial
- AMC Networks, Inc. et al v. Sound View Innovations, LLC, IPR2020-00482, submitted IPR declaration
- Case No. 1:17-cv-01734-RGA, Sprint Communications Co., L.P., v. Charter Communications, Inc., et al., U.S. District Court for the District of Delaware, filed expert report and was deposed.
- CommScope Technologies LLC et al. v. Barkan Wireless IP Holdings LP et al., IPR2020-00827, IPR2020-00829, IPR2020-00831, IPR2020-00833, IPR2020-00835, IPR2020-00838, submitted IPR declarations
- Cisco Systems Inc. v. Monarch Networking Solutions LLC, IPR2020-01226, submitted IPR declaration
- CoolTV Network.com v. Blackboard, Inc., Facebook, Inc., International Business Machines Corporation, Kaltura, Inc., Limelight Networks, Inc., Microsoft Corporation, Ooyala, Inc., Snap, Inc., and Trapelo Corp., submitted declaration in support of claim construction and was deposed
- Facebook, Inc. v. Onstream Media Corporation, IPR2020-01507, IPR2020-01508, IPR2020-01525, IPR2020-01527, IPR2020-01528, submitted IPR declarations
- Hisense Co LTD. v. Maxell, LTD, IPR2020-01598, IPR2020-01600, submitted IPR declarations
- Microsoft Corp. v. O'Brien, IPR2021-00015, submitted IPR declaration and was deposed
- Sable Networks Inc. v. Cisco Systems, Inc., WA:20-CV-00288-ADA, U.S. District Court for the Western District of Texas, Waco Division, submitted declaration in support of claim construction
- Peloton Interactive, Inc. v. Icon Health and Fitness Inc et al., IPR2021-00342, submitted IPR declaration

- Hulu, LLC v. SITO Mobile R&D IP, LLC et al., CBM2020-00028, IPR2020-00158, IPR2020-00206 , IPR2020-00219 , IPR2020-00265 , IPR2020-00298 , IPR2020-00304 , IPR2020-00308 , submitted CMB and IPR declarations and was deposed
- Twitter, Inc. and Google LLC v. B.E. Technology, LLC, IPR2021-00482, IPR2021-00483, IPR2021-00484, IPR2021-00485, submitted IPR declarations
- MG Freesites LTD v. ScorpCast, LLC, IPR2021-00511, submitted IPR declaration
- Avionte, LLC v. Sandeep Acharya, Samar Basnet, and Aqore LLC, Arbitration, Hon. Jeffrey Keyes (Ret.)
- Microsoft Corporation v. WSOU Investments, LLC d/b/a Brazos Licensing and Development, IPR2021-00751, submitted IPR declaration
- SAP America, Inc. v. Express Mobile, Inc., IPR2021-01144, IPR2021-01145, IPR2021-01146, submitted IPR declarations
- StratosAudio Inc. v. Hyundai Motor America, 6:20-cv-01125-ADA, U.S. District Court for the Western District of Texas, Waco Division, submitted claim construction declaration and was deposedPeloton Interactive, Inc. v. Ifit Health and Fitness Inc, IPR2022-00029, IPR2022-00030, submitted IPR declarations and was deposed
- Investigation No. 337-TA-1263, In the matter of Certain televisions, remote controls, and components thereof, U.S. International Trade Commission, filed expert reports, was deposed, and testified at hearing
- Alexander Stross v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-00861-AB(JC), filed expert reports, and was deposed
- Ralph Ledergerber v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-00862-AB(JC), filed expert reports and was deposed
- John Walmsley v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-00863-AB(JC), filed expert reports and was deposed
- Bernhard Kuhmstedt v. Netease, Inc., et al., U.S. District Court (Central District of California), Case 2:20-cv-02044-AB(JC), filed expert reports and was deposed
- Netflix, Inc. v. CA, Inc., IPR2021-01319, submitted IPR declaration and was deposed
- F45 Training Pty Ltd. v. Body Fit Training USA Inc., C.A. No. 20-1194 (LPS) (D. Del.), filed expert report
- Apple v. Fintiv, IPR2022-00976, IPR2022-01149, IPR2022-01150, IPR2023-00399, submitted IPR declarations and was deposed
- Estech Systems, Inc. v. Howard Midstream Energy Partners d/b/a Howard Energy Partners, C.A. No. 6:20-cv-777-ADA (Western District of Texas, Waco Division), filed expert reports and was deposed
- Echelon Fitness Multimedia, LLC. v. Peloton Interactive, Inc., IPR2020-01187, submitted IPR declaration and was deposed
- VIZIO. V. Maxell Ltd., IPR2022-01458, submitted IPR declaration
- Maxell, Ltd. et el. v. VIZIO, Inc., Case No. 2-21-cv-06758 (C.D. Cal.). filed declaration and was deposed
- Microsoft Corporation v. SurfCast, Inc., submitted IPR declarations
- The Walt Disney Company et al. v. WAG Acquisition LLC, IPR2022-01227, IPR2022-01228, IPR2022-01346, submitted IPR declarations and was deposed
- Rakuten Rewards et al. v. IBM, submitted IPR declarations and was deposed
- Fubotv Media Inc. v. Sito Mobile R&D IP, LLC et al., submitted IPR declarations
- Unified Patents, LLC v. Noblewood IP LLC, IPR2022-01111, submitted IPR declaration
- Unified Patents, LLC. v. Pedersen, Peter Henrik, IPR2023-00029, submitted IPR declaration
- Ericsson Inc v. Dali Wireless Inc., submitted IPR declarations

- Universal Electronics, Inc. et al. v. Roku, Inc., IPR2022-00818, submitted declarations and was deposed
- Google LLC. v. Wildseed Mobile LLC et al., IPR2023-00244, IPR2023-00245, IPR2023-00246, IPR2023-00247, IPR2023-00248, submitted declarations
- Lululemon Athletica Canada Inc. et al. v. Nike, Inc., IPR2023-00180, IPR2023-00424, submitted declarations
- Zoho Corporation, et al. v. Meetrix IP, LLC, IPR2023-00371, IPR2023-00377, IPR2023-00379, IPR2023-00380, IPR2023-00382, submitted declarations
- WSOU Investments, LLC d/b/a/ Brazos Licensing and Development v. Google LLC, 6:20-cv-572, U.S. District Court for the Western District of Texas, Waco Division, submitted reports and was deposed
- Google LLC v. Safecast Limited LLC, IPR2023-00652, submitted declaration
- Investigation No. 337-TA-1338, In the matter of Certain smart televisions, U.S. International Trade Commission, filed reports and was deposed
- Cisco Systems, Inc. v. Orckit IP LLC, IPR2023-00714, submitted declaration
- SupplyPro, Inc. v. Sandvik Machining Solutions AB, et al., AAA Case No. 01-22-000-7897. submitted declaration
- TrackThings LLC v. NETGEAR, Inc., Case No. 22-00981-RGA-JLH, U.S. District Court for the District of Delaware, submitted declaration
- Walt Disney Parks & Resorts US Inc. v. Agile Journeys LLC; IPR2024-00029, submitted declaration
- Aylo Freesites Ltd v. Dish Technologies LLC; IPR2024-00043, IPR2024-00044, IPR2024-00045, IPR2024-00046, IPR2024-00047, IPR2024-00048, IPR2024-00146, IPR2024-00147; submitted declarations
- Arm Inc. et al. v. Icpillar LLC; IPR2024-00476, IPR2024-00566; Retained by Arm; submitted declarations
- Microsoft Corp et al. v. Litl LLC, IPR2024-00454, IPR2024-00455, IPR2024-00456, IPR2024-00457, IPR2024-00458; submitted declarations
- Cisco Systems Inc et al. v. InfoExpress Inc, IPR2024-00539, IPR2024-00540, IPR2024-00677, IPR2024-00678; submitted declarations
- Vizio Inc v. Multimedia Technologies Pte Ltd; IPR2024-00722, IPR2024-00723; Retained by Vizio; submitted declarations
- Sap America Inc v. Isix IP LLC; IPR2024-00615; Retained by SAP; submitted declarations
- Cisco Systems Inc et al. v. Portsmouth Network Corp; IPR2024-00505, IPR2024-00506; submitted declarations
- Aylo Freesites Ltd v. Dish Technologies LLC; IPR2024-00512, IPR2024-00513, IPR2024-00514, IPR2024-00515, IPR2024-00516, IPR2024-00517, IPR2024-00518, IPR2024-00519, IPR2024-00940, IPR2024-00941; submitted declarations
- Verizon Corporate Service Group et al. v. Headwater Partners I LLC; IPR2024-00809, IPR2024-00945; Retained by Verizon; Technology: Mobile device management; Submitted declarations
- Microchip Technology Inc v. Aptiv Technologies Ltd et al.; IPR2024-00228; Retained by Aptiv; Technology: Universal Serial Bus; Submitted declaration, 2024
- Vusion Group SA v. Hanshow Technology Co Ltd; IPR2024-00963; Retained by VusionGroup; Technology: Video analysis; Submitted declaration
- Maxell, Ltd. v. TCL Electronic Holdings Ltd. et al.; Case No. 5:23-cv-00108-RWS-JBB; U.S. District Court for the Eastern District of Texas, Texarkana Division; Retained by TCL; submitted declaration and was deposed

Publications

- "IP switching: server driven flow classification," H. H. Houh, *Proceedings of the Washington University Workshop on Integration of IP and ATM* , November 1996.
- "Aurora at MIT," D. D. Clark, H. H. Houh, and D. L. Tennenhouse, Editors, *MIT Laboratory for Computer Science Technical Report 673*, December 1995.
- "ViewStation Applications: Implications for Network Traffic," C. J. Lindblad, D. Wetherall, W. Stasior, J. F. Adam, H. H. Houh, M. Ismert, D. Bacher, B. Phillips, and D. L. Tennenhouse, *IEEE Journal of Selected Areas in Communications*, 1995.
- "The VuNet Desk Area Network: Architecture, Implementation, and Experience," H. H. Houh, J. F. Adam, M. Ismert, C. J. Lindblad, and D. L. Tennenhouse, *IEEE Journal of Selected Areas in Communications*, 13 (4), May, 1995.
- "Reducing the Complexity of ATM Host Interfaces," H. H. Houh and D. L. Tennenhouse, Hot Interconnects II Symposium Proceedings, Stanford, August 11-12, 1994.
- "Media-intensive data communications in a `desk-area' network," J. F. Adam, H. H. Houh, M. Ismert, and D. L. Tennenhouse, IEEE Communications, August 1994.
- "ViewStation Applications: Intelligent Video Processing Over A Broadband Local Area Network," C. J. Lindblad, D. J. Wetherall, W. Stasior, B. Phillips, D. Bacher, J. Adam, H. Houh, M. Ismert, and D. L. Tennenhouse, Proceedings of the 1994 USENIX Symposium on High-Speed Networking, Oakland, CA, August 1994.
- "The Media Gateway: Live Video on the World Wide Web," H. H. Houh, C. J. Lindblad, J. Soo, D. L. Tennenhouse, and D. J. Wetherall, Workshop at the 1994 World Wide Web Conference, Geneva, Switzerland, May 1994.
- "Active Pages: Intelligent Nodes on the World Wide Web ," H. H. Houh, C. J. Lindblad, and D. J. Wetherall, Proceedings of the 1994 World Wide Web Conference, Geneva, Switzerland, May 1994.
- "Wavelength Division vs. Code Division Access Methods for Optical Networks," H. H. Houh, Area Exam Paper, May 1993.
- "Experience with the VuNet: A Network Architecture for a Distributed Multimedia System," J. F. Adam, H. H. Houh, D. L. Tennenhouse, Proceedings of the 18th Conference on Local Computer Networks, pp. 70-76, September 1993
- "The VudBoard: A Simple DMA Interface," H. H. Houh, Proceedings of the 4th Gigabit Minijam, January 1994.
- "A Software-Oriented Approach to the Design of Media Processing Environments," D. L. Tennenhouse, J. Adam, D. Carver, H. Houh, M. Ismert, C. Lindblad, W. Stasior, D. Weatherall, D. Bacher, and T. Chang., submitted to the International Conference on Multimedia Computing and Systems, May 1994.
- "A Network Architecture for Distributed Multimedia Systems," J. F. Adam, H. H. Houh, M. Ismert, and D. L. Tennenhouse, submitted to the International Conference on Multimedia Computing and Systems, May 1994.
- "The Viewstation Collected Papers," D. L. Tennenhouse, J. Adam, C. Compton, A. Duda, D. Gifford, H. Houh, M. Ismert, C. Lindblad, W. Stasior, R. Weiss, D. Wetherall, D. Bacher, D. Carver, and T. Chang, MIT Laboratory for Computer Science Technical Report, MIT/LCS/TR-590, November 1993.
- "The Viewstation Collected Papers II," W. F. Stasior, D. L. Tennenhouse, J. F. Adam, D. R. Bacher, H. H. Houh, M. Ismert, C. J. Lindblad, B. M. Phillips, D. J. Wetherall, MIT Laboratory for Computer Science Technical Report, MIT/LCS/TR-696, April 1996.

- "A System's Perspective of the Sagnac Fiber Logic Gates and Their Possible Applications," A. Huang, N. Whitaker, C. Gabriel, H. Avramopoulos, P. M. W. French, H. H. Houh, and I. Chuang, Applied Optics, September 10, 1994
- "Complete Switching in a Three-Terminal Sagnac Switch," H. Avramopoulos, P. M. W. French, M. C. Gabriel, H. H. Houh, N. A. Whitaker, T. Morse, IEEE Phot. Tech. Lett. **3** (3), 235
- "Complete Switching in a Three-Terminal Sagnac Switch," H. Avramopoulos, P. M. W. French, M. C. Gabriel, H. H. Houh, N. A. Whitaker, IEEE/LEOS Annual Meeting, Paper PDP-13, November 1990
- "All-optical phase-locked oscillator," N. A.Whitaker, Jr., H. H. Houh, H. Avramopoulos, T. F. Morse, IEEE/LEOS Annual Meeting, Paper ELT2.4/MOO3, November 1990
- "Passive modelocking of an all-fiber erbium laser," H. Avramopoulos, H. H. Houh, N. A. Whitaker, M. C. Gabriel, T. F. Morse, IEEE/LEOS Conference on Optical Amplifiers and their Applications, Paper PDP-8, August 1990
- "Transverse modes, waveguide dispersion, and 30ps recovery in submicron GaAs/AlAs microresonators," J. L. Jewell, S. L. McCall, A. Scherer, H. H. Houh, N. A. Whitaker, A. C. Gossard, and J. H. English, Appl. Phys. Lett. **55** (1), July 3, 1989

Leadership, Activities and Interests

- Leadership
  - Reading Symphony Orchestra
    - Board of Directors (Treasurer), 2022 – present
  - Discovery Museum (Acton, MA)
    - Board of Directors, 2023 – present
    - Board of Directors, Development Committee, 2023 – present
    - Science and Technology Advisory Council, 2012 – present
    - The Discover Museum received the 2024 National Medal for Museum and Library Service, the nation's highest honor given to museums and libraries that make significant and exceptional contributions to their communities.
  - Tau Beta Pi National Engineering Honor Society
    - Executive Councilor and Secretary, 2024 – 2026
    - Advisor, MA B Chapter at MIT, 2003 – present
    - District Director (National Officer), Tau Beta Pi, New England Area, 1991 – 2003
    - President, MA B Chapter at MIT, Fall 1988 – Spring 1989
    - Laureate award, 1989
  - MIT Alumni Association Board of Directors
    - MIT Annual Giving Board, 3 year term, 2024 – 2027
    - National Selection Committee, 3 year term, 2020 – 2023
    - K-12 STEM Initiatives Co-chair, 2013 – 2017
    - Awards Committee Chair, 2012 – 2014
    - Awards Committee, 3 year term, 2011 – 2014
    - Vice President, 2 year term, 2004 – 2006
    - Alumni Ad-Hoc Committee, Chair, 2005-2006
    - Board Member, 2 year term, 1997 – 1999
  - MIT Club of Boston
    - Board of Directors, 2006 – 2011
    - K-12 Initiatives Chair, 2009 – 2012

        - VP of Communications, MIT Club of Boston, 2003 – 2006
        - Past-President, MIT Club of Boston, 2002 – 2003
        - President, MIT Club of Boston, 2001 – 2002
        - President-Elect, MIT Club of Boston, 2000 – 2001
        - VP of Programs, MIT Club of Boston, 1999 – 2000
        - Activities Super-Chair, MIT Club of Boston, 1998 – 1999
    - MIT Enterprise Forum of Cambridge, Inc.
        - Past Chair, 2009 – 2011
        - In-NOW-vation Co-chair, 2010
        - Chair, 2007 – 2009
        - Vice Chair, 2005 – 2007
        - Executive Board Member, 2002 – 2011
        - Winter Workshop Co-Chair, February 2007 – conceived idea for conference, which sold-out and produced largest attendance numbers in recent memory
        - Spring Workshop Co-Chair, Spring 2004
        - Membership Committee Chair, Fall 2003 - 2006
        - 25th Anniversary Dinner Chair, Fall 2003
        - As Membership Chair and Board Member, started Special Interest Groups in 2004; a SIG won the MIT Presidential Citation award, the MIT Alumni Association's highest award for organizations, in 2006
    - Estabrook Elementary School PTA
        - Advisory committee to the superintendent on PCB issue, 2010-2011
        - 4th Grade after-school science program co-organizer, 2010-2012
        - 4th and 5th Grade before-school Math Olympiad co-organizer, 2009-2013
        - 5th Grade BBQ and Yearbook Committee, 2011, 2013
        - Family Math Night volunteer, 2008-2012
    - MIT Class of 1989
        - 35-year Reunion Gift Committee, Co-chair, 2024
        - Secretary, five consecutive 5 year terms, 1989 - 2014
        - 30-year Reunion Committee, 2019
        - 25-year Reunion Committee, 2014
        - 20-year Reunion Committee and Gift Committee, 2009
        - 15-year Reunion Committee and Gift Committee, 2004
        - 10-year Reunion Committee and Gift Committee, 1999
        - 5-year Reunion Committee, 1994
        - Interim Treasurer, 1993 - 1994
        - Instituted annual senior class career fair, now raising over $100,000 annually for senior class activities, Fall 1988
    - Strong, consistent record of leadership dating to high school
- Acting
    - '21' (Sony Pictures), credited as "Chinatown Dealer," 2007, Kevin Spacey's movie about the MIT Blackjack Team inspired by "Bringing Down the House" by Ben Mezrich, opened nationwide on March 28, 2008. 21 was the number one movie in US for two weeks and number one globally for one week. 21 also topped the DVD sales, Blu-ray sales and DVD rental charts.
    - Spring Lake Theater Company, first New York-area off-broadway production of "A Chorus Line," played role of Mark, Summer 1990
- Former member of the MIT Blackjack team

- Producer for 10,000 Maniacs' 2013 album "Music from the Motion Picture"
- Executive Producer for 10,000 Maniacs' 2015 album "Twice Told Tales"
- Violist, violist, harpist, guitarist, singer, actor: played in many amateur/semi-professional groups including Firebird Pops Orchestra, Reading Symphony Orchestra, MIT Summer Philharmonic Orchestra, Carlisle Chamber Orchestra, Rivers Symphony Orchestra, Opera51 Orchestra, Freisinger Chamber Orchestra, Merrimack Valley Philharmonic, Longwood Symphony, MIT Symphony, and Somerville Community Chorus
- Violist, "Coming Home" album by Karen Phillips, 2014
- Google Scholar citations: 2224, h-index: 22, i10-index: 27 (since 2019: 539/12/12)
- Erdos-Bacon number of 7
- Erdos-Bacon-Sabbath number of 11