

Declaration of Vijay K. Madiseti, Ph.D. in Support of
Petition for *Inter Partes* Review of
U.S. Patent No. 8,793,336 B2

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.
Petitioner

v.

MOBILE DATA TECHNOLOGIES, INC.,
Patent Owner

Case IPR2024-00246
U.S. Patent No. 8,793,336 B2
Issue Date: July 29, 2014

Title: METHOD, APPARATUS AND SYSTEM FOR MANAGEMENT OF
INFORMATION CONTENT FOR ENHANCED ACCESSIBILITY OVER
WIRELESS COMMUNICATION NETWORKS

DECLARATION OF VIJAY K. MADISETTI, PH.D.

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I, Vijay K. Madiseti, Ph.D., declare as follows:

I. INTRODUCTION AND QUALIFICATIONS

A. Qualifications and Experience

1. I received my Bachelor of Technology (Honors) in Electronics and Electrical Communication Engineering at the Indian Institute of Technology (IIT) in Kharagpur, India in 1984. I obtained my Ph.D. in Electrical Engineering and Computer Science at the University of California, Berkeley, in 1989. I received the Demetri Angelakos Outstanding Graduate Student Award from the University of California, Berkeley and the IEEE/ACM Ira M. Kay Memorial Paper Prize in 1989.

2. I am a tenured full professor in the colleges of computing and engineering at the Georgia Institute of Technology (“Georgia Tech”). I am knowledgeable and familiar with wireless communications, microprocessor architecture, hardware, RF, cellular networks, ASIC design, computer engineering, embedded systems, digital signal processing, and associated software and firmware design for wireless and telecommunications terminals and base stations. I have created and taught undergraduate and graduate courses in hardware and software design for signal processing and wireless communication circuits at Georgia Tech for the past twenty years. Additionally, I have been active in the areas of wireless communications, digital signal processing, integrated circuit design (analog &

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digital), software engineering, system-level design methodologies and tools, and software systems. I have been the principal investigator (“PI”) or co-PI in several active research programs in these areas, including DARPA’s Rapid Prototyping of Application Specific Signal Processors, the State of Georgia’s Yamacraw Initiative, the United States Army’s Federated Sensors Laboratory Program, and the United States Air Force Electronics Parts Obsolescence Initiative. I have received an IBM Faculty Award and NSF’s Research Initiation Award.

3. I have designed several specialized computer and communication systems over the past two decades at Georgia Tech for tasks such as wireless audio and video processing and protocol processing for portable platforms, such as cell phones and PDAs. I have worked on designing systems that are efficient from performance, size, weight, area, and thermal considerations. I have developed courses and classes for the industry on these topics, and many of my lectures in advanced computer system design, developed under the sponsorship of the United States Department of Defense in the late 1990s, are available for educational use at “<http://www.eda.org/rassp>” and have been used by several U.S. and international universities as part of their course work. Some of my recent publications in the area of design of wireless communications systems and associated protocols are listed in Exhibit A. I graduated more than 20 Ph.D. students that now work as professors or

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in technical positions around the world.

4. I have been active in research in the area of the World Wide Web and some of my peer-reviewed publications in this area include (i) Arshdeep Bahga and Vijay K. Madiseti, Performance Evaluation Approach for Multi-Tier Cloud Applications, Journal of Software Engineering and Applications 74-83 (2013); (ii) Arshdeep Bahga and Vijay K. Madiseti, Synthetic Workload Generation for Cloud Computing Applications, Journal of Software Engineering and Applications 396-410 (2011); (iii) Venu Dasigi and Vijay Madiseti, A Web-Based Interface for a Digital Broadband Home, Yamacraw IAB Workshop (2000); and (iv) Arshdeep Bahga and Vijay K. Madiseti, Rapid Prototyping of Multitier Cloud-Based Services and Systems, Computer, vol. 46, no. 11, pp. 76-83 (Nov. 2013).

5. I have been an active consultant to industry and various research laboratories (including Massachusetts Institute of Technology Lincoln Labs and Johns Hopkins University Applied Physics Laboratory). My consulting work for MIT Lincoln Labs involved high resolution imaging for defense applications, where I worked in the area of prototyping complex and specialized computing systems. My consulting work for the Johns Hopkins Applied Physics Lab (“APL”) mainly involved localization of objects in image fields, where I worked on identifying targets in video and other sensor fields and identifying computer architectures and

circuits for power and space-efficient designs.

6. I have founded three companies in the areas of embedded software, military chipsets involving imaging technology, and wireless communications. I have supervised the Ph.D. dissertations of over twenty engineers in the areas of computer engineering, signal processing, communications, rapid prototyping, and system-level design methodology, of which five have resulted in thesis prizes or paper awards. The first of the companies I founded, VP Technologies, offers products in the area of semiconductor integrated circuits, including building computing systems for imaging systems for avionics electronics for the United States Air Force and the US Navy, since 1995. I remain a director of VP Technologies. The second of these companies, Soft Networks, LLC, offers software for multimedia and wireless computing platforms, including the development of a set-top box for Intel that decodes MPEG-2 video streams, wireless protocol stacks, and imaging codecs for multimedia phones. The technology involved with the design, development, and implementation of the Intel set-top box included parsing the bit streams, decoding communications protocols, extracting image and video data, and then processing for subsequent display or storage. The third of these companies, Elastic Video, uses region of interest based video encoding or decoding for capturing high quality video at very low bit rates, with primary application for

wireless video systems.

7. I have authored more than sixty refereed journal publications and around forty peer-reviewed conference publications. I have been active in research in the area of wireless and mobile communications and some of my recent peer-reviewed publications in this area include: (i) Mustafa Turkboylari & Vijay K. Madiseti, Effect of Handoff Delay on the System Performance of TDMA Cellular Systems, Proceedings of the Fourth IEEE Conference on Mobile and Wireless Communications Network 411-15 (Sept. 9-11, 2002); (ii) Loran A. Jatunov & Vijay K. Madiseti, Computationally-Efficient SNR Estimation for Bandlimited Wideband CDMA Systems, 5 IEEE Transactions on Wireless Communications, no. 12 (2006) at 3480-91; and (iii) Nimish Radio, Ying Zhang, Mallik Tatipamula & Vijay K. Madiseti, Next Generation Applications on Cellular Networks: Trends, Challenges, and Solutions, 100 Proceedings of the IEEE, no. 4 (April 2012) at 841-54. I have extensive experience analyzing, designing, and testing systems based on 3GPP Technical Specifications, including specifications describing WCDMA and HSDPA technologies. I have been active in the area of location-based services and wireless localization techniques since the mid-1990s, and have authored several papers on location-based services, including, Vijay K. Madiseti et al., Mobile Fleet Application Using SOAP and System on Devices (SyD) Middleware Technologies,

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Communications, Internet, and Information Technology (2002) at 426-31. I have served as associate editor or on the editorial board for technical journals, including IEEE Transactions on Circuits & Systems II, International Journal in Computer Simulation, and International Journal in VLSI Signal Processing.

8. I have authored or co-authored several books, including VLSI Digital Signal Processors (IEEE Press 1995) and the Digital Signal Processing Handbook (CRC Press, 1998, 2010). I co-authored Quick-Turnaround ASIC Design in VHDL (Kluwer Academic Press 1996) and Platform-Centric Approach to System-on-Chip (SoC) Design (Springer 2004). I am also the editor of several books, including the three-volume DSP Handbook set: Volume 1: Digital Signal Processing Fundamentals, Volume 2: Video, Speech, and Audio Signal Processing and Associated Standards, and Volume 3: Wireless, Networking, Radar, Sensory Array Processing, and Nonlinear Signal Processing, published in 2010 by CRC Press, Boca Raton, Florida. More recently I have authored Cloud Computing (2014, CreateSpace Press), and Internet of Things (2014, CreateSpace), and the book, Cloud Computing, was nominated as a Notable Book of 2014 by the Association of Computing Machinery (ACM) in July 2015.

9. I have been elected a Fellow of the IEEE, for contributions to embedded computing systems. The Fellow is the highest grade of membership of the IEEE, a

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world professional body consisting of over 300,000 electrical and electronics engineers, with only one-tenth of one percent (0.1%) of the IEEE membership being elected to the Fellow grade each year. Election to Fellow is based upon votes cast by existing Fellows in IEEE. I have also been awarded the 2006 Frederick Emmons Terman Medal by the American Society of Engineering Education for contributions to Electrical Engineering, including authoring a widely used textbook in the design of VLSI digital signal processors. I was awarded VHDL International Best PhD Dissertation Advisor Award in 1997 and the NSF RI Award in 1990. I was Technical Program Chair for both the IEEE MASCOTS in 1994 and the IEEE Workshop on Parallel and Distributed Simulation in 1990. In 1989 I was recognized with the Ira Kay IEEE/ACM Best Paper Award for Best Paper presented at the IEEE Annual Simulation Symposium.

10. I have submitted approximately thirty invention disclosures and provisional patents over the past ten years. None of them are patents yet.

11. My Curriculum Vitae is attached as **Exhibit A**.

12. I have been retained by counsel for Petitioner to provide my expert opinion in connection with the above-captioned proceeding as set forth herein.

B. Materials Considered

13. The analysis that I provide in this Declaration is based on my education,

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research, and experience, as well as the documents I have considered. In forming my opinions, I have read and considered U.S. Patent No. 8,793,336 B2 (“’336 patent”) (**EX1001**) and its prosecution history. I have cited to the following documents in my analysis below:

Exhibit No.	Description of Document
1001	U.S. Patent No. 8,793,336 B2 to David Walker Harper et al. (filed February 2, 2012, issued July 29, 2014) (“’336” or “’336 patent”)
1003	Excerpts from Alan Neibauer, <i>How to Do Everything With Yahoo!</i> (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	U.S. Patent Application Publication No. 2004/0198396 A1 to Frank E. Fransioli (filed April 24, 2004, published October 7, 2004) (“Fransioli”)
1008	U.S. Patent Application Ser. No. 10/827,881, filed May 8, 2000 (parent/priority application to EX1007)
1009	Redline comparison between EX1007 and EX1008 .
1010	U.S. Patent No. 6,487,583 B1 to Jamey Harvey et al. (filed February 25, 2000, issued November 26, 2002) (“Harvey”)

Exhibit No.	Description of Document
1011	<i>Reserved</i>
1012	Excerpts from Uwe Hansmann et al., <i>Pervasive Computing Handbook</i> (2001) (“Hansmann”)
1013	Excerpts from David Fox & Troy Downing, <i>HTML Web Publisher’s Construction Kit</i> (1995) (“Fox”)

II. PERSON OF ORDINARY SKILL IN THE ART

14. I understand that, under the patent laws in effect before the America Invents Act (“AIA”) of 2011, an assessment of claims of a patent filed before the AIA took effect should be undertaken from the perspective of a person of ordinary skill in the art as of the earliest claimed priority date (i.e., the “time the invention was made”). I have preliminarily for purposes of my Declaration only assumed that date to be June 18, 2002, the filing date of the earliest application to which the challenged patent claims priority (provisional application no. 60/389,430).¹

15. I have also been advised that to determine the appropriate level of a

¹ I express no opinion on whether the challenged patent is actually entitled to the benefit of the provisional application to which it claims priority (60/389,430). This issue is not relevant here because all of the prior art references relied upon predate that date. In the event entitlement to the provisional filing date may later become relevant, for example based on arguments later presented by Patent Owner, I reserve my right to provide opinions on that issue at that time.

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person having ordinary skill in the art, the following factors may be considered: (1) the types of problems encountered by those working in the field and prior art solutions thereto; (2) the sophistication of the technology in question, and the rapidity with which innovations occur in the field; (3) the educational level of active workers in the field; and (4) the educational level of the inventor.

16. The '336 patent is entitled "Method, Apparatus and System for Management of Information Content for Enhanced Accessibility Over Wireless Communication Networks" and states that it "relates generally to network-based communications systems, and more particularly to techniques for information content management in such systems." ('336, 1:24-26.)

17. In my opinion, a person of ordinary skill in the art would have possessed 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 person of ordinary skill in the art 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.

18. My opinions regarding the level of ordinary skill in the art are based on, among other things, my decades of experience in the field of computer science, my understanding of the basic qualifications that would be relevant to an engineer or scientist tasked with investigating methods and systems in the relevant area, and my familiarity with the backgrounds of colleagues, co-workers, and employees, both past and present.

19. Although my qualifications and experience exceed those of the hypothetical person having ordinary skill in the art defined above, my analysis and opinions regarding the challenged claims have been based on the perspective of a person of ordinary skill in the art as of June 2002.

III. STATEMENT OF LEGAL PRINCIPLES

A. Claim Construction

20. I understand that a purpose of claim construction is to determine what a person of ordinary skill in the art would have understood the claim terms to mean. Claim terms are generally given their ordinary and customary meaning, which is the meaning that the term would have to a person of ordinary skill in the art in question as of the effective filing date.

21. I understand that the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed

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term appears, but in the context of the entire patent, including the specification. I understand that the patent specification, under the legal principles, has been described as the single best guide to the meaning of a claim term, and is thus highly relevant to the interpretation of claim terms. And I understand for terms that do not have a customary meaning within the art, the specification usually supplies the best context of understanding the meaning of those terms.

22. I further understand that other claims of the patent in question, both asserted and unasserted, can be valuable sources of information as to the meaning of a claim term. Because the claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.

23. I understand that the prosecution history can further inform the meaning of the claim language by demonstrating how the inventors understood the invention and whether the inventors limited the invention in the course of prosecution, making the claim scope narrower than it otherwise would be. Extrinsic evidence, such as dictionaries, may also be consulted in construing the claim terms.

24. I understand that, in *Inter Partes* Review (IPR) proceedings, a claim of a patent shall be construed using the same claim construction standard that would be

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used to construe the claim in a civil action filed in a U.S. district court (which I understand is called the “*Phillips*” claim construction standard), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

25. I have been instructed by counsel to apply the “*Phillips*” claim construction standard for purposes of interpreting the claims in this proceeding, to the extent they require an explicit construction. The description of the legal principles set forth above thus provides my understanding of the “*Phillips*” standard as provided to me by counsel.

26. I understand that certain terms in the challenged claims have been previously construed by the court in connection with *prior* litigation involving related patents in the same patent family, U.S. Patent Nos. 7,599,983 and 7,908,342. I understand that there is currently a dispute in the *current* pending litigation between Patent Owner and Petitioner as to whether the constructions from the prior litigation should be applied to the terms of the challenged patent. I further understand that the parties to the current pending litigation have proposed constructions of certain terms. The table below collects these terms and their respective proposed constructions:

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Term	Proposed Constructions
“mobile information channel”	Petitioner: “a virtual location at the content management site at which user-authored content may be added for transmission to the mobile web site” (’983 patent prior litigation; proposed by Petitioner in current pending litigation) Patent Owner: “Plain and Ordinary meaning; no construction required. But if the Court requires construction, ‘a medium for transferring information that allows mobile device users to author content’” (Proposed by Patent Owner in current pending litigation)
“mobile web site”	<i>(This term is not recited in the challenged claims, but is referenced in Petitioner’s proposed litigation construction of “mobile information channel” above)</i> “a web site designed to be accessed by a mobile device” (’983 patent prior litigation)
“web site”	<i>(This term is not recited in the challenged claims, but is referenced in Petitioner’s proposed litigation construction of “mobile information channel” above)</i> “a set of related web pages including text, graphics and data appearing thereon which exist on the server or servers of the web site operator” (’342 patent prior litigation)

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Term	Proposed Constructions
“content management web site”	<i>(This term is not recited in the challenged claims, but is referenced in Petitioner’s proposed litigation construction of “mobile information channel” above (“content management site”))</i> Petitioner: “a web site that allows a user without programming to create and manage content on a mobile web site, or a portion thereof” (based on ’342 patent prior litigation, with “or a portion thereof” added)
“mobile device”	Petitioner: “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” (Proposed by Petitioner in current pending litigation) Patent Owner: “Plain and Ordinary meaning; no construction required. But if the Court requires construction, ‘a piece of handheld equipment’” (Proposed by Patent Owner in current pending litigation)

Term	Proposed Constructions
“activate a given mobile information channel”	Petitioner: “choose a mobile information channel to be visible at the mobile web site” (Proposed by Petitioner in current pending litigation) Patent Owner: “Plain and Ordinary meaning; no construction required. But if the Court requires construction, see previous construction for ‘mobile information channel.’ The construction for ‘activate’ is ‘start a sequence or process’” (Proposed by Patent Owner in current pending litigation)

27. 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. Accordingly, my analysis below discusses these proposed constructions and explains why, under each of them, the limitations are disclosed and rendered obvious by the prior art.

B. Obviousness (§ 103)

28. I understand that a patent claim is obvious if, as of the effective filing date, it would have been obvious to a person having ordinary skill in the field of the technology (the “art”) to which the claimed subject matter belongs.

29. I understand that the following factors should be considered in analyzing obviousness: (1) the scope and content of the prior art; (2) the differences

between the prior art and the claims; and (3) the level of ordinary skill in the pertinent art. I also understand that certain other facts known as “secondary considerations” such as commercial success, unexplained results, long felt but unsolved need, industry acclaim, simultaneous invention, copying by others, skepticism by experts in the field, and failure of others may be utilized as indicia of nonobviousness. I understand, however, that secondary considerations should be connected, or have a “nexus,” with the invention claimed in the patent at issue.

30. 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.

31. I understand that a person of ordinary skill in the art is assumed to have knowledge of all prior art. I understand that one skilled in the art can combine various prior art references based on the teachings of those prior art references, the general knowledge present in the art, or common sense. I understand that a motivation to combine references may be implicit in the prior art, and there is no requirement that there be an actual or explicit teaching to combine two references.

Thus, one may take into account the inferences and creative steps that a person of ordinary skill in the art would employ to combine the known elements in the prior art in the manner claimed by the patent at issue. I understand that one should avoid “hindsight bias” and ex post reasoning in performing an obviousness analysis. But this does not mean that a person of ordinary skill in the art for purposes of the obviousness inquiry does not have recourse to common sense.

32. I understand that when determining whether a patent claim is obvious in light of the prior art, neither the particular motivation for the patent nor the stated purpose of the patentee is controlling. The primary inquiry has to do with the objective reach of the claims, and that if those claims extend to something that is obvious, then the entire patent claim is invalid.

33. I understand one way that a patent can be found obvious is if there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent’s claims. I understand that a motivation to combine various prior art references to solve a particular problem may come from a variety of sources, including market demand or scientific literature. I understand that a need or problem known in the field at the time of the invention can also provide a reason to combine prior art references and render a patent claim invalid for obviousness. I understand that familiar items may have obvious uses beyond their

primary purpose, and that a person of ordinary skill in the art will be able to fit the teachings of multiple prior art references together like the pieces of a puzzle. I understand that a person of ordinary skill is also a person of at least ordinary creativity. I understand when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this finite number of predictable solutions leads to the anticipated success, I understand that the invention is likely the product of ordinary skill and common sense, and not of any sort of innovation. I understand that the fact that a combination was obvious to try might also show that it was obvious, and hence invalid, under the patent laws. I understand that if a patent claims a combination of familiar elements according to known methods, the combination is likely to be obvious when it does not more than yield predictable results. Thus, if a person of ordinary skill in the art can implement a predictable variation, an invention is likely obvious. I understand that combining embodiments disclosed near each other in a prior art reference would not ordinarily require a leap of inventiveness.

34. I understand that obviousness may be shown by demonstrating that it would have been obvious to modify what is taught in a single piece of prior art to create the patented invention. Obviousness may also be shown by demonstrating

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that it would have been obvious to combine the teachings of more than one item of prior art. I understand that a claimed invention may be obvious if some teaching, suggestion, or motivation exists that would have led a person of ordinary skill in the art to combine the invalidating references. I also understand that this suggestion or motivation may come from the knowledge of a person having ordinary skill in the art, or from sources such as explicit statements in the prior art. I understand that when there is a design need or market pressure, and there are a finite number of predictable solutions, a person of ordinary skill may be motivated to apply common sense and his skill to combine the known options in order to solve the problem.

35. I understand the following are examples of approaches and rationales that may be considered in determining whether a piece of prior art could have been combined with other prior art or with other information within the knowledge of a person having ordinary skill in the art:

- (1) Some teaching, motivation, or suggestion in the prior art that would have led a person of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention;
- (2) Known work in one field of endeavor may prompt variations of it for use in the same field or a different field based on design incentives or other

market forces if the variations would have been predictable to a person of ordinary skill in the art;

(3) Combining prior art elements according to known methods to yield predictable results;

(4) Applying a known technique to a known device, method, or product ready for improvement to yield predictable results;

(5) Applying a technique or approach that would have been “obvious to try” (choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success);

(6) Simple substitution of one known element for another to obtain predictable results; or

(7) Use of a known technique to improve similar products, devices, or methods in the same way.

36. I understand that, when determining whether a claimed combination is obvious, the correct analysis is not whether one of ordinary skill in the art, writing on a blank slate, would have chosen the particular combination of elements described in the claim. Instead, I understand the correct analysis considers whether one of ordinary skill, facing the wide range of needs created by developments in the field of endeavor, would have seen a benefit to selecting the combination claimed.

37. I understand that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. The test for obviousness, in other words, is not whether the references could be physically combined but whether the claimed inventions are rendered obvious by the teachings of the prior art as a whole.

IV. THE '336 PATENT

A. Overview of the Specification

38. The '336 patent is entitled “Method, Apparatus and System for Management of Information Content for Enhanced Accessibility Over Wireless Communication Networks” and states that it “relates generally to network-based communications systems, and more particularly to techniques for information content management in such systems.” ('336, 1:24-26.) The Background of the Invention 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. Examples of such devices include mobile telephones, personal digital assistants (PDAs), palmtop computers, etc.” ('336, 1:30-34.)

39. The patent also concedes that, “[a]s is well-known, these and other web-enabled 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.” (’336, 1:34-39.) The patent complains that conventional techniques did not adequately facilitate creation, publishing, distribution, or managing of information on mobile devices. (’336, 1:41-50.) “By way of example, conventional techniques such as web site authoring tools and web logging (‘blogging’) are not optimized for use in the generation of information for shared access via mobile devices.” (’336, 1:50-53.)

40. In one embodiment, the patent describes a technique in which a user, through a website referred to in the patent as a *content management* website, can activate mobile information channels (or M-channels) for a *mobile* website. “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...” (’336, 5:18-23.). Figure 8 shows an exemplary page of a content management website that can be used to activate mobile information channels for a mobile website:

FIG. 8

Welcome username. If you are not username. [click here](#) | [Logout](#)

WEB SITE LOGO

ADMINISTRATION

MY WINKSITE ACCOUNT

METRICS

USERNAME: username
MEMBER SINCE: DD Mon YYYY 00:00 AM/PM
NUMBER OF LOGINS: X
LAST LOGIN: DD Mon YYYY 00:00 AM/PM

MOBILE SITES

01. ancillary mobile site name
02. ancillary mobile site name
03. ancillary mobile site name

MAIN MENU

MOBILE SITE INFORMATION

Here you can manage mobile site content for "ancillary mobile site name"

ancillary mobile site name | [edit](#)
Your site can be viewed on the mobile Internet at the following address:
<http://www.sitedomain.com/username/usercreateddirectory> | [announce site](#)
Site Status: [Online](#) Password Protection: [Off](#)

username's M-Channels (mobile content and communication channels)

D About	manage about content	☒ ON
D Announcements	manage announcement content	☐ OFF
D Core	manage core content	☐ OFF
D Agenda	manage agenda content	☐ OFF
D Notes	manage notes content	☒ ON
D Zine	manage zine content	☐ OFF
D Rant&Rave	manage rant&rave content	☐ OFF
D Surveys	manage surveys content	☐ OFF
D Chat	manage chat content	☒ ON
D Journal	manage journal content	☐ OFF
D Guestbook	manage guestbook content	☐ OFF
D Links	manage links content	☐ OFF
D M-Card	manage m-card content	☒ ON

Icon Legend:
☒ ON : M-Channel is visible to site visitors.
☐ OFF : M-Channel is not visible to site visitors.
Click on the icon in the same row as the M-Channel you wish to turn On or Off.

ALERT: DELETING A SITE CAN NOT BE UNDONE [DELETE SITE](#)

[Start Page](#) > [Main Menu](#) (ancillary mobile site name)

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(’336, Fig. 8.) “FIG. 8 shows an example of a main menu page of the content management site for managing a given mobile site associated with a system user.”

(’336, 13:40-42.) Figure 8, as shown, includes mobile website information **806** and M-channel information **808** making mobile information channels visible on the mobile website. (’336, Fig. 8, 13:42-50.)

41. These M-channels are “utilized at the content management site... to facilitate the generation of mobile sites and the management of associated content.”

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(’336, 8:8-11.) Mobile information channels thus “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**.” (’336, 8:12-18.) The patent provides a lengthy list of examples of mobile information channels including chat, events, guest book, discussion forums, and “numerous other information categories may be represented by mobile information channels at the content management site in accordance with the invention.” (’336, 8:27-41.)

42. Information and selections provided by the user through the content management website “is processed to generate a mobile web site comprising information content that is accessible via one or more of the mobile devices **15** over the wireless network **12** of the system **10**.” (’336, 5:23-27.) An example screen display from a mobile website is shown in Figure 24a (at right).

FIG. 24a

WINKsite	
WINKsite	
1 About (OK)	
2 Directory (OK)	
3 Go to... (OK)	
4 Sign Up (OK)	
5 Help (OK)	
-----	Login

(’336, 3:27-29, 14:64-67.)

43. In one embodiment, a mobile device for use with the alleged invention may be “a web-enabled mobile phone,” but the patent “does not require use of any

particular type or configuration of mobile device.” (’336, 14:55-59.) The patent defines “mobile device” as including “any type of portable information processing device capable of being configured for communication over a network,” including handheld computers, laptop computers, among many other examples. (’336, 4:30-40.) I will discuss additional aspects of the ’336 patent specification in my analysis of the claims below.

B. The Challenged Claims

44. This Declaration addresses claims 1, 6-11, 13-18 and 20-27 of the ’336 patent. Independent claim 1 is representative and recites:

1. A method for managing information content in a network-based communication system, the method comprising the steps of:
 - [a] providing a first web-based interface accessible to a first user, the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users; and
 - [b] generating a second web-based interface different than the first web-based interface, wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;

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

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

('336, 18:53-19:7 (Claim 1; bracketed notations (*e.g.*, [a]) added).)

45. I address the claims further in my detailed analysis in **Part V** below.

V. APPLICATION OF THE PRIOR ART TO CHALLENGED CLAIMS

46. I have reviewed and analyzed the prior art references and materials listed in **Part I.B** above. In my opinion the challenged claims of the '336 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	Basis for Challenge Under § 103
1	1, 6-11, 13-18, 20-21, 23-27	Neibauer (EX1003), Miller (EX1004), Cheng (EX1005)
2	7	Ground 1 Prior Art + Ausems (EX1006)
3	21-22	Ground 1 Prior Art + Fransioli (EX1007)
4	1, 6-11, 13-18, 20-21, 23-27	Ground 1 Prior Art + Harvey (EX1010)
5	7	Ground 2 Prior Art + Harvey

Ground	Claims	Basis for Challenge Under § 103
6	21-22	Ground 3 Prior Art + Harvey

47. **Grounds 4-6** are substantially similar to **Grounds 1-3**, respectively, except that they add Harvey (**EX1010**) to account for Petitioner’s narrower construction of “**mobile information channel**” in the pending litigation, to the extent that construction were adopted here. 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. Brief Summary of Prior Art

1. References Common to All Grounds

(a) Neibauer (EX1003)

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

49. As its title indicates, Neibauer describes various features of Yahoo!, which was one of the most popular online services on the Internet 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! gained

widespread notoriety in the 1990s for having provided one of the first Internet and Web search engines, but later expanded its offerings to provide additional features including (among others) email, shopping, news, weather, sports, among other services. (Neibauer, pp.10-11, 13-17.)

50. One of the features of Yahoo! described in Neibauer was called **Yahoo! Clubs**, which provided a way for users to create online communities to 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.” (Neubauer, p.473 (*italics in original*).) Clubs were accessible from a webpage on the Yahoo! website (<http://clubs.yahoo.com>), that allowed users to search existing clubs relating to particular topics of interest. (Neibauer, p.473.) Figure 21-7, for example, shows a screenshot showing Yahoo! clubs relating to the James Bond series:

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Clubs for James Bond Series (83)		Most Popular	A-Z Index	New Clubs
Rank	Club Name	Description		Members
1.	<u>Dr No</u>	"No, Mr Bond, I expect you to die!"		180
2.	<u>The Official James Bond 007 Club</u>	James Bond IS official!		117
3.	<u>The James Bond Movie Series</u>	The James Bond place to talk about the movies.		114
4.	<u>The Club of James Bond</u>	The Ultimate Top Secret Dossier of James Bond Fans		94
5.	<u>Bond Girls</u>	A site with over 120 Bond Girl pictures ! NOT PORN!		74
6.	<u>The James Bond 007 Club</u>			70
7.	<u>James Bond Heaven</u>	A great place to hangout for Bond nuts!		37
8.	<u>World Of Bond</u>	Discuss James Bond Movies, Games & Music!		34
9.	<u>British Intelligence HQ</u>	Where international espionage is a daily event		26
10.	<u>The World Of James Bond</u>	Absolutely James Bond		25
11.	<u>James bond 007 2</u>	if you like James bond your like this.		24
11.	<u>James Bond's Secret Service</u>	Shaken, Not Stirred		24

FIGURE 21-7 Club listings

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

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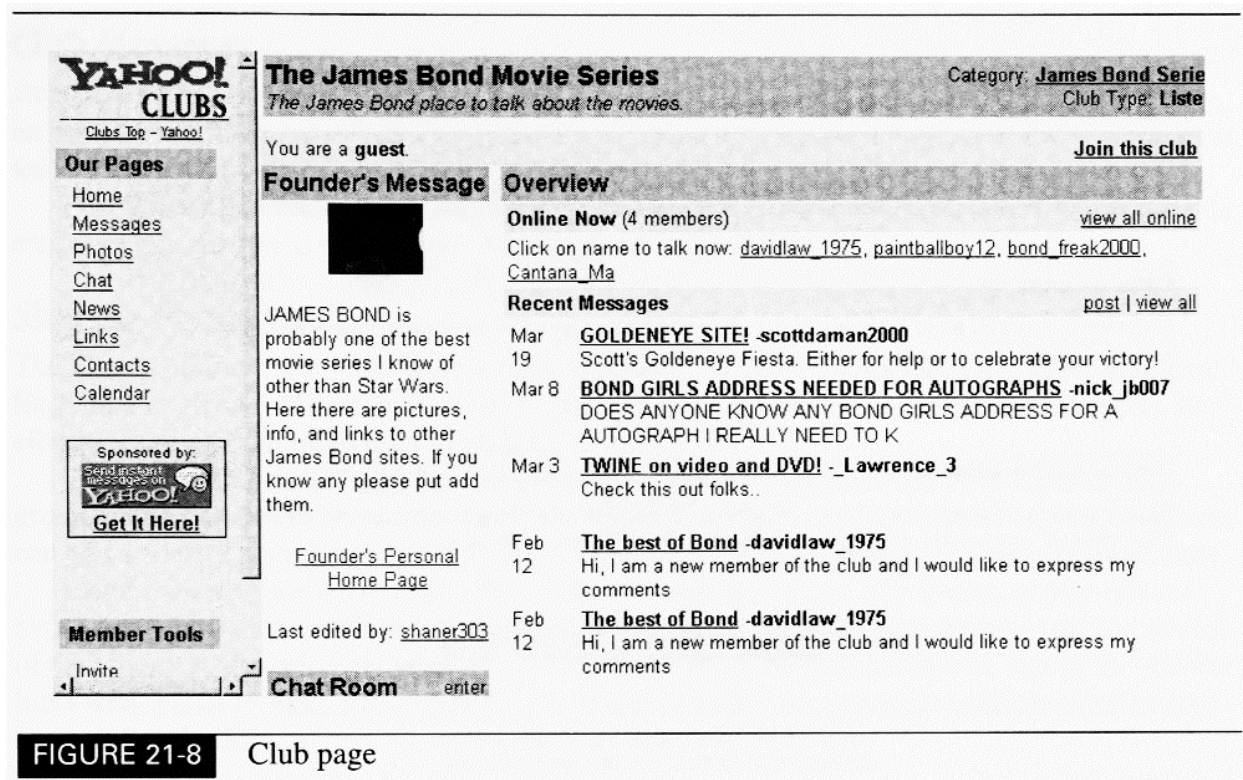


FIGURE 21-8 Club page

(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.*)

51. Each club offers a number of features, accessible from the links shown under “**Our Pages**” 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.)

52. 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**” to cause a form to appear asking for information about the new club. (Neibauer, p.481.)

Figure 21-12 shows an exemplary web form for creating a new Yahoo! Club:

The screenshot shows the 'YAHOO! CLUBS' header with a 'Help?' link. Below is a section titled 'Yahoo! Clubs: Create a Club'. The first step is 'Step 1: Name Your Club', with instructions to keep the name short for the web address. A text input field for 'Name:' is shown with an example '(ex: Joe's Sports Dugout)'. The second step is 'Step 2: Your Club's Location (optional)', with instructions to fill in location details for categorization. It includes a text input for 'In USA, enter 5-digit ZIP code:' with an example '(example: 90210)'. For 'Outside USA, select country:', there is a dropdown menu with 'Canada', 'Afghanistan', and 'Albania' listed.

FIGURE 21-12 Creating a club

(Neibauer, p.481, Fig. 21-12.) As shown, a club founder can specify a name for the new club, and optional zip code or country information. (Neibauer, p.481, ¶¶3-5.)

53. The founder can also select whether the new club will be either “listed”

or “unlisted.” (Neibauer, p.482, ¶6.) “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. (Neubauer, 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.)

54. The club founder can also specify additional content that will appear in the club page, such as a brief textual description that will appear under the club name on the club page, 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 can either select a photo from their own computer, or include a link to a location of the photograph on the web. (Neibauer, p.482.) An exemplary “unlisted” club created using these techniques is shown in Figure 21-13:

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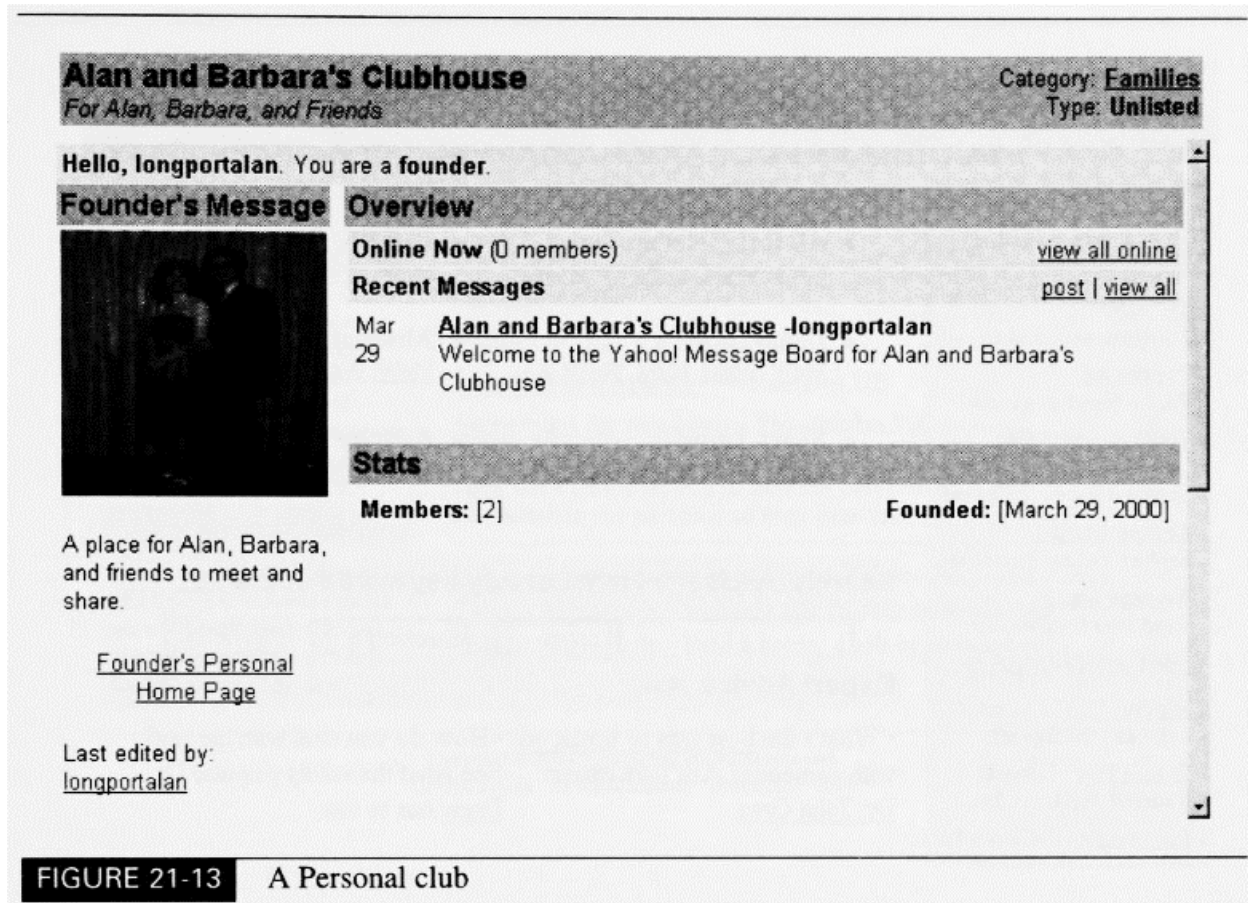


FIGURE 21-13 A Personal club

(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. Click the Invite option in the Member Tools section to ask other persons to join your club.”

(Neibauer, p.482.)

55. Neibauer discloses several ways in which a club founder can manage the content of the 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.” (Neibauer, p.480.)

56. Neibauer also discloses services known as Yahoo! Mobile and Yahoo! To Go that 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

57. I will provide more detail about Neibauer in my discussion of the claim limitations below.

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 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), the term “PDA” became less frequently used.

(b) Miller (EX1004)

58. 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.

59. Miller discloses a system for allowing users to create collaborative web-based environments, which are similar to clubs as described in Neibauer. (Miller, Abstract, 0038:30-0039:12.) The process of 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, etc.) that will be available for members (Fig. 16). (Miller, 0045:12-0046:27.) With respect to the selection of communications features, Miller further 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

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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, 0047:31-0048:9; *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 or group. (Miller, 0043:3-6 (“In step 1104, the environment is created... to permit the group members to activate the functions selected for the group.”).)

60. I will provide more detail about Miller in my discussion of the claim limitations below.

(c) Cheng (EX1005)

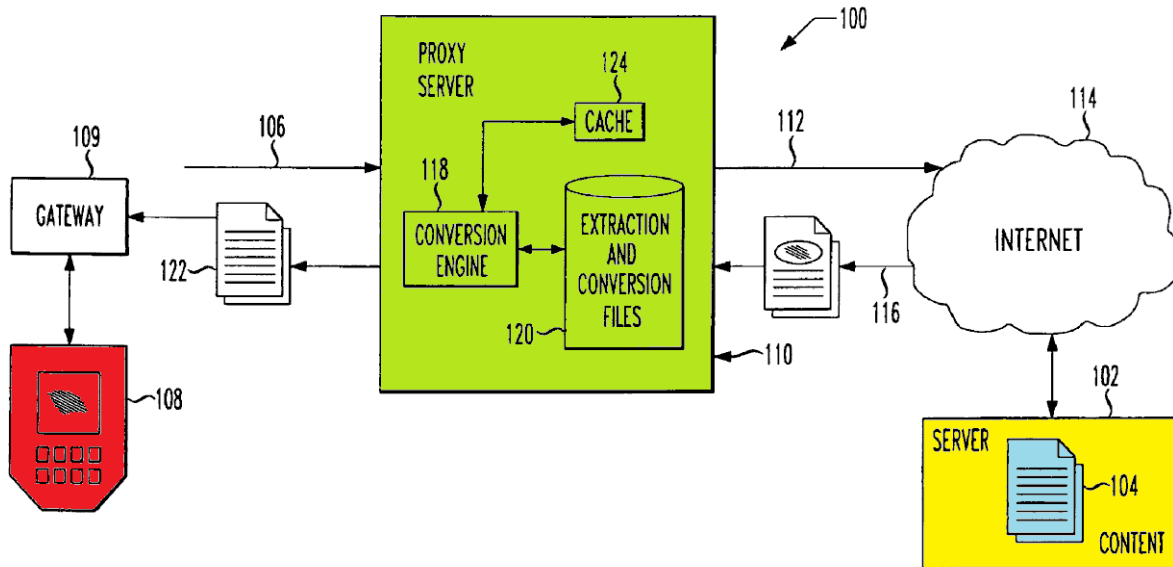
61. **Cheng**, U.S. Patent No. 7,574,486 B1, is entitled “Web Page Content Translator.” I am informed that Cheng qualifies as prior art because it is a United States patent that issued from an application filed on November 8, 2000, which is

before the earliest priority date of the challenged claims.

62. My Declaration cites Cheng in combination with Neibauer and Miller for certain features of the challenged claims that require mobile functionality, such as the “**mobile information channel**” recited in each independent claim. Cheng discloses a technique for translating the pages of existing (non-mobile) 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, in many situations, 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.)

63. Cheng attempts to address this issue by disclosing 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.) Figure 1 illustrates an architecture **100** of one embodiment of the system and method of Cheng:

FIG. 1



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

64. The right side of 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.) An ordinarily skilled artisan would have recognized that web page **104** in Cheng could have been represented by any web page in HTML format reachable via the Internet.

65. The left side of 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.)

66. The middle of Figure 1 shows proxy server **110**, which is a key feature of Cheng. The term “proxy server” refers to a well-established and common technique for facilitating communication and/or interoperability between devices, and this concept was in widespread use 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) (**EX1012**), 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.”).)

67. Cheng discloses a format conversion proxy server that translates web pages and requests between mobile device **108** and proxy server **110**. As Cheng explains and consistent with known proxy server techniques, 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.”).)

68. 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.) “Upon 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.) “The 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).”).) 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.)

69. I will provide more information about Cheng in my discussion of the claim limitations below.

2. Additional References for Dependent Claims (Grounds 2-3)

(a) Ausems (EX1006)

70. **Ausems**, U.S. Patent No. 6,434,403 B1, is entitled “Personal Digital Assistant with Wireless Telephone.” I am informed that Ausems qualifies as prior art because it is a United States patent that issued from an application filed on February 19, 1999, before the earliest priority date of the challenged claims.

71. My Declaration cites Ausems primarily for dependent claim 7, recites that the shared content of claim 1 “**is obtained from a device-captured data source of the first user, said device-captured data source comprising a source of at least one of device-captured video data, device-captured image data, device-captured audio data and device-captured location coordinates.**” As I explain below for claim 7 in connection with **Ground 1**, Neibauer discloses the ability of the club founder to share digital photographs, and it would have been obvious that these photos could have been obtained from a source of at least “**device-captured image data,**” such as image data obtained from a digital camera of the club founder.

This is because, as I explain below for **Ground 1**, digital cameras were commonplace by June 2002, so it would have been obvious that shared image content uploaded to a Yahoo! club, under the proposed combination, could have been obtained from a device-captured data source of the club founder. In the event Patent Owner argues that use of digital cameras was somehow not well-known as of June 2002 or obvious based on the prior art cited for **Ground 1**, **Ground 2** further cites Ausems to show an example of a mobile communications device that, among other things, incorporated a digital camera for recording, storing, and transmitting digital images.

72. The Background of Ausems explains, as was well-known in the art, that “[t]he popularity and use of Personal Digital Assistants (PDAs) and wireless telephones has increased in recent years. A PDA or hand-held computer is primarily a lightweight, compact productivity and communications tool that can typically be held in one hand, leaving the other free to input data with a pen type stylus or a reduced size keyboard. A PDA provides computing and information storage and retrieval capabilities for personal or business use.” (Ausems, 1:12-19.) Ausems further explains that “[i]ncreasingly, wireless telephones are being combined with PDAs in order to perform more advanced functions, such as transmitting, receiving and displaying text messages.” (Ausems, 1:27-30.)

73. Ausems discloses a portable mobile device that combines the functionality of a PDA with a wireless telephone. (Ausems, 3:5-8.) This PDA telephone device **100** includes, among other things, a touchscreen display. (Ausems, *e.g.*, 1:57-58, 4:30-39, 6:9-14.) The device also includes a camera for recording and storing images, which can be transmitted. (Ausems, *e.g.*, 2:5-6, 5:17-18 (“Camera **190** records video images and stores them within. Additionally, video images recorded by camera **190** may also be transmitted from PDA telephone **100** in real time during a telephone call (thus allowing for video conferencing).”).)

74. I will provide more information about Ausems in my discussion of the claim limitations below.

(b) Fransioli (EX1007)

75. **Fransioli**, U.S. Patent Application Publication No. 2004/0198396 A1, is entitled “Location Based Messaging Method and System.” Fransioli states on its face that it was published on October 4, 2004 from an application filed on April 19, 2004. Fransioli states on its face that it is a “continuation” of U.S. Patent Application No. 09/566,456 (**EX1008**) (“456 Application”), which was filed on May 8, 2000. I am informed that, under the patent laws, a “continuation” is a patent application that shares the same disclosure of the invention as its parent application and is thus entitled to the same priority date as the parent application. But in an abundance of

caution, I also prepared a redline document (**EX1009**) comparing the disclosures of Fransioli (**EX1007**) to its parent '456 Application (**EX1008**), which confirmed that Fransioli and its parent application do in fact share the same disclosure. The figures are also identical. I am therefore informed that Fransioli qualifies as prior art as of May 8, 2000, making it prior art to the challenged claims.

76. My Declaration cites Fransioli in connection with **Ground 3** and dependent claims 21-22, which relate to the ability to provide “**personalized messaging content for the first user.**” As explained for **Ground 3** below, it would have been obvious, based on Fransioli, to adapt the system built based on the combination of Neibauer, Miller and Cheng to provide personalized content, such as content selected based on the current location of the first user’s mobile device.

77. Fransioli explains that “use of wireless communication networks has become widespread,” and that “some wireless telephones support some basic interaction with the worldwide web.” (Fransioli, ¶0003.) But Fransioli explains that “[a]lthough existing wireless portable receiving devices are used for many applications that are commercially successful,” they provide general information that “is not localized or personalized to the specific mobile user that is using the wireless device.” (Fransioli, ¶0004.)

78. Fransioli attempts to address this issue by disclosing “a method and

system for providing location based messaging to a mobile user with a wireless portable receiving device in which a message includes content based on the location and direction of travel of the portable device.” (Fransioli, ¶0006.) The portable device can be a wireless or cellular handset. (Fransioli, ¶¶0029, 0030, 0018 (“Advantageously, the portable receiving device may be a portable phone, wireless modem, or any other known portable device for receiving information over a wireless link.”), Fig. 1 (portable device **26**).)

79. In one embodiment, a server determines the location of the portable device, the direction of travel of the mobile device, and establishes a message that includes content that is based on the mobile device’s location and direction of travel. (Fransioli, ¶¶0007, 0015, 0023.) “As [portable] device **26** moves throughout the wireless network, content sent to device **26** includes content that is based on the location of device **26** in addition to being based on the direction of travel of device **26**.” (Fransioli, ¶0023.) Fransioli explains that the location of the device can be determined by the device itself using known global position system (GPS) techniques, or can be determined by the wireless network based on signal strengths between the device and various transmitters in the wireless access network. (Fransioli, ¶¶0027, 0030.)

80. The location-based information sent to the portable device can include,

among other things, advertising information. (Fransioli, ¶0018 (“For example, advertising may be delivered to the portable device based on location and direction of travel.”), 0029.) Fransioli explains that its method “can apply to data with the newer wireless handsets or an interactive wireless data device integrated into a vehicle.” (Fransioli, ¶0030.) “In this variant, a user can invoke the data service and connect to multimedia content or a web portal. Based on the location and travel direction information retrieved, the user can view the same type of information, except instead of being audio, it will be interactive multimedia or Internet media.” (Fransioli, ¶0030.)

81. I will provide more information about Fransioli in my discussion of the claim limitations below.

3. Additional Reference for Grounds 4-6

(a) Harvey (EX1010)

82. **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.

83. 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.)

84. I have relied on Harvey for **Grounds 4-6**, as an additional basis to account for Petitioner’s proposed construction of “**mobile information channel**” in

the pending litigation. As noted in **Part III.A** above, I am informed that Petitioner has argued 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.*” Petitioner has further argued that “*content management site*” within this construction means “*a web site that allows a user without programming to create and manage content on a mobile web site, or a portion thereof.*” The key aspect of the “**mobile information channel**” construction, for purposes here, is that it requires that a mobile information channel also be present on a content management site, and further requires a user to be create or add user-authored content. I have thus cited to Harvey, which discloses the ability of a user to add content to a web-based community using the same interface that the user employed to create the community.

85. Accordingly, the key feature of Harvey, for purposes of my Declaration, is the ability of a community creator to add content to a community before the community is created and launched. As noted above, 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.)

86. I will provide more information about Harvey in my discussion of **Grounds 4-6** below.

B. Ground 1: Claims 1, 6-11, 13-18, 20-21, 23-27 Are Obvious Over Neibauer In View Of Miller and Cheng.

1. Independent Claim 1

87. For reference, claim 1 recites:

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

[a] providing a first web-based interface accessible to a first user, the first

web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users; and

- [b] generating a second web-based interface different than the first web-based interface, wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;
- [c] wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and
- [d] wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.

(’336, 18:53-19:7 (Claim 1; bracketed notation (e.g., [a]) added).)

88. The preamble of claim 1 recites “[a] **method for managing information content in a network-based communication system, the method comprising the steps of...**” Assuming the preamble of claim 1 provides a claim limitation, it is disclosed and rendered obvious over the prior art.

89. As noted in the summary in **Part V.A** above, Neibauer discloses

features of the popular Yahoo! online service, including Yahoo! Clubs. (Neibauer, pp.473-483.) 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.” (Neubauer, p.473 (*italics in original*).) Yahoo! members could also create their own clubs. (Neibauer, pp.480-82.) For example, a member can click “**Create Club**” to cause a web-based form to appear asking for information about the new club. (Neibauer, p.481.) Figure 21-12 shows an exemplary web form for creating a new Yahoo! Club:

The screenshot shows the 'YAHOO! CLUBS' header with a 'Help?' link. Below is a shaded box titled 'Yahoo! Clubs: Create a Club'. The form is divided into two steps. Step 1, 'Name Your Club', instructs the user to keep the name short and provides a text input field for the name, with an example 'Joe's Sports Dugout'. Step 2, 'Your Club's Location (optional)', asks if the club is in a specific neighborhood, city, state, or country. It includes a ZIP code input field for the USA (example: 90210) and a dropdown menu for countries outside the USA, with 'Canada', 'Afghanistan', and 'Albania' visible.

YAHOO! CLUBS [Help?](#)

Yahoo! Clubs: Create a Club

Step 1: Name Your Club
Keep the name short, as it will be in your Web address.
Name: (ex: Joe's Sports Dugout)

Step 2: Your Club's Location (optional)
Is your Club located in a specific neighborhood, city, state or country? Fill it in below.
(Zip codes and countries are used to help categorize the them based on location, allowing users to find Club(s) in their region.)

In USA, enter 5-digit ZIP code: (example: 90210)

Outside USA, select country:
Afghanistan
Albania

FIGURE 21-12 Creating a club

(Neibauer, p.481, Fig. 21-12.) As shown, a club founder can specify a name for the

new club, and optional zip code or country information. (Neibauer, p.481, ¶¶3-5.)

90. The founder can also select whether the new club will be either “listed” or “unlisted.” (Neibauer, p.482, ¶6.) “A listed club is one that is open to all Yahoo! members.” (Neibauer, p.473.) The exemplary James Bond Series club discussed and shown in Figure 21-8 above (in **Part V.A.1**) is a listed club. (Neubauer, 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.)

91. The club founder can also specify additional content that will appear in the club page, such as a brief textual description that will appear under the club name in on the club page, 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 can either select a photo from their own computer, or include a link to a location of the photograph on the web. (Neibauer, p.482.) An exemplary unlisted club created using these techniques is shown in Figure 21-13:

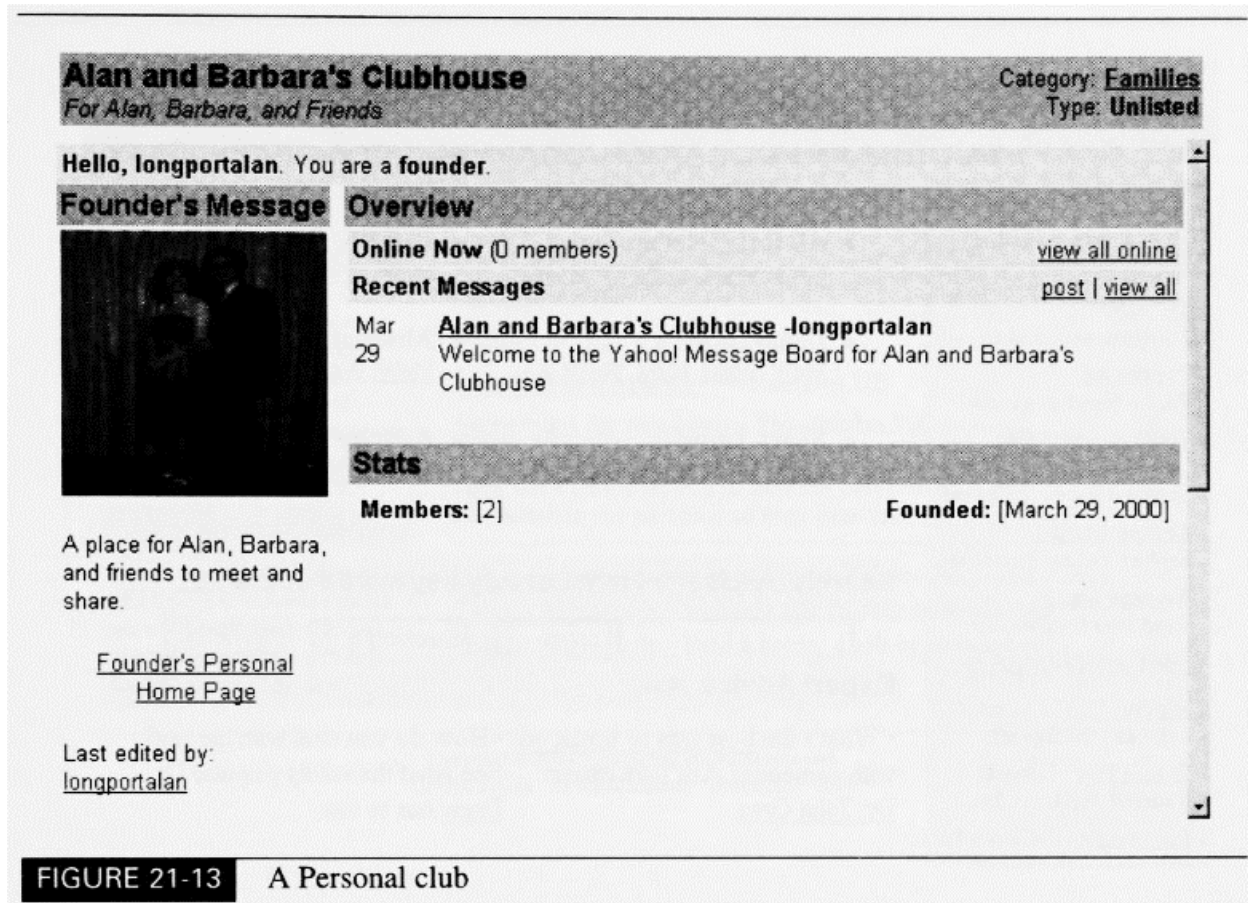


FIGURE 21-13 A Personal club

(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. Click the Invite option in the Member Tools section to ask other persons to join your club.”

(Neibauer, p.482.) Neibauer discloses several ways in which a club founder can manage the content of the 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.” (Neibauer, p.480.)

92. Neibauer therefore discloses “[a] **method for managing information**

content in a network-based communication system,” as recited in the preamble.

Neibauer discloses a method for “**managing**” information content because the club founder can manage the information such as messages and photos that are shared in a club with other members of a Yahoo! club. For example, as noted, the club founder can “control the contents of photo albums, and customize the photo and messages on the club’s home page,” among other capabilities. (Neibauer, p.480; *see also id.*, p.478 (“The club’s founder can delete any photograph or album from the club”), p.479 (“The club founder can customize the [News] page.”).) Neibauer also discloses the ability to manage information content “**in a network-based communication system**” because it allows for sharing and managing of information in a web-based system over 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).)

93. I will provide additional information below about the Yahoo! clubs features described in Neibauer as they become relevant to the claim limitations.

- (a) **“providing a first web-based interface accessible to a first user, the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users; and” (Claim 1[a])**

94. The **“first web-based interface”** in Neibauer takes the form of a web-based interface for creating a new Yahoo! club, which is accessible to the club founder who creates the club (**“accessible to a first user”**). As noted, the club founder (**“first user”**) can cause a web form to be displayed that solicits options for creating a new club:

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).) The form shown in Figure 21-12 referenced in step (3) above, is reproduced below:

The screenshot shows the 'YAHOO! CLUBS' header with a 'Help?' link. Below is a section titled 'Yahoo! Clubs: Create a Club'. The first step is 'Step 1: Name Your Club', with instructions to keep the name short. A text input field for 'Name:' is shown with an example '(ex: Joe's Sports Dugout)'. The second step is 'Step 2: Your Club's Location (optional)', with instructions to fill in location details. It includes a text input field for 'In USA, enter 5-digit ZIP code:' with an example '(example: 90210)'. Below that is a dropdown menu for 'Outside USA, select country:' with 'Canada', 'Afghanistan', and 'Albania' listed. At the bottom left, a caption reads 'FIGURE 21-12 Creating a club'.

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

95. For purposes of claim 1, the “**first web-based interface**” includes the form that the club founder (“**first user**”) uses to create the club as discussed above – but does not include the page for the actual created club to which Petitioner has mapped the “**second web-based interface**” for claim 1[b] below. It would have been obvious that the club-creation form above qualifies as a “**web-based interface**” because it is provided to the club founder via web pages delivered over the Internet to a web browser. (Neibauer, 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).) It would have been obvious to an ordinarily skilled artisan that the web-based interface described in Neibauer would have been generated by software executing on at least one server (such as a Yahoo! web server), which would have been transmitted for display over the Internet to the web browser software executing on the user’s computing device.

96. The first web-based interface in Neibauer is also “**configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users.**” Neibauer discloses at least three features of a Yahoo! club, each feature independently qualifying as “**a given mobile information channel.**”

97. First, Neibauer explains that the club will include a private message board, such as the one shown in the exemplary unlisted club in Figure 21-13 above. “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.) As Neibauer goes on to explain:

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).)

98. As a second example of a mobile information channel, Neibauer discloses a chat feature that allows users to engage in real-time messaging communications:

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).)

99. Third, Neibauer discloses a photo sharing feature that allows club members to share photos and other graphics:

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.

(Neibauer, p.478, ¶¶2-3.)

100. Each of these features of a club discloses a mobile information channel configured “**for sharing content between the first user and one or more additional users,**” because they can be used for sending and receiving messages such as club message board or chat messages, or photographs with accompanying textual names and descriptions (“**for sharing content**”).

101. Neibauer’s disclosures are also consistent with the description of exemplary “**mobile information channels**” in the written description of the ’336 patent. The ’336 patent explains that “[t]he 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...." ('336, 5:18-22.) The patent further asserts that "the 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**." ('336, 8:11-17.) In fact, the '336 patent expressly identifies, as examples of mobile information channels, "discussion forum," "chat," and "photo blog" ('336, 8:27-38), which mirror the Yahoo! club message board, chat, and photo sharing features, respectively, described in Neibauer. I will provide a separate discussion below as to why these information channels in Neubauer qualify as "**mobile**" information channels as recited in the claim, based on Neibauer alone and in view of Cheng. But as the discussion makes clear, the features in Neibauer that correspond to the claimed mobile information channels are entirely consistent with examples of such channels identified in the patent specification.

102. The club founder in Neibauer can also "**activate**" any of the above mobile information channels via "**the first web-based 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 is because this action, which takes place using the club-creation web form (“**the first web-based 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.

103. I note that it is unclear if the requirement that the “**first web-based interface**” is configured to allow the first user to “**activate a given mobile information channel**,” requires that the first user be able to use the first web-based interface to choose a particular mobile information channel that be included with the club. In the case of Neibauer, the claimed activation occurs when the club founder takes action to create the club using the form described above, which causes the club and its mobile information channels (*e.g.* club message board, chat, photo sharing) to become available to the club founder and other club members. But in the event it is determined by the Board that this claim limitation requires that the first user selectively activate particular mobile information channels using the first web-based interface, for example by selecting them on a channel-by-channel basis using a user interface similar to the one shown in Figure 8 of the ’336 patent, such a feature would have been obvious in view of Miller (EX1005).

104. Miller discloses a system similar to Neibauer for allowing users to

create collaborative web-based environments. (Miller, Abstract, 0038:30-0039:12.)

The process of creating a new environment is 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, etc.) that will be available for members (Fig. 16). (Miller, 0045:12-0046:27.) With respect to the selection of communications features, Miller further explains with reference to Figure 16:

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, 0047:31-0048:9; *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 or group. (Miller, 0043:3-6 (“In step 1104, the environment is created... to permit the group members to activate the functions selected for the group.”).)

105. *Rationale and Motivation to Combine (Neibauer with Miller)*: It would have been obvious to combine Neibauer with Miller, predictably resulting in the system and method for creating a Yahoo! club described in Neibauer, but with the “**first web-based interface**” further allowing the club creator to select and activate the particular communication features (including “**a given mobile information channel**”) that will be available in the club. Under the proposed combination, therefore, the “**first web-based interface**” in Neibauer would have allowed the first user to “**activate a given mobile information channel,**” by selecting the particular mobile information channel(s) that be included with the club, to the extent it is determined that the claims require such functionality. As one exemplary implementation, the club creation form in Neibauer could have been adapted 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, thereby permitting the club founder to individually select and activate the particular features for inclusion in the club being created.

106. Neibauer and Miller are both analogous references. The '336 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." ('336, 1:23-25.) Neibauer and Miller are analogous references in the same field as the '336 patent, each disclosing similar functionality for managing information content accessible through the Internet, through a series of web-based information channels that provide the ability to exchange messages and collaborate among multiple users. Both references 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 using web-based user interfaces.

107. An ordinarily skilled artisan would have been motivated to combine Neibauer and Miller to enhance the flexibility and customizability of clubs in Neibauer. For example, it would have been obvious that certain club features available in Neubauer may not have been particularly useful or desirable for some clubs. To take one example, a club created to allow members to share textual poems

may have had little or no use for the photo sharing or calendar features. Allowing the club founder to select the particular features (*e.g.*, message board, chat, photo sharing, etc.) that will be included in the club would have provided a clear advantage of allowing the club founder to customize and streamline the club to meet the needs of club members and the purpose of the club. As a further motivation to combine, I note that Miller discloses many of the same features that Neibauer describes as being available for clubs, including message boards (0047:20-33 (“Bulletin boards”)), chat (0052:23-24 (“Chat groups”)), contact list (0049:19-26 (“White pages”)), among others. An ordinarily skilled artisan would thus have found Miller’s selection techniques fully applicable and beneficial to Neibauer, and would have been motivated to adapt Neibauer to allow for individual selection of features to allow the founder to create a club better tailored to the needs of its members and the purpose of the club.

108. An ordinarily skilled artisan would also have had a reasonable expectation of success. To be clear, I am not suggesting that an ordinarily skilled artisan could have replicated the entire Yahoo! service based on the description in Neibauer, as the Yahoo! website has features and functionalities (such as the ability to scale to many millions of users) that go beyond the limitations of the challenged claims. With respect to the Yahoo! Clubs features that I rely upon in this Declaration

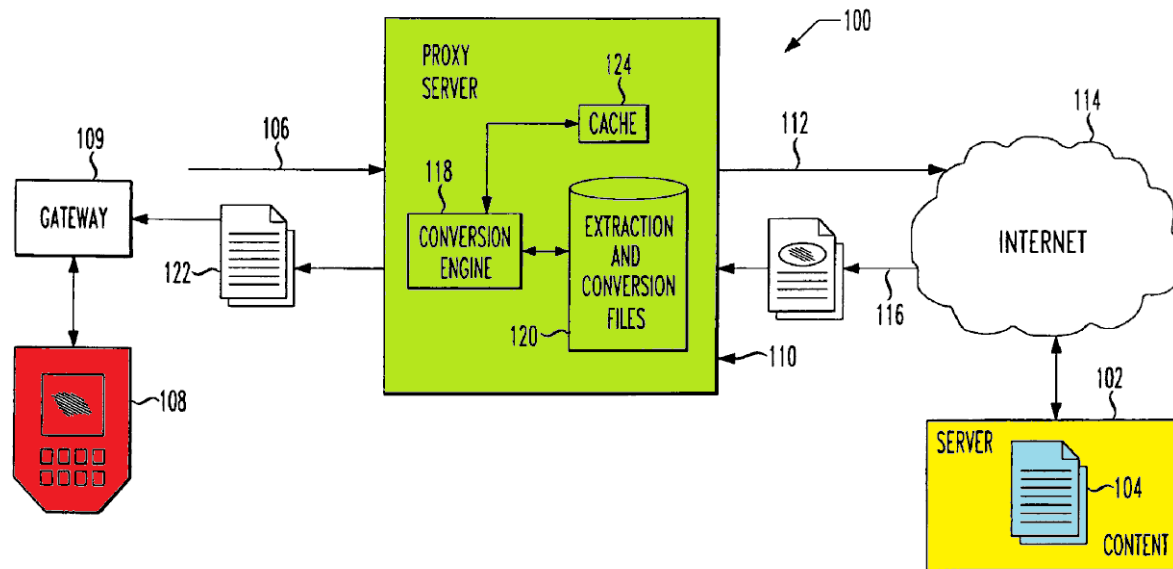
that disclose the claim limitations, they involve nothing more than straightforward web programming techniques relying on standard technologies such as HTTP, HTML, and could have been implemented using off-the-shelf web browser and web server software. The disclosures in Miller upon which I rely similarly rely on well-known web programming techniques. An ordinarily skilled artisan would have found the disclosures of Neibauer and Miller sufficiently detailed to implement the techniques on which I rely, without undue experimentation.

109. ***“Mobile” Information Channels:*** With respect to the word “mobile” in ***“mobile information channel,”*** this adds nothing of significance because, as demonstrated below, it would have been obvious that each of the features of Neibauer relied upon above (*e.g.* club message board, chat, photo sharing) could have been adapted to allow for content sharing using a mobile device. The ’336 patent itself expressly defines a “mobile device” as including, among other things, a laptop computer. (’336, 4:30-40.) It was well-known that conventional laptop computers provided the same functionality as desktop computers and were able to run web browser software and visit web pages on the Internet. It therefore would have been obvious that the Yahoo! website, including the clubs feature discussed above, would have been accessible to a user of a mobile device such as a laptop computer, thus making each of the ***“information channels”*** in Neibauer accessible

via a mobile device.

110. It would also have been obvious, based on Neibauer and in further view of **Cheng**, that the information channels in the club could have been “mobile” information channels. 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.) Figure 1 illustrates one embodiment:

FIG. 1



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

111. The right side of 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**.”).) “The 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.) An ordinarily skilled artisan would have recognized that web page **104** in Cheng could have been represented by any web page in HTML format reachable via the Internet, such as a web page from the Yahoo! website as described in Neibauer.

112. The left of Figure 1 shows a 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.)

113. The middle of Figure 1 shows proxy server **110** – the key feature of Cheng for purposes of my analysis. 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.) Cheng explains that 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 also store a device profile for mobile device **108** based on the device and web browser types. (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.”).) As explained in **Part V.A.1(c)** above, proxy servers were already well-known and had been commercially deployed for a variety of purposes, including to translate web-based content into a format suitable for mobile devices. (See Uwe Hansmann et al., *Pervasive Computing Handbook* (2001) (**EX1012**), p.35 (“A proxy server at AvantGo.com modifies the Web pages in a way that they can be displayed on Palm devices.”), p.316, §14.1.1 (discussing commercially-available Palm proxy server).)

114. The general operation of proxy server **110** in Cheng is straightforward. As shown in Figure 1, mobile device **108** can issue 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.) “Upon 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.)

115. 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.) “The 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).”).)

116. *Rationale and Motivation to Combine (Neibauer and Miller with Cheng)*: It would have been obvious to combine Neibauer and Miller with Cheng, predictably resulting in the club creation functionality described in Neibauer and Miller, being delivered to mobile devices over the Internet. Under the proposed combination, therefore, the web pages in Neibauer relied upon for claim 1, 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 all have been translated and delivered to users with mobile device, via the proxy server conversion techniques disclosed in Cheng.

117. The implementation of the proposed combination 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. (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, in the proposed combination, could have been operated by the same or a different entity from the operator of the origin web server. In any case, all of the web-based features of Neibauer and Miller described above, including each of the features to which I have mapped the claimed “**mobile information channels,**” would have been delivered to users of mobile devices based on the proxy server techniques under the further combination with Cheng. As Cheng discloses the ability to adapt any existing webpage for display on a mobile device, the proposed combination could have been implemented as a simple add-on to the overall system without having to change the underlying functionality in Neibauer. (Cheng, 2:8-19.) This, in fact, provides one of the motivations to combine as discussed below.

118. Like Neibauer and Miller, Cheng is an analogous reference in the field of network-based communications systems, including the ability to make web-based information content available on mobile devices. Cheng would also have been reasonably pertinent to problems facing the inventors, including how to implement

a web-based system for making information content available to mobile device users, including how to properly format and deliver web content to mobile devices given their limited display space and navigational capabilities, an issue that the '336 patent specifically identifies as an “important challenge.” ('336, 1:41-45.)

119. An ordinarily skilled artisan would have been amply motivated to adapt the features of Neibauer for use on a mobile device. As noted in the summary in **Part V.A** above, Neibauer itself 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.) “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.) Although Neibauer does not expressly disclose that the Yahoo! Clubs feature was available for use with mobile devices, it would have been obvious to extend mobile device functionality to cover that feature, in

order to allow user-created clubs to be accessed by users via mobile devices. This would have been viewed as a logical (and obvious) extension of the existing mobile features and capabilities described in Neibauer. Providing the clubs feature for use on a mobile device, in fact, would have been obvious based on Neibauer alone without having to even refer to Cheng. Nevertheless, these disclosures in Neibauer provide a further motivation to combine with Cheng to make the Yahoo! Clubs features described above including the club message board, chat, and photo sharing information channels, available to users through mobile devices.

120. An ordinarily skilled artisan would also have been motivated to combine to take advantage of the growing popularity of mobile computing and the increased availability of mobile computing devices. 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, 1:18-22.) The Background of the ’336 patent itself 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.” (’336, 1:30-34.) The Background of the ’336 patent 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.” (’336, 1:35-39.) Market forces would thus have motivated an ordinarily skilled artisan to combine Neibauer with Cheng in order to implement the functionalities from Neibauer and Miller described above, so they could be made available to users of mobile devices. 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.

121. Cheng provides a further express motivation to combine by explaining that, using his 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.) The techniques of Cheng would have provided a distinct

technological advantage by allowing the club system described in Neibauer 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 mobile devices would have been handled by the proxy server techniques in Cheng.

122. As a further motivation to combine, an ordinarily skilled artisan would also have recognized Cheng as an example of proxy server transcoding techniques that were already well-known. As noted in Part V.A(c) above, proxy server techniques 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 handheld devices. The benefits of this approach were well-known and succinctly explained in Uwe Hansmann et al., *Pervasive Computing Handbook* (2001) (EX1012), 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....”).) An ordinarily skilled artisan would have recognized the proxy server techniques as described in Cheng as one of a finite number of existing techniques for seamlessly converting existing web-based content into a format suitable for mobile devices, and as explained above, a skilled artisan would have been amply motivated to use it.

123. An ordinarily skilled artisan would also have had a reasonable expectation of success. The disclosures in Cheng disclose 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. An ordinarily skilled artisan would have found the disclosures of Neibauer, Miller, and Cheng sufficiently detailed to implement the techniques on which I rely, without undue experimentation.

124. *Addressing the Proposed Constructions in Current Pending Litigation:* I understand that some of the terms in claim 1[a] are subject to an ongoing dispute in the pending litigation, but in my opinion, the prior art discloses and renders obvious those limitations under any of the proposed construction, or under any reasonable construction. In particular, with respect to the term “**mobile information channel**,” I understand that Patent Owner contends that this term should be given its plain and ordinary meaning, and if necessary, construed as “*a medium for transferring information that allows mobile device users to author content.*” This construction is satisfied by the proposed combination because, as discussed, the club message board, club chat and photo information channels in Neibauer each provides an example of a medium for transferring information (such as textual messages, images, etc.) that allows club members to author content. (Neibauer, p.473 (“Each club has its own message board, chat room, as well as places to share photographs, news, addresses, and links.”), p.477 (“Every club has

its own private message board... Click Post in the Recent Messages banner to add your own comment to the board.”), pp.469-471 (describing how members can post messages to a message board).) These could also have been made available to “mobile device users” based on Neibauer alone and under the further combination with Cheng as explained in detail above.

125. I am informed that Petitioner has argued 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 am further informed that Petitioner has argued that “*content management site*” within this construction means “*a web site that allows a user without programming to create and manage content on a mobile web site, or a portion thereof.*” These constructions are also satisfied by the proposed combination because, as discussed above, Neibauer discloses a web-based user interface for creating a club that provides a virtual location at a content management website, *i.e.*, the portions of the Yahoo! website for club creation where the club founder can create and manage content that will be provided on the club. It would have been obvious that the club-creation interface could have further allowed the club founder to add user-authored content to the club, such as messages for the club message board, photos for the club photo album, and so forth. This content would also have

been made available on a “*mobile web site*,” *i.e.*, a website designed to be accessed by a mobile device, based on the combination with Cheng as explained in detail above, because the web pages for the created club would have been translated into a suitable format and transmitted to a mobile device. This is also further discussed below for claim 1[b]. I have also provided a separate **Ground 4** below, which adds the Harvey reference (**EX1010**), to address Petitioner’s proposed construction of mobile information channel, in the event it is adopted for purposes of this IPR.

**(b) “generating a second web-based interface different than the first web-based interface, wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;”
(Claim 1[b])**

126. The “**second web-based interface**” in Neibauer corresponds to one or more web pages for the Yahoo! club created by the club founder. Figure 21-13 shows an exemplary web-based interface for providing the features of the exemplary unlisted Yahoo! club described earlier:

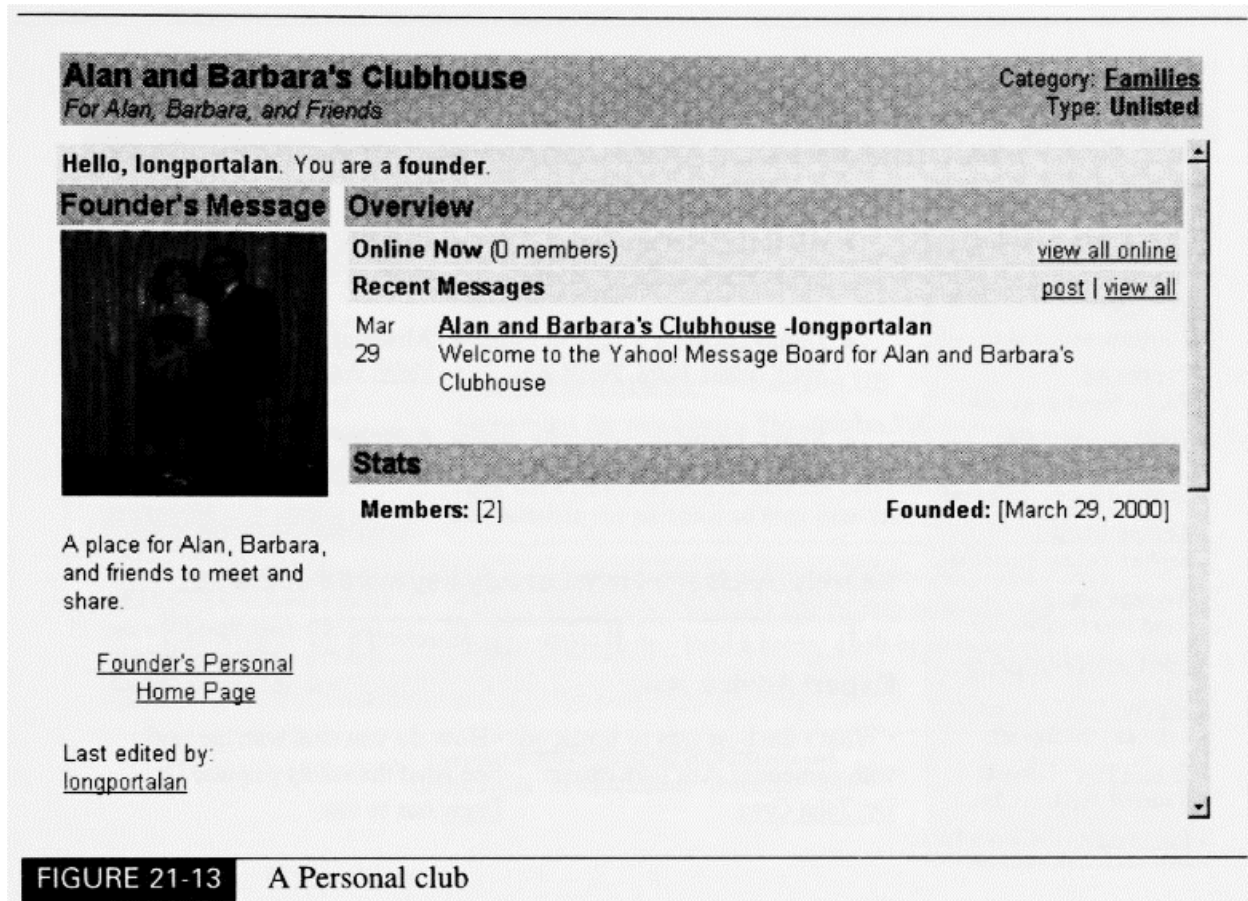


FIGURE 21-13 A Personal club

(Neibauer, p.483, Fig. 21-13.) “Figure 21-13 shows an example of a personal club page.” (Neibauer, p.482.) I note that the screen image in Figure 21-13 appears to be cut-off as it does not show the “Our Pages” links on the left side, as shown in other exemplary club pages. (Neibauer, p.473 (“The Our Pages section of the page lists the pages and features that are available to members.”), p.475, Fig. 21-8 (“The James Bond Movie Series” listed club).) Neibauer explains that the personal club page in Figure 21-13 “contains all of the elements found on other club pages.” (Neibauer, p.482.) It would have been obvious to implement that the personal club page as shown in Figure 21-13 to include the Our Pages features, which allow access

to the message board, chat, photo, and other features.

127. The “**second web-based interface**” therefore includes the web pages that provide the functionality for the Yahoo! club created by the founder, including the club home page (as shown for example in Figure 21-13 above) and other pages for club features that are reachable from that page. This is consistent with the ’336 patent specification, in which the claimed second web-based interface is a mobile web site that can comprise a number of linked pages. (’336, 14:52-53, Figs. 18 & 24-25.) And for the same reasons as described for claim 1 [a] above, it would have been obvious that this interface qualifies as a “**web-based interface**,” as claimed, because it would have been delivered via one or more web pages over the Internet to the user’s web browser.

128. The second web-based interface is also “**different**” from the “**first web-based interface**” described in the discussion of claim 1 [a], because it provides different web pages that deliver different content. As explained for claim 1 [a], in fact, the “**second web-based interface**” does not even exist until the club itself is created, which occurs after the founder creates the club via the “**first web-based interface**,” further confirming that the two web-based interfaces are different from each other. (Neibauer, p.481 (“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.”).)

The Web address for the created club, in fact, includes the name provided by the club founder in the “**first web-based interface.**” (Neibauer, p.481 Fig. 21-12 (“**Step 1: Name Your Club** [] Keep the name short, as it will be in your Web address.”) (bold in original).) It therefore would have been obvious that the two web-based interfaces are different from one another.

129. The second web-based interface in Neibauer also “**provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users.**” Under the further combination with Cheng, as described for claim 1[a], if accessed by a mobile device, the “**second web-based interface**” would have been converted and delivered to mobile device in an appropriate format. The “**second web-based interface**” also allows the club founder and any invited club members to access the club message board, chat and photo sharing features, which allow club members to access shared messages and photos as described above for claim 1[a] (“**access to at least a portion of the shared content via the given mobile information channel**”). The second web-based interface also “**facilitate[s] interaction between the first user and the one or more additional users,**” because it allows for exchanging of information between the founder and the one or more other club members using the

mobile information channels, as discussed extensively for claim 1[a].

**(c) “wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and”
(Claim 1[c])**

130. As explained for claim 1[b], each of the club message board, chat and photo sharing features described in Neibauer (“**the given mobile information channel**”) supports messaging between the founder (“**the first user**”) and the other club members (“**the one or more additional users**”). The “**messaging**” in Neibauer thus corresponds to the sending of textual messages (with respect to the club message board and club chat mobile information channels), and sending of photographs with accompanying titles and descriptions (with respect to the photo sharing mobile information channel), from or to at least the club founder. (Neibauer, p.477 (“Every club has its own private message board. Recent messages posted to the board are shown on the club’s home page. Click Post in 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.”), p.479 (“The Chat option in the Our Pagers section opens up a private chat area for club members.”), p.477 (“The Photos option in the Our Pages section lets members share photographs and other graphics... Click Photo to see a list of the albums that the club maintains... Click an album name to see a list of the photographs stored there. For each photo, you

Declaration of Vijay K. Madiseti, Ph.D.in Support of
Petition for *Inter Partes* Review of
U.S. Patent No. 8,793,336 B2

will see the title, the contributor's name, the photo's size, and the date it was posted.

Click a photo to see the photo on your screen.”.)

131. It would also have been obvious based on Neibauer and Miller, in further view of Cheng, that the given mobile information channel supports messaging communication “**over a wireless network**,” because mobile device accessing the mobile information channel would have been connected via a wireless network to the Internet. 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 Global System for Mobile 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”).) 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.) It therefore would have been obvious that the messaging communication provided under the proposed combination would have been provided “**over a wireless network**,” such as a known cellular communications network such as GSM commonly used to communicate information to and from wireless mobile devices. An ordinarily skilled artisan would have been motivated to allow for messaging communications over a wireless network, as explained for claim 1[a], 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 cables.

(d) “**wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.**” (Claim 1[d])

132. For purposes of my prior art mapping, claim 1[d] is largely redundant of claim 1[c]. As explained, each of club message board, club chat and photo sharing features is configured to permit the club founder (“**the first user**”) to send messaging content to other club members (“**one or more additional users**”), or receive messaging content from those other club members. The “**messaging content**,” for purposes of the club message board and club chat mobile information channels,

corresponds to textual messages and, as noted, to photograph or image data (with accompanying textual descriptions) for the photo sharing mobile information channel.

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

133. I fully explained, for claim 1**[b]**, that the two claimed web-based interfaces would have been different from one another. It would also have been obvious that the two web-based interfaces would have been identified by two different uniform resource locators (URLs).

134. It was basic knowledge of an ordinarily skilled artisan that every web page on the Internet would each have been identified its own unique URL. This is because URLs were (and remain today) the standard technique for uniquely identifying resources such as web pages on the Internet, with each web page or other resource having its own unique URL. (Cheng, 3:56-57 (“It is envisioned that each instance of web content **104** each have associated therewith a URL.”); *see also* David Fox et al., *HTML Web Publisher’s Construction Kit* (1995) (**EX1013**), p.13 (“A URL (or *Universal Resource Locator*) is the address of a document, file or other Internet resources... The World Wide Web gives every article, newsgroup, database,

computer file, or other Internet fragment its very own URL.”) (*italics in original*.)

It therefore would also have been obvious the URLs for the “**first web-based interface**” (for creating the club) and the “**second web-based interface**” (the club web pages providing access to the given mobile information channel) would have been “**different**” from each other.

135. This is further confirmed by Figure 21-12 below, which confirms that the Web address (*i.e.* URL) of a Yahoo! club will include the user-selected name:

YAHOO! CLUBS [Help?](#)

Yahoo! Clubs: Create a Club

Step 1: Name Your Club

Keep the name short, as it will be in your Web address.

Name: (ex: Joe's Sports Dugout)

Step 2: Your Club's Location (optional)

Is your Club located in a specific neighborhood, city, state or country? Fill it in below.
(Zip codes and countries are used to help categorize the them based on location, allowing users to find Club(s) in their region.)

In USA, enter 5-digit ZIP code: (example: 90210)

Outside USA, select country:

- Canada
- Afghanistan
- Albania

FIGURE 21-12 Creating a club

(Neibauer, p.481, Fig. 21-12.) As shown under Step 1, the user is instructed to “[k]eep the name short, as it will be in your Web address.” (*Id.*) A person of

ordinary skill in the art would have understood “Web address” to refer to the URL for the club. Because the URL for the club web page (the “**second web-based interface**”) is only known after the club is named and the created (using the “**first web-based interface**”), as it specifically incorporates the name provided by the founder through the web form, it would have been obvious that the two claimed web-based interfaces would have been identified by different URLs.

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

136. It would have been obvious that the shared content would have been obtained from a “**device-captured data source of the first user**” that includes at least a source of “**device-captured image data.**” As noted for claim 1, Neibauer discloses a photo sharing feature in which the club founder and other club members can upload and share photos. (Neibauer, pp.477-479.)

137. It therefore would have been obvious that the shared content could have included “**device-captured**” image data, such as image data captured using a digital camera of the first user. (Neibauer, p.478, Fig. 21-10 (showing exemplary club photo album having photos of Denise Richards and Famke Janssen).) It was also known, as of June 2002, that portable communications devices included digital

cameras for capturing and storing images. I have also provided a separate **Ground 2**, citing also to the Ausems reference, in the event it is determined that a prior art reference is required to explicitly show a portable device capable of capturing image data.

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

138. One of the features disclosed in Neibauer allows the club founder to specify a club photo (“**an information item**”) that will appear on the club page (“**the second web-based interface**”). (Neibauer, p.482.) For example, Neibauer explains that “[t]o load a photograph that is on your computer, either select its path and name or click Browse to locate the photograph.” (Neibauer, p.482.) Neibauer does not expressly state that this process results in the photo being **uploaded**, but this would have been apparent and obvious to an ordinarily skilled artisan. For example, Neibauer discloses the same user interface technique for sharing a photo using the club photo sharing feature, in which the user can specify the location of a photo on their disk of their local computer. (Neibauer, pp.478-479, ¶¶1-2.) Neibauer explains that, when the user has completed their selections, it can “click Upload to move a

copy of the photo into the club's Web space." (Neibauer, p.478, ¶5.) It would have been obvious that this same process, when used to specify the club photo, would have similarly resulted in an upload of the selected photo ("**an information item**") from the user's computer. In fact, nothing in Neibauer suggests that the Yahoo! servers would ever access the founder's computer to later retrieve the club photo when presenting the club page to members, and an ordinarily skilled artisan not have implemented the club photo feature in this way as it would have slowed club performance by creating a dependency in which the web server would have to contact the founder's local computer each time the club page was displayed to retrieve and display the club photo for club members.

139. I note that Neibauer does not expressly state that the club photo upload feature described above is available via "**the first web-based interface,**" which I have mapped to the web-based club-creation form in Neibauer. (Neibauer, pp.481-482.) But it would have been obvious to provide that feature on the club-creation form. Neibauer indicates, in fact, that the feature for adding a photo to the club's home page does not need to reside on the club home page itself. For example, after pressing "**Yes! I Accept**" on the club creation form, 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. You also get these options:

■ **Invite Friend** Lets you invite others to join the club.

- **Fix It Up** Lets you add text and a photo to the club’s home page.
- **Let Me See It** Opens the club’s home page.

(Neibauer, p.481 (boldface in original).) Neibauer therefore discloses an interface that allows the founder to add a photo (available under “**Fix It Up**”), which is separate and distinct from the club home page (available under “**Let Me See It**”) to which I have mapped the “**second web-based interface.**” In any case, it would have been obvious to include, as part of “**the first web-based interface,**” the functionality described above for allowing the club founder to upload a club photo. An ordinarily skilled artisan would have been motivated to implement Neibauer in this way because, as explained, the club creation web form allows the founder to enter the name for the club (Neibauer, p.481, ¶4), and it would have been obvious to allow the founder to select and upload the club photo as part of the club creation process. Alternatively, for purposes of claim 8, the claimed “**first web-based interface**” includes not just the club-creation form in Neibauer but also the “page that tells you the club has been created” (Neibauer, p.481), which includes the club photo upload functionality discussed above. In either case, it would have been obvious that “**the first web-based interface**” in Neibauer would have “**permit[ted] the first user to upload at least one information item,**” as claimed.

140. Neibauer also discloses that “**the second web-based interface**

provides said one or more additional users with access to said at least one uploaded information,” because the uploaded club photo is shown to other club members when they view the club page (“**the second web-based interface**”). (Neibauer, p.481 (“**Fix it Up** [...] Lets you add text and a photo to the club’s home page.”) (bold in original; underlining added)), p.483, Fig. 21-13 (showing exemplary club home page with club photo provided by club founder).)

141. Neibauer further discloses that the other club members are provided “**access to said at least one uploaded information item in accordance with accessibility rules established by the first user via the first web-based interface,”** because the founder can select through the club-creation web pages (“**the first web-based interface**”) the new club will be either “listed” or “unlisted.” (Neibauer, p.482, ¶6.) “A listed club is one that is open to all Yahoo! members. To join the club, you simply fill our on online form. Don’t worry, you cannot be rejected from a listed club.” (Neibauer, p.473.) 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.”).) When a club founder (“**the first user**”) selects an “unlisted” club, therefore, the club founder is specifying “**accessibility rules**” for the club page, which include the club being private and not open to the public (unlike a “listed”

club), and can only be accessed by other users upon receipt of an invitation to join the club. The invitation, in turn, provides instructions on how to join a club. (Neibauer, pp.475-476.) Figure 21-9 below shows that, in order to join a club in response to an invitation, the invited user may enter an optional comment and must click “Yes! I Accept” to join the club:

The screenshot shows the Yahoo! Clubs interface for joining a club. At the top, the 'YAHOO! CLUBS' logo is on the left and a 'Help?' link is on the right. Below this is a header bar that reads 'Yahoo! Clubs: Join "The James Bond Movie Series"'. The main content area has two sections. The first is titled 'Enter a Comment' and includes the text 'If you wish, you can enter a comment here that will be displayed to other members of the group.' followed by a text input field. The second section is titled 'Review the Agreement' and contains the text 'Please read the [Yahoo! Clubs Terms of Service](#). Then click one of the buttons below. By clicking the "Yes" button, you accept and agree to follow the Clubs Terms of Service.' Below this text are two buttons: 'Yes! I Accept' and 'No! Forget It'. At the bottom of the page, there is a copyright notice: 'Copyright © 1994-2000 Yahoo! Inc. All rights reserved.' followed by links for 'Privacy Policy', 'Terms of Service', 'Guidelines', and 'Help'.

FIGURE 21-9 Joining a club

(Neibauer, p.476, Fig. 21-9.) Because these accessibility rules govern access to the club page, which in turn includes the club photo as discussed, the accessibility rules govern “**access to said at least one uploaded information item,**” as claimed.

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

142. As just explained for claim 8, when a club founder invites other additional users to join an unlisted club – and those members agree to join – the one or more additional users comprise “**individuals that with the first user,**” *i.e.*, with the club founder, “**by mutual consent,**” *i.e.*, by the club founder inviting the additional members to join and those invited members agreeing to join, “**collectively comprise a group of members that have access to at least a portion of said shared content via the second web-based interface,**” *i.e.*, collectively comprise a group of members that can access content shared via one or more of the mobile information channels as described in claim 1[a] (“**said shared content**”) via the club page (“**via the second web-based interface**”).

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

143. Claim 10 adds nothing of patentable significance, as it would have been obvious that the functionalities from Neibauer and Cheng 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 that includes a processor and 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.”).) 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).) The “**processing element**” would thus have included origin web server **102** in Cheng (which would have performed the functions in Neibauer), and proxy server **110** (which would have made the features of Neibauer available to mobile devices). I note that my mapping of the claimed “**processing element**” as including origin web server **102** and proxy server **110** is entirely consistent with the ’336 patent, which makes clear that a processing element or server can itself comprise multiple servers. (’336, 9:2-4 (“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.”).)

144. And even if the claim required that the “**processing element**” be contained within a single physical server, 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 provides details about computer system **1100** for use in implementing its proxy server techniques. (Cheng, 22:46-54.) Cheng explains that the computer system implementing the proxy server can optionally be equipped with “any multitude or combination of processors or storage devices.” (Cheng, 23:16-20.) Cheng further explains that the computer system, “in point of fact, [is] able to 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 1. This would have been obvious and trivial in view of Cheng, as ordinarily skilled artisans would have been familiar with known techniques for assigning 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. It therefore would have been obvious that all of the steps of claim 1, under the proposed combination, 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, under either formulation.

7. Independent Claim 11

145. Claim 11 is little more than an apparatus 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. The preamble of claim 1 recites “[a]n **apparatus for use in managing information content in a network-based communication system, the apparatus,**” which is identical to claim 1 except that it recites an “**apparatus for use in**” instead of “**a method for.**”

146. The claimed “**apparatus**” for claim 11, 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, 0043:32-0044:2 (“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 11 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 and Miller, and the proxy server in Cheng, work together to carry out each of the claim steps.

(a) “a processing element comprising a processor coupled to a memory;” (Claim 11[a])

147. 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, 0043:32-0044:2.) Dependent claim 13, which depends from claim 11 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.

148. It would have been apparent and obvious that origin web server **102** in Cheng (which would take the form of the web server providing the Yahoo! features described in Neibauer and the features described in Miller), and proxy server **110**, under the proposed combination, would have comprised “**a processing element comprising a processor coupled to a memory.**” The functions in Neibauer, Miller, 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 ’336 patent, as the claim requires “**at least one**” processing element. As also explained for claim 10, it would also have been obvious to combine origin server **102** and proxy server **110**, to the extent the claim were construed to require a processing element contained within a single server.

- (b) **“the processing element providing at least a portion of a first web-based interface accessible to a first user, the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users;” (Claim 11[b])**

149. The step recited in claim 11[b] is substantially identical to claim 1[a], except that claim 11[b] only requires providing **“at least a portion of”** a first web-based interface. Claim 11[b] is therefore obvious for the same reasons as claim 1[a]. This step would also have been provided by the claimed processing element as described for claim 11[a]. 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 first web-based interface to the first user as, fully described in my discussion of claim 1[a].

- (c) **“the processing element generating a second web-based interface different than the first web-based interface, wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;” (Claim 11[c])**

150. The step recited in claim 11[c] is identical to claim 1[b] and is therefore obvious for the same reasons. This step would also have been provided by the claimed at least one processing element as described for claim 11[a]. Under the

proposed combination, therefore, the origin web server **102** and proxy server **110** would have worked together to provide the second web-based interface to the first user as described in claim 1 [b].

(d) **“wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and”**
(Claim 11[d])

(e) **“wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.”**
(Claim 11[e])

151. These limitations are identical to claims 1[c]-[d], above, and are obvious for the reasons provided.

8. Claim 13: “The apparatus of claim 11 wherein the processing element comprises at least one server.”

152. As explained for claim 11 [a], 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”).

9. Claim 14: “The apparatus of claim 13 wherein the server is accessible over the Internet via a network interface.”

153. The servers of claim 13 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.”).) It would have been obvious

that these servers would 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).)

10. Independent Claim 15

154. Claim 15 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. The preamble of claim 15 recites

“[a] **network-based communication system**,” which is disclosed by the proposed combination as described below.

(a) “**a plurality of servers configured to communicate over a network;**” (Claim 15[a])

155. As explained for claim 1 and claim 11[a], 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**.”).)

156. 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).)

- (b) “at least one of the servers providing at least a portion of a first web-based interface accessible to a first user, the first web-based interface being configured to permit the first user to activate a given mobile information channel for sharing content between the first user and one or more additional users;” (Claim 15[b])

157. The step of claim 15[b] is substantially similar to claim 1[a] and the method step (everything after “**being configured to**”) is identical to claim 11[b]. Under the proposed combination of Neibauer and Cheng, as described for claim 1[a], 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 (“**a first web-based 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 first web-based interface would have been provided to the club

founder by “**at least one of the servers,**” as claimed.

- (c) **“wherein said at least one server generates a second web-based interface different than the first web-based interface, wherein the second web-based interface provides each of the one or more additional users access to at least a portion of the shared content via the given mobile information channel to thereby facilitate interaction between the first user and the one or more additional users;” (Claim 15[c])**

158. For the same reason as claim 15[b], at least one server would have performed this step as described in claim 1[b].

- (d) **“wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and” (Claim 15[d])**
- (e) **“wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.” (Claim 15[e])**

159. These limitations are identical to claims 1[c]-[d], above, and are obvious for the reasons provided.

- 11. Claim 16: “The method of claim 1 further comprising maintaining a contact list for the given mobile information channel, the contact list comprising the one or more additional users.”**

160. Neibauer discloses multiple examples of the claimed contact list. First, as explained for claim 1, one example of a “mobile information channel” is the club

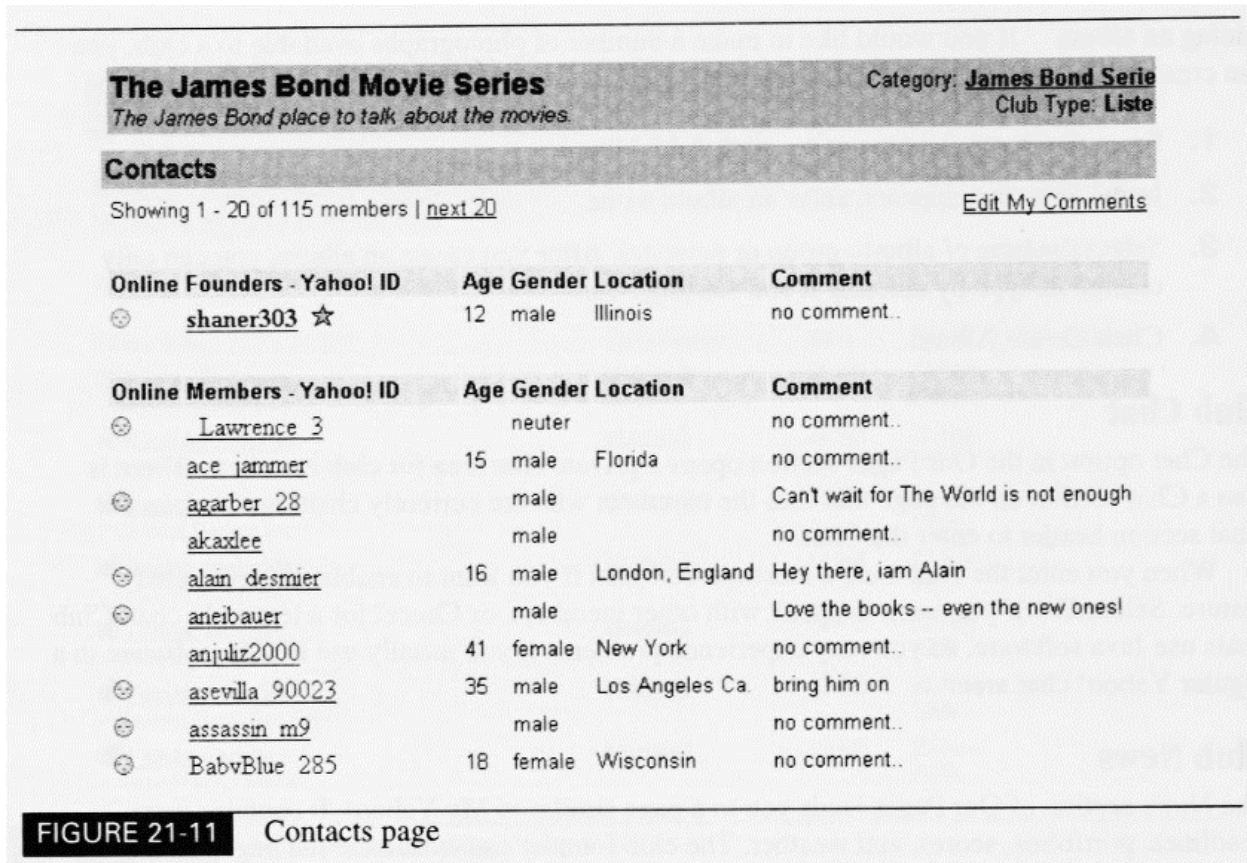
chat. (Neibauer, p.479.) As Neibauer explains:

Club Chat

The Chat option in the Our Pages section opens a private 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.

(Neibauer, p.479 (bold in original).) In this case, when the given mobile information channel corresponds to the club chat channel, the “**contact list**” thus corresponds to the list of members who are currently chatting.

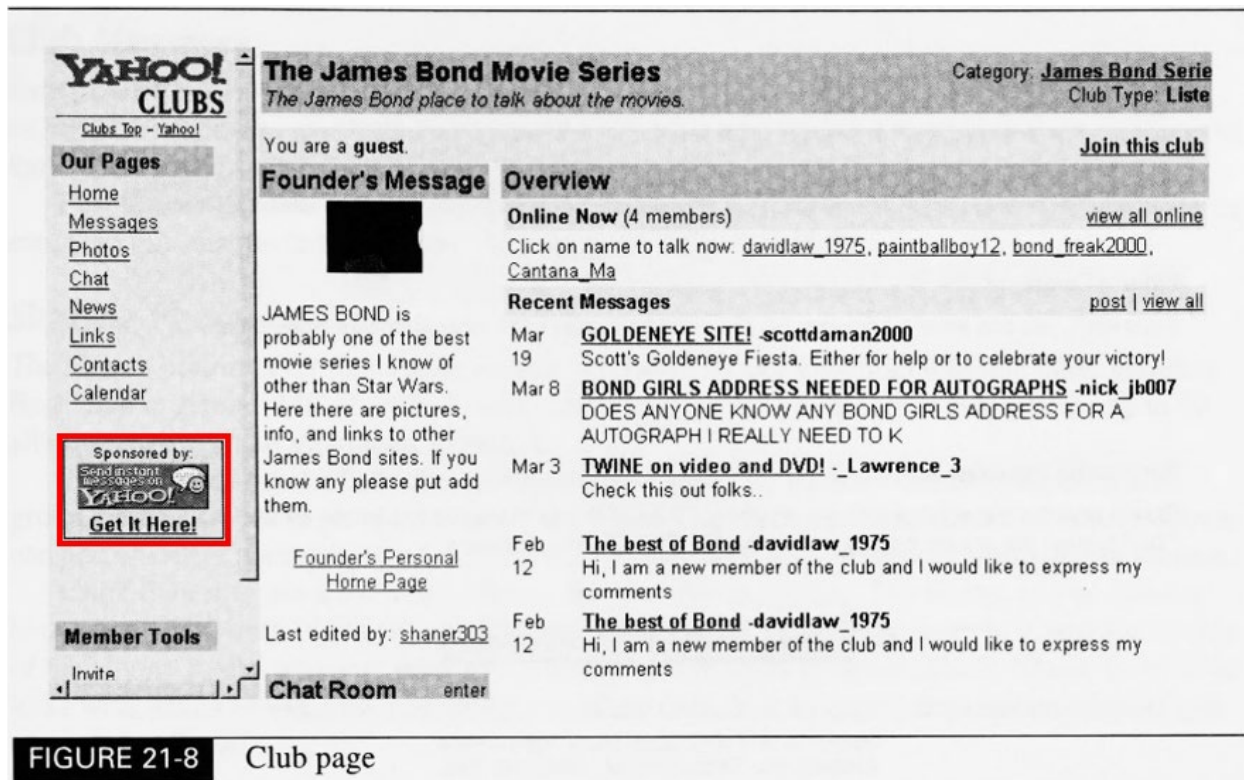
161. Second, Neibauer discloses a contacts feature that lists the IDs of the club founder and other club members as shown in Figure 21-11:



(Neibauer, p.480, Fig. 21-11.) “Click a member’s name to open his or her profile. Click the Edit My Comments link to change the comment you made about yourself when you joined the club.” (Neibauer, p.480.) The contact list in Neibauer provides “a contact list for the given mobile information channel,” because it lists all of the members who are members of (and thus can access) the club. These members, in turn, are allowed to access the given mobile information channel, *e.g.*, private message board, chat, photo sharing, etc., as described for claim 1, because they are members of the club that includes that channel.

12. Claim 17: “The method of claim 1 further comprising distributing advertising content to the one or more additional users via the given mobile information channel.”

162. Neibauer discloses that a club can also be used to distribute advertising content to other club members:



(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 claim 1[a]), this disclosing “distributing advertising content to the one or more additional users via the

given mobile information channel.”

163. 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, 0049:1-5.) 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. An ordinarily skilled artisan would have been motivated to distribute advertising content via a mobile information channel, among other reasons, in order to earn advertising revenue.

164. Claim 17 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, 0048:20-33.) “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, 0048:20-23.) 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 (“**a given 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. 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.

13. Claim 18: “The method of claim 17 wherein distributing advertising content comprises inserting advertising content along with messaging content in the given mobile information channel.”

165. 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 (“**the given mobile information channel**”). 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 for claim 17 above thus discloses advertising content being inserted “**along with messaging content in the given mobile information**

channel,” *i.e.*, along with other messages in the club message board.

14. Claim 20: “The method of claim 1 wherein the given mobile information channel comprises a chat channel.”

166. As fully explained for claim 1, Neibauer discloses a mobile information channel in the form of a chat channel. (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.”).)

15. Claim 21: “The method of claim 1 wherein the messaging content comprises personalized messaging content for the first user.”

167. As explained for claim 1, Neibauer discloses multiple examples of “**personalized messaging content**” for the first user, *i.e.*, the club founder. For example, as explained for claim 1, a club founder 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 members. (Neibauer, p.479.) The founder can also add its own personalized photos or create its own personalized photo albums. (Neibauer, pp.477-479.) Each of these examples “**messaging content**,” *i.e.*, the messaging content exchanged between the club founder and the one or more additional users, are “**personalized**” for the first user. This is because, in each case,

the messaging content included content either written by the club founder itself, or intended for or directed to the club founder. In the case of private club chat, moreover, the messaging content could have included content specifically directed to the club founder by one or more other members via a private chat.

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

168. As explained for claim 1, the messaging content can comprise at least an image. (Neibauer, p.477 (“The Photos option in the Our Pages section lets members share photographs and other graphics.”).)

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

169. It would have been obvious that the messaging content would have comprised any one of the examples recited in claim 24. For example, Neibauer discloses examples of messages disclosing at least “**announcements**” and “**notes.**” (Neibauer, p.475, Fig. 21-8 (exemplary club page showing message from davislaw_1975: “Hi, I am a new member of the club and I would like to express my comments”), p.483, Fig. 21-13 (exemplary club page showing message from longportalan: “Welcome to the Yahoo! Message Board for Alan and Barbara’s Clubhouse”).)

18. Claim 25: “The method of claim 1 wherein at least a portion of the shared content is authored by the first user.”

170. As explained for claim 1, Neibauer discloses multiple examples in which **“at least a portion of the shared content is authored by the first user.”** For example, messages posted by the club founder, chat messages from the club founder, and photos shared by the club founder (with accompanying textual descriptions provided by the founder) all comprise shared content **“authored by the first user,”** as claimed. (Neibauer, p.483, Fig. 21-13 (exemplary club page posted by club founder longportalan: “Welcome to the Yahoo! Message Bord for Alan and Barbara’s Clubhouse”).)

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

171. As fully explained for claim 1, one of the steps for creating a club using the **“first web-based 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:

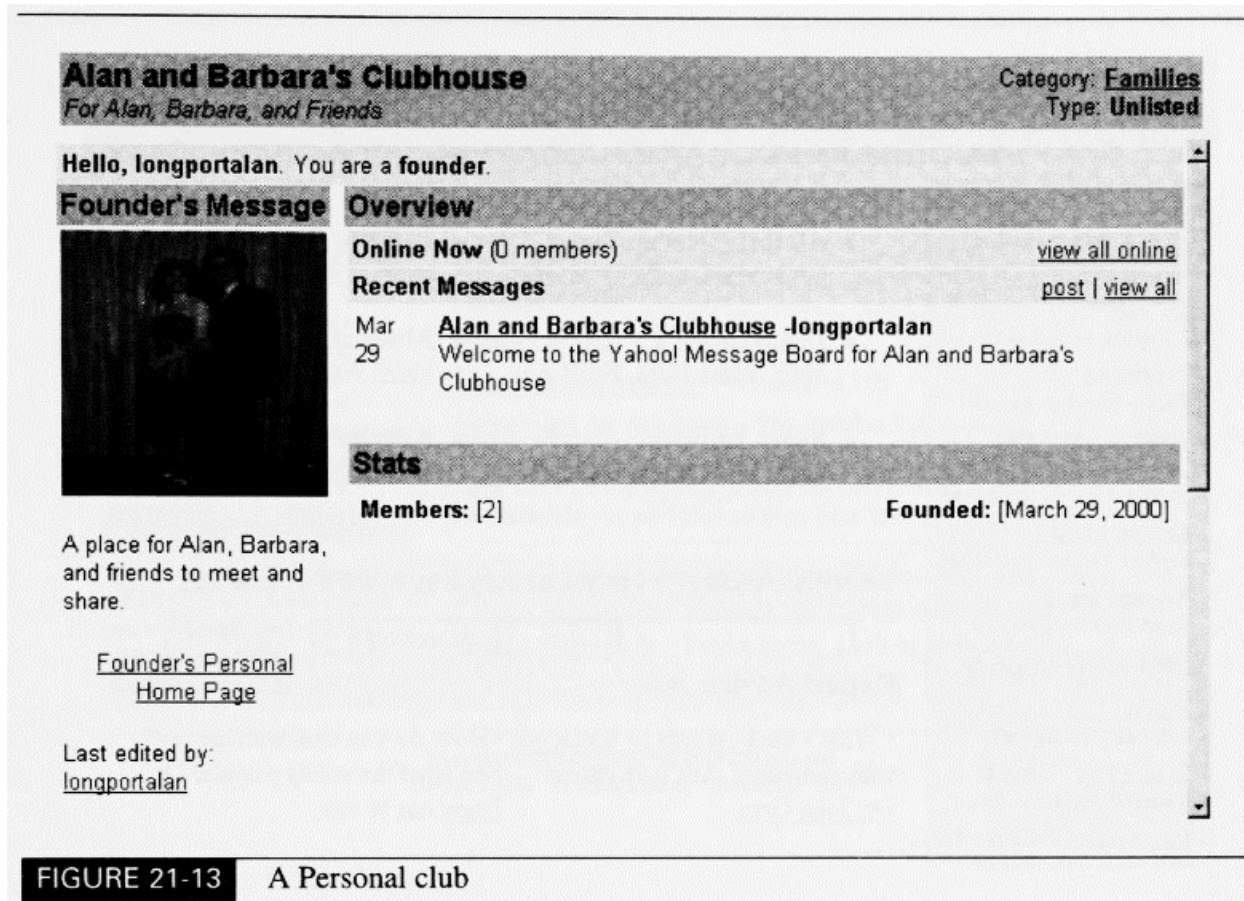


FIGURE 21-13 A Personal club

(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.

20. Independent Claim 27

172. The preamble of claim 27 merely recites “[a] **method comprising...**” Claim 27 is similar, for purposes of my analysis, to claim 1. I will therefore refer

back to my analysis of claim 1 where appropriate.

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

173. Claim 27[a] is substantially similar to claim 1[a]. As explained for claim 1[b], the proposed combination discloses generating a given mobile information channel (*e.g.* club message board, club chat, photo sharing) for sharing content authored by a first user (*e.g.* the club founder) with one or more additional users (*e.g.*, one or more additional invited club members). The claimed generation occurs, for example, when the mobile information channel is made available on the club page.

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

174. Claim 27[b] is substantially similar to claim 1[b]. As explained for claim 1[b], the club created by the club founder, under the proposed combination, would have provided the other club members access to at least a portion of the shared content. This access would have been provided, as explained, via the given mobile information channel and facilitates interaction and exchange of information between the club founder and the other club members.

- (c) “wherein the given mobile information channel supports messaging between the first user and the one or more additional users over a wireless network; and”
(Claim 27[c])
- (d) “wherein the mobile information channel is configured to permit the first user to send messaging content to the one or more additional users and to receive messaging content from the one or more additional users.”
(Claim 27[d])

175. Claim 27[c]-[d] are identical to claim 1[c]-[d], respectively, and are thus disclosed and rendered obvious for the reasons provided above.

C. Ground 2: Claim 7 Is Obvious Over Ground 1 Prior Art In View Of Ausems.

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

176. As explained in the discussion of claim 7 for **Ground 1** above, Neibauer discloses the ability of the club founder to share photos, and it would have been obvious that those photos could have been obtained from a source of at least “**device-captured image data**,” such as image data obtained from a digital camera of the club founder as digital cameras were commonplace by June 2002. In the event Patent Owner were to argue that use of digital cameras was not well-known as of June 2002, **Ground 2** relies on **Ausems** to show an example of a mobile

communications device that, among other things, incorporated a digital camera for recording, storing, and transmitting digital images.

177. The Background of Ausems explains, as was well-known in the art, that “[t]he popularity and use of Personal Digital Assistants (PDAs) and wireless telephones has increased in recent years. A PDA or hand-held computer is primarily a lightweight, compact productivity and communications tool that can typically be held in one hand, leaving the other free to input data with a pen type stylus or a reduced size keyboard. A PDA provides computing and information storage and retrieval capabilities for personal or business use.” (Ausems, 1:12-19.) Ausems further explains that “[i]ncreasingly, wireless telephones are being combined with PDAs in order to perform more advanced functions, such as transmitting, receiving and displaying text messages.” (Ausems, 1:27-30.)

178. Ausems discloses a portable mobile device that combines the functionality of a PDA with a wireless telephone. (Ausems, 3:5-8.) This PDA telephone device **100** includes, among other things, a touchscreen display. (Ausems, e.g., 1:57-58, 4:30-39, 6:9-14.) The PDA telephone **100** in Ausems can also run a conventional mobile operating system such as Microsoft Windows CE or Palm, and the operating system “may include a web browser in order to facilitate Internet access for a PDA telephone **100**.” (Ausems, 7:64-8:5.)

179. The device also includes a digital camera **190** for recording and storing images, which can be transmitted. (Ausems, *e.g.*, 2:5-6, 5:17-18 (“Camera **190** records video images and stores them within. Additionally, video images recorded by camera **190** may also be transmitted from PDA telephone **100** in real time during a telephone call (thus allowing for video conferencing).”).) Ausems thus discloses a “**device-captured data source**” that comprises a source of at least “**device-captured image data**,” as recited in claim 7.

180. *Rationale and Motivation to Combine (Ground 1 Prior Art with Ausems)*: It would have been obvious to combine the **Ground 1** prior art with Ausems, predictably resulting the system build under the proposed combination., further adapted such that content shared by the club founder (“**the first user**”) would have been obtained from a “**device-captured data source**” that comprises a source of at least “**device-captured image data**,” as recited in claim 7. For example, under the proposed combination with Ausems, the club founder would have obtained image data using a digital camera of its device, which would have been transmitted for upload to the club for sharing with other club members, for example, using the photo sharing features described in Neibauer. (Neibauer, pp.477-478.)

181. Ausems is an analogous reference in the same field of the ’336 patent of wireless and mobile communications, and would have been reasonably pertinent

to problems facing the inventor. For example, Ausems would have been reasonably pertinent to the problem of how to obtain device-captured image data (such as data from a digital camera), and the problem of how to share that data with other users, as well as to inform the inventor about the technological features and capabilities of conventional mobile communication devices. Ausems would also have been reasonably pertinent as it discloses a wireless telephone that also incorporates wireless communications and digital camera functionalities, thus addressing the problem of how to obtain and share image data captured using a mobile device.

182. An ordinarily skilled artisan would have been amply motivated to combine. The ability to share data from “**a device-captured data source**” would have dramatically expanded the universe of image data that the founder could share with other members of the club. This is because the club founder would not be restricted to sharing preexisting images the founder obtained from third parties; the founder could instead capture a potentially infinite number and variety of its own images (via the digital camera) and share them with other club members. This would not only have expanded the variety of shared content, but would have made the club experience more compelling to other club members because such images would have been more unique and more compelling as compared to preexisting images from third parties with which club members may already have been familiar.

183. An ordinarily skilled artisan would also have had a reasonable expectation of success. As Ausems confirms that, as of its February 1999 filing date, digital cameras and the ability to transmit images captured by digital cameras were known. These functionalities were already becoming commonplace on commercially-available wireless devices by June 2002. An ordinarily skilled artisan would have found the disclosures of Neibauer, Miller, Cheng and Ausems sufficiently detailed to implement the techniques on which I rely, using conventional programming techniques, without undue experimentation.

D. Ground 3: Claims 21-22 Are Obvious Over Ground 1 Prior Art In View Of Fransioli.

1. Claim 21: “The method of claim 1 wherein the messaging content comprises personalized messaging content for the first user.”

184. As explained for **Ground 1** and dependent claim 17, both Neibauer and Miller disclose and render obvious that the messaging content can comprise advertising content. For purposes of **Ground 3**, the “**personalized messaging content**” corresponds to content personalized for the first user based on the further combination with Fransioli (**EX1007**).

185. Miller discloses several examples of providing advertising content for users of a collaborative environment or group. For example, 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, 0049:1-5.) Miller also discloses the ability to include advertising within messages using its bulletin board feature. (Miller, Fig. 2, 0048:20-33.) “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, 0048:20-23.) It therefore would have been obvious that “**the messaging content**” could have comprised advertising content.

186. With respect to the requirement of “**personalized**” messaging content, this would have been obvious in further view of Fransioli. Fransioli discloses a method and system for providing a message to a user that is based on the location and direction of the user’s portable device. (Fransioli, ¶0006.) The portable device can be a wireless or cellular handset. (Fransioli, ¶¶0029, 0030; *see also id.*, ¶0018 (“Advantageously, the portable receiving device may be a portable phone, wireless modem, or any other known portable device for receiving information over a wireless link.”), Fig. 1 (portable device 26).)

187. In one embodiment, a server determines the location of the portable device, the direction of travel of the mobile device, and then establishes a message that includes content that is based on the mobile device's location and direction of travel. (Fransioli, ¶¶0007, 0015, 0023.) "As [portable] device **26** moves throughout the wireless network, content sent to device **26** includes content that is based on the location of device **26** in addition to being based on the direction of travel of device **26**." (Fransioli, ¶0023.) Fransioli explains that the location of the device can be determined by the device itself using well-known global position system (GPS) techniques, or can be determined by the wireless network based on signal strengths between the device and various transmitters in the wireless access network. (Fransioli, ¶¶0027, 0030.)

188. The location-based information sent to the portable device can include, among other things, personalized advertising information. (Fransioli, ¶0018 ("For example, advertising may be delivered to the portable device based on location and direction of travel."), 0029.) But location-based information is not limited to advertisements. "For example, the message content may include a public service announcement, a local event schedule, a traffic report possibly including alternative route information, and/or a weather report," among others. (Fransioli, ¶0011.)

189. Fransioli further explains that its method "can apply to data with the

newer wireless handsets or an interactive wireless data device integrated into a vehicle.” (Fransioli, ¶0030.) “In this variant, a user can invoke the data service and connect to multimedia content or a web portal. Based on the location and travel direction information retrieved, the user can view the same type of information, except instead of being audio, it will be interactive multimedia or Internet media.” (Fransioli, ¶0030.) Fransioli therefore discloses “**personalized**” messaging content, *i.e.*, messages personalized for the user based on the location and/or direction of travel of their portable wireless device. (Fransioli, ¶0005.)

190. ***Rationale and Motivation to Combine (Ground 1 Prior Art with Fransioli)***: It would have been obvious to combine the **Ground 1** prior art with Fransioli, predictably resulting in the combined system providing “**personalized messaging content for the first user,**” *i.e.*, the messaging content would have been selected for the first user based on at least the location and/or direction of travel of its mobile device. For example, in one exemplary implementation of the proposed combination, the messaging content could have comprised an advertisement or information about a particular event from a club message board, selected for delivery to the mobile device of the club founder (“**the first user**”) based on at least the location of the first user’s wireless mobile device. As another example, the messaging content could have related to a scheduled local event and could be

presented, for example, on the club calendar of the club as described in Neibauer. (Fransioli, ¶0011 (“For example, the message content may include... a local event schedule....”); Neibauer, p.480 (“The Calendar page is where members post events, such as special club chats or other activities, that are of interest to club members.”), p.78 (“A club calendar is shared by every member of a Yahoo! club.”).) In any case, it would have been obvious that personalized messaging content for the first user could have been presented in any number of mobile information channels under the proposed combination.

191. Fransioli is an analogous reference in the same field of the '336 patent of wireless and mobile communications, and would have been reasonably pertinent to problems facing the inventor. For example, Fransioli would have been reasonably pertinent to the problem of how to provide personalized messaging content for the first user, which can be based on (among other things) the location of the first user's mobile device. Fransioli would thus have been reasonably pertinent in understanding how to determine the current location of a mobile device (based on either GPS or the wireless network as described in Fransioli), and based on that information, construct messaging content based that location.

192. An ordinarily skilled artisan would have been amply motivated to combine to enhance user experience by providing for personalized (location-based)

content. Fransioli provides an express motivation to combine by explaining that his system “provides localized and personalized information content in ways that improve over existing systems.” (Fransioli, ¶0005.) It would have been obvious that personalized content, based on the user’s current location and/or direction of travel, is far more likely to be relevant and interesting to the user as compared to messaging content provided without regard to location. Fransioli explains, for example, that location-based advertisements can be for local restaurants, car dealerships, or public service announcements. (Fransioli, ¶¶0024, 0029, 0011.) In the context of advertising, for example, it would have been obvious that a user would likely to have found advertising messages for product and services more interesting if they are relevant to the user’s current location, thus increasing the likelihood of a positive reaction from the user and increasing the chances of a commercial transaction. (Fransioli, ¶0011 (“For example, a driver in a vehicle may desire information about products and services in the locality.”).)

193. Fransioli also provides a further express motivation to combine with Neibauer by explaining that a user can invoke the data service by connecting to a “web portal.” (Fransioli, ¶0030.) The term “web portal” was commonly used to refer to websites that served as jumping-off or starting points for Internet users, typically by providing search services and together from a variety of sources.

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(Neibauer, p.4 (“What is a portal? A *portal* is an entry point, a starting place, and a way to get into something. You want an Internet portal to give you access to a wide range of locations and features.”) (italics in original).) An ordinarily skilled artisan would have immediately recognized Yahoo!, as described in Neibauer, as a well-known (and likely the best known) example of web portal in existence at that time. The cover page of Neibauer, for example, refers to Yahoo! as “the Internet’s most popular portal.” (Neibauer, Cover; *see also id.*, p.4 (“Yahoo! is your portal into the best of everything the Internet has to offer.”).) In any case, an ordinarily skilled artisan would have understood Fransioli’s disclosure of invoking the location-based data service through a “web portal” (¶0030), as an express suggestion to incorporate Fransioli’s location-based functionality into a web portal like Yahoo!, providing a further motivation to incorporate location-based personalized messaging into the features of a club described in Neibauer.

194. An ordinarily skilled artisan would also have had a reasonable expectation of success. Fransioli confirms that, as of its May 2000 priority date, “the use of wireless communication networks has become widespread,” and “some wireless telephones support some basic interaction with the worldwide web.” (Fransioli, ¶0003.) The ability to determine the current location of a mobile device user was also well-known, as described in Fransioli, based on known GPS or signal

transmitter signal strength techniques. (Fransioli, ¶¶0017, 0026-0027.) Indeed, the Background of the '336 patent freely admits that, “[a]s is well-known,” web-enabled devices such as personal mobile phones and digital assistants (PDAs) “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.” ('336, 1:34-39.) An ordinarily skilled artisan would have found the disclosures of the prior art, including Fransioli, sufficiently detailed to implement the techniques on which I rely, using conventional programming techniques, without undue experimentation.

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

195. As explained for claim 21, under the proposed combination with Fransioli, the proposed combination would have provided “**location-based service information of the wireless network**,” in this case the current location of the first user’s mobile device. As explained, Fransioli explains that the mobile device location can be determined by the device itself using well-known global position system (GPS) techniques, or can be determined by the wireless network based on signal strengths between the device and various transmitters in the wireless access network. (Fransioli, ¶¶0027, 0030.) In any case, the proposed combination would

have provided “**location-based service information of the wireless network**,” as claimed, which the given mobile information channel would have “**integrat[ed]**” with the personalized messaging content. This is because, under the proposed combination, the current location information would have been used to personalize the message content for the first user. (Fransioli, ¶0011 (“For example, a driver in a vehicle may desire information about products and services in the locality.”).) The given mobile information channel, under the proposed combination, thus “**integrates**” location-based service information with the personalized messaging content by using the current location to establish the message delivered to the user. (Fransioli, ¶0031 (“At block 76 [of Figure 2] a message is established that includes content based on location and direction of travel.”).)

E. Grounds 4-6: Obviousness in Further View of Harvey.

196. Grounds 4-6 are substantially the same as Grounds 1-3, respectively, except that they add **Harvey** (EX1010) to account for a narrower construction of “**mobile information channel**” that was proposed in the pending litigation. As explained for Ground 1, claim 1[a], Petitioner has argued in the pending 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 **Grounds 4-6**, is the ability of user-authored content to be added “at a content management site,” which Petitioner has defined in the pending 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 **Grounds 1-3** applies here.

197. 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.)

198. The key feature of Harvey, for purposes of these grounds, 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.)

199. ***Rationale and Motivation to Combine (with Harvey)***: It would have been obvious to combine the prior art cited for **Grounds 1-3** 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.

200. This would have satisfied Petitioner’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 as described for claim 1[b] in **Ground 1**.

201. Harvey is an analogous reference. The ’336 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.” (’336, 1:23-25.) Harvey, like Neibauer and Miller described for **Ground**

1, is an analogous reference in the same field as the '336 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.

202. An ordinarily skilled artisan 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.

203. An ordinarily skilled artisan 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. An ordinarily skilled artisan would have found the disclosures of Harvey sufficiently detailed to implement the techniques on which I rely, without undue experimentation.

VI. NO SECONDARY CONSIDERATIONS OF NONOBVIOUSNESS

204. As explained in **Part III.B**, I understand that “secondary considerations” may be used as indicia of nonobviousness, provided that any such consideration has a nexus to the invention claimed. I understand from Petitioner’s counsel that Patent Owner in the related district court litigation has not yet identified any evidence related to secondary considerations with a nexus to the claimed invention. Nor am I aware of information, such as commercial success, unexplained results, long felt but unsolved need, industry acclaim, simultaneous invention, copying by others, skepticism by experts in the field, and failure of others, suggesting that the claims addressed in this Declaration are not obvious. To the extent Patent Owner later provides information it claims relates to secondary

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considerations, I reserve the right to supplement my analysis and opinions to comment on it.

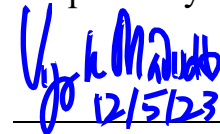
VII. CONCLUSION

205. 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.

206. 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: December 5, 2023

Respectfully submitted,



Vijay K. Madisetti, Ph.D.
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EXHIBIT A

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Startup Companies:

Director, **VP Technologies, Inc.** (1995-): A startup commercialized through Georgia Tech's Advanced Technology Development Corporation (ATDC) focusing on digital software and hardware design services for military market. <http://www.vptinc.net>

Director, **Soft Networks, LLC** (2001-2007): A startup commercialized through Georgia Tech support focusing on software development tools and compilers for Cellular/WiFi/VOIP/telecommunication products. <http://www.soft-networks.com>

Director, **Elastic Video Inc.** (2007- 2009): A startup commercialized through Georgia Tech's VentureLab (<http://venturelab.gatech.edu>) development image and video processing software for wireless & IP networking.

Litigation Experience (2016-2023) With Testimony

(Note: There may be multiple cases between the parties, e.g., District Court v. ITC, US versus Foreign Cases)

Chrimar v. Adtran, Alcatel, et al.

Technology: Power over Ethernet (2015-2017)

Submitted reports & Deposition & Trial

Chamberlain v. Ryobi/TTI

Case No: 1:16-cv-06097 (ND Illinois)

Expert for Ryobi

Technology: Wireless/IoT/Barrier Movement (2016 – 2019)

Submitted reports & deposition & trial testimony

IOEngine v. IMC/Imation

Case No: cv-14-1572-GMS (US Delaware)

Expert for IMC/Imation

Technology: Networked Storage Device (2016-2017)

Submitted reports & deposition & trial testimony

Huawei v. Samsung

Case No: 3:16-cv-2787-WHO (ND Cal)

Expert for Samsung

Technology: 4G/LTE Random Access Protocols (2016-2019)

Submitted reports & deposition

Hitachi Maxell v. ZTE/Huawei

Case No: 5:16-cv-00178-RWS (ED Texas)

Expert for Hitachi Maxell

Technology: Digital Cameras

Submitted reports & deposition (2017 – 2018)

Hitachi Maxell v. Apple

Case No: 5:19-cv-00036-RWS

Expert for Hitachi Maxell

Technology: Digital Cameras

Submitted Expert Reports (2020-)

Qualcomm v. Apple

Case No: 17-ccv-0108-GPC-MDD (SD Cal) Also, Related ITC/FTC Matters

Expert for Qualcomm

Technology: 4G/Wireless Communications/Smartphones (2017-2019)

Submitted Reports and Deposition

Qualcomm v. Apple

Case No: 3:17-cv-01375-DMS-MDD (SD Cal)

Expert for Qualcomm

Technology: 4G/Wireless Communications/Smartphones (2017-2019)

Submitted Reports and Deposition

Optis v. Huawei

Case No: 2:17-cv-123 (E.D. Texas)
Expert for Optis Wireless
Technology: 4G/Video (2017-2019)
Submitted reports & deposition

Beckman Coulter v. Sysmex

Case No: 1:17-cv-24049-DPG (ND Illinois)
Expert for Sysmex
Technology: Medical Instrumentation Automation (2017-present)
Testifying Expert

TQ Delta v. Xyxel/Adtran

Expert for TQ Delta
Technology: DSL Technologies (2018-present)
Testifying Expert

3GL/KPN v. LG, Blackberry, HTC

Expert for 3GL/KPN
Technology: 4G/LTE Protocols (2018-present)
Reports and Deposition / Testifying Expert

Rovi v. Comcast

ITC No. 337-TA-1103 (ITC)
Expert for Rovi
Technology: Digital Video & interactive GUI (Jan 2018-May 2018)
Reports and Deposition

Cirba/Densify v. VMWare

Case No: 1:19-cv-00742-LPS
Expert for Cirba/Densify
Technology: Virtualization (2019-present)
Reports Deposition/PI Hearing / Testifying Expert, Trial

Power Integrations v. On Semiconductor

Case No: 17-cv-03189-BLF
Expert for On Semiconductor
Technology: Power Electronics (2018-2019)
Reports & Deposition/Testifying Expert.

Pathway v. Lumens, IPEVO, Aver JDA

Case No: ITC 337-TA-1045
Expert for Lumens JDA
Technology: Document Cameras (2016-2019)
Reports & Deposition (for IPR/ITC, no trial)

Wilan v. Apple

Case No: 3:14-cv-2235

Expert for WiLan

Technology: Voice over LTE/LTE Protocols (2017-2020)

Reports and Testified through Deposition/Trials

St. Lawrence Comm. v. Amazon

Case No. 2:19-CV-00027-JRG

Expert for Amazon

Technology: Multimedia Codecs

Submitted Expert Reports/Deposition (2020-2020)

PanOptis v. Apple

Case No. 2:19-CV-00066-JRG

Expert for PanOptis

Technology: LTE

Submitted Expert Reports/Deposition/Trial (2019-2020)

GAS v. Sprint Communications, Verizon et al.

Case No. 2:20-cv-00007-RWS

Expert for General Access (GAS)

Technology: LTE/5G

Submitted Expert Reports/Deposition (9/21-)

Causam v. Ecobee, Itron, et al

Case No. ITC 337-TA-1277

Expert for Causum

Technology: Load Management

Submitted Expert Reports and Deposition (6/22)

Masimo v. Apple

Case No. ITC 337-TA-1276 and related cases (Trade Secret & Delaware)

Expert for Masimo (2018-)

Technology: Pulse Oximetry

Submitted Expert Reports, Deposition & Trial

TQ Delta v. Nokia, Adtran, CommScope, 2Wire, et al

Cases in Delaware & Texas

Expert for TQ Delta (2019 -)

Technology: DSL and Cable Modems

Submitted Expert Reports, Depositions & Hearings.

Paltalk Holdings v. Cisco Systems Inc.

Western District of Texas (6:21-CV-00757-ADA)

Expert for Paltalk Holdings (2022-)

Technology: VOIP Technologies
Submitted Expert Reports and Deposition

Ollnova Technologies v. Carrier Group, Ecobee, et al

Southern District of Florida (Case 9:22-cv-80388-DMM) & ED Texas

Expert for Ollnova (2022-)

Technology: IoT

Submitted Report and Deposition & Trial

VideoLabs v. Asus, et al

Case No: ITC 337-TA-1323

Expert for VideoLabs (2022-2023)

Technology: Video Conferencing

Reports and Depositions

ViaTech v. Adobe

District of Delaware (CA No. 20-358-RGA-MPT)

Expert for ViaTech (2019-2023)

Technology: Software Licensing

Reports, Deposition, and Trial Testimony

Zilkr v. Cisco

ED Texas, Marshall (Case 2:22-CV-166-JRB-RSP)

Expert for Zilkr (2022-)

Technology: Webex

Reports & Deposition

HouseCanary versus Amrock/Intuit

District Court Bexar County, Tx (2016-CI-06300)

Expert for House Canary (2023-)

Technology: Machine Learning

Reports & Deposition

Additional matters include declarations supporting IPRs at the PTAB for Google (US Patent 8,601,154), On Semiconductor (US Patent 6,212,079), Ubisoft (US Patent 5,490,216), Lumens JDA (2017-2019), Broadcom (WiFi), Sony (US Patent 6,101,534), Kia, (US Patent 5,530,431), Qualcomm, Ericsson, Daimler Benz, VW, Estech, Amazon, Ring, Digital Ally, On Semiconductor, LoganTree, Unified Patents, BMC Software, Masimo, Sentius, BMW, Facebook, PAWS, Google, Daimler, FedEx, Surge LLC, and Dolby.

Earned Degrees

- 1. B. Tech (Hons), Electronics & Electrical Comm. Engineering**
Indian Institute of Technology (IIT), Kharagpur, India
1984.
- 2. Ph.D., Electrical Engineering & Computer Sciences (EECS)**
University of California (UC), Berkeley. CA
1989.

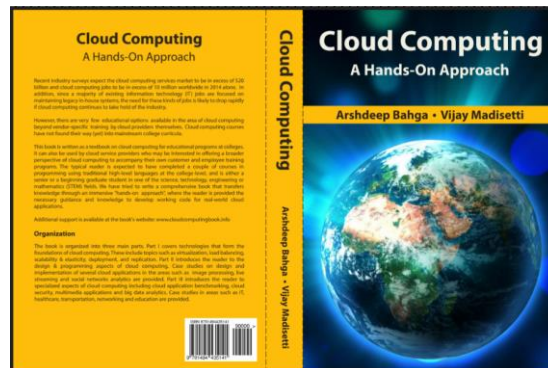
Books

- 1. VLSI Digital Signal Processors**
Madiseti, V.K.;
Boston: MA, IEEE Press: Butterworth Heinemann, 1995, 525 pp.
- 2. Quick-Turnaround ASIC Design in VHDL**
Romdhane, M., Madiseti, V.K., Hines, J.
Boston: MA, Kluwer Academic Press, 1996, 190 pp.
- 3. The Digital Signal Processing Handbook (First Edition)**
Madiseti, V. K., Williams, D. (Editors)
CRC Press, Boca Raton, Fla, 1998, 2500 pp.
- 4. VHDL: Electronics Systems Design Methodologies.**
Madiseti, V. K. (Editor)
Boston: MA, IEEE Standards Press, 2000, ISBN 0-7381-1878-8.
- 5. Platform-Centric Approach to System-on-Chip (SoC) Design.**
Madiseti, V. K., Arpnikanondt, A.
Springer, Boston: MA, Springer, 2004, 280 pp.
- 6. The Digital Signal Processing Handbook – Second Edition.**
Madiseti, V. K. (2009)
CRC Press, Boca Raton, Fla.
- 7. Cloud Computing: A Hands-On Approach**
A Bahga, V. Madiseti (2013)
Amazon CreateSpace Publishing, 2013, 454 pp.

8. Internet of Things: A Hands-On Approach

A Bahga, V. Madiseti (2014)

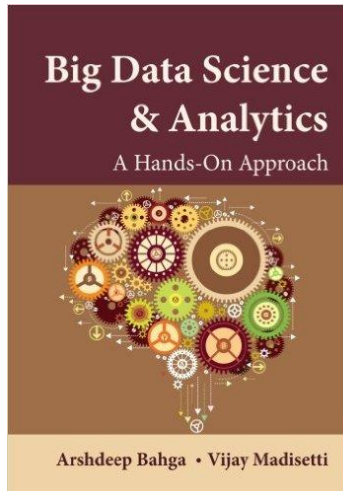
Amazon CreateSpace Publishing, 2014, 450 pp.



9. Big Data Science & Analytics: A Hands-On Approach

A Bahga, V. Madiseti (2016)

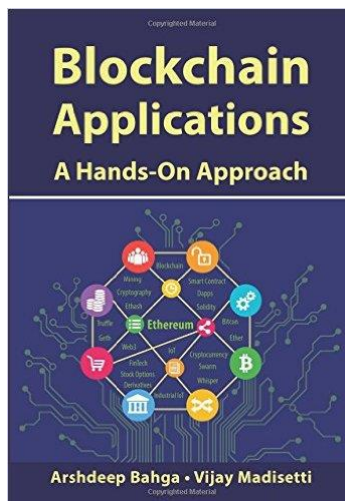
Amazon CreateSpace Publishing, 2016, 542 pp.



10. Blockchain Applications: A Hands-On Approach

A Bahga, V. Madiseti (2017)

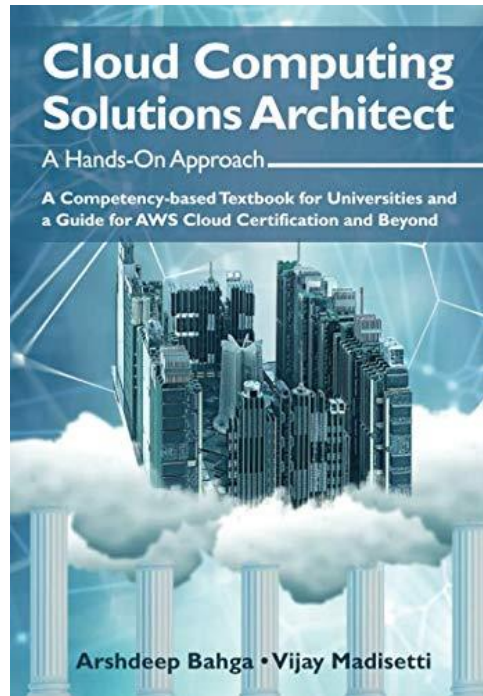
Amazon CreateSpace Publishing, 2017, 380 pp.



11. Cloud Solutions Architect: A Hands-On Approach

A Bahga, V. Madiseti (2020)

Amazon CreateSpace Publishing, 2020, 930 pp.



Edited Books & Collection of Papers

1. **Advances in Parallel & Distributed Simulation**

Madisetti, V.K.; Nicol, D., Fujimoto, R. (Editors)
San Diego, CA: SCS Press, 1991, 200 pp.

2. **Modeling, Analysis, Simulation of Computer & Telecommunications Systems**

Madisetti, V., Gelenbe, E., Walrand, J. W. (Editors)
Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.

3. **Modeling & Simulations on Microcomputers**

Madisetti, V.K. (Editor)
San Diego, CA: SCS Press, 138 pp. 1990.

Editorship of Journals & Transactions

1. IEEE Design & Test of Computers

Special Issue: Reengineering Digital Systems
April – June 1999 (Vol 16, No 2)
Madiseti, V.K (Editor)
Los Alamitos: CA, IEEE Computer Society Press, 1999.

2. IEEE Design & Test of Computers

Special Issue: Rapid Prototyping of Digital Systems
Fall 1996 (Vol 13, No 3)
Madiseti, V., Richards, M. (Editors)
Los Alamitos: CA, IEEE Computer Society Press, 1994, 425 pp.

3. IEEE Transactions on Circuits & Systems II

Associate Editor: 1993-1995.

4. International Journal in Computer Simulation

Associate Editor: 1990-1993

5. International Journal in VLSI Signal Processing

Editorial Board: 1995 - Present

Issued US Patents (Recent)

- [1] 11,580,540 Methods and systems for smart contracts for security and filtering, Issued February 14, 2023
- [2] 11,556,928 Methods and systems for smart contracts for security and filtering, Issued January 17, 2023
- [3] 11,553,039 Service meshes and smart contracts for zero-trust systems, Issued January 10, 2023
- [4] 11,538,031 Method and system for identity and access management for blockchain interoperability, Issued December 27, 2022
- [5] 11,528,147 Verifying integrity and secure operations of cloud-based software services, Issued December 13, 2022

- [6] 11,526,879 Method and system for zero-knowledge and identity based key management for decentralized applications, Issued December 13, 2022
- [7] 11,494,764 Methods and systems for smart contracts for security and filtering, Issued November 8, 2022
- [8] 11,483,622 Hybrid blockchains and streamchains using non-crypto hashes for securing audio-, video- image-, and speech-based transactions and contracts, Issued October 25, 2022
- [9] 11,379,612 Method and system for securing cloud storage and databases from insider threats and optimizing performance, Issued July 5, 2022
- [10] 11,316,933 Service meshes and smart contracts for zero-trust systems, Issued April 26, 2022
- [11] 11,316,690 Blockchain token-based cloud orchestration architecture for discrete virtual network instances, Issued April 26, 2022
- [12] 11,314,695 Method and system for real-time collaboration and annotation-based action creation and management, Issued April 26, 2022
- [13] 11,283,865 Service meshes and smart contracts for zero-trust systems, Issued March 22, 2022
- [14] 11,250,394 Method and system for blockchain-based gemstone ownership, identity, custody, supply-chain transfer, trading, and secure payments, Issued February 15, 2022
- [15] 11,226,938 Method and system for real-time collaboration and event linking to documents, Issued January 18, 2022
- [16] 11,223,877 Hybrid blockchains and streamchains using non-crypto hashes for securing audio-, video-, image-, and speech-based transactions and contracts, Issued January 11, 2022
- [17] 11,222,331 Method and system for blockchain-based gemstone ownership, identity, custody, supply-chain transfer, trading, and secure payments, Issued January 11, 2022

- [18] 11,212,268 Method and system for identity and access management for blockchain interoperability, Issued December 28, 2021
- [19] 11,080,240 Method and system for real-time collaboration and annotation-based action creation and management, Issued August 3, 2021
- [20] 11,074,650 Method and system for blockchain-based gemstone ownership, identity, custody, supply-chain transfer, trading, and secure payments, Issued July 27, 2021
- [21] 10,983,768 Method and system for persistent helpers for functions as a service (FAAS) in cloud computing environments, Issued April 20, 2021
- [22] 10,853,772 Method and system for exchange of value or tokens between blockchain networks, Issued December 1, 2020
- [23] 10,579,643 Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing, Issued March 3, 2020
- [24] 10,503,927 Method and system for securing cloud storage and databases from insider threats and optimizing performance, Issued December 10, 2019
- [25] 10,460,283 Smart contract optimization for multiparty service or product ordering system, Issued October 29, 2019
- [26] 10,459,946 Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing, Issued October 29, 2019
- [27] 10,402,589 Method and system for securing cloud storage and databases from insider threats and optimizing performance, Issued September 3, 2019
- [28] 10,394,845 Method and system for tuning blockchain scalability for fast and low-cost payment and transaction processing, Issued August 27, 2019

- [29] 10,289,631 Method and system for tuning blockchain scalability for fast and low-cost payment and transaction processing, Issued May 24, 2019
- [30] 10,255,342 Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing, Issued April 9, 2019
- [31] 10,243,743 Tokens or crypto currency using smart contracts and blockchains, Issued March 26, 2019
- [32] 10,204,339 Method and system for blockchain-based combined identity, ownership, integrity and custody management, Issued February 12, 2019
- [33] 10,204,148 Method and system for tuning blockchain scalability, decentralization, and security for fast and low-cost payment and transaction processing, Issued February 12, 2019
- [34] 10,121,143 Method and system for blockchain-based combined identity, ownership, integrity and custody management, Issued November 6, 2018
- [35] 10,102,526 Method and system for blockchain-based combined identity, ownership, integrity and custody management, Issued October 16, 2018
- [36] 10,102,265 Method and system for tuning blockchain scalability for fast and low-cost payment and transaction processing, Issued October 16, 2018
- [37] 9,935,772 Methods and systems for operating secure digital management aware applications, Issued April 3, 2018
- [38] 9,769,213 Method and system for secure digital object management, Issued September 19, 2017

Ranked #8 in the list of issued US patents in the area of blockchain

Ranking in the area of US patents issued in the area of blockchain technology in 2020

Table 3. Patent by assignee

Applicant (Assignee)	Patents	%	Applicant (Assignee)	Patents	%
IBM	47	14.0%	Wells Fargo Bank	4	1.2%
Accenture Global Solutions	28	8.4%	Alibaba	3	0.9%
Bank of America	24	7.2%	Dell	3	0.9%
Capital One Services	12	3.6%	The Bank Of New York Mellon	3	0.9%
Mastercard	11	3.3%	The Toronto-Dominion Bank	3	0.9%
Guardtime IP Holdings Limited	8	2.4%	Verizon Patent And Licensing	3	0.9%
Madiseti Vijay K.	8	2.4%	Winklevoss I.P.	3	0.9%
Black Gold Coin, Inc.	7	2.1%	SAP	2	0.6%
Cisco	7	2.1%	Sony	2	0.6%
Acronis International	5	1.5%	Stampery	2	0.6%
Blockchain Asics	5	1.5%	Uipeco	2	0.6%
Tran Bao	5	1.5%	Vmware	2	0.6%
Intel	4	1.2%	Walmart Apollo	2	0.6%
Northern Trust	4	1.2%	Wiig Rex	2	0.6%
Shocard	4	1.2%	Xage Security	2	0.6%

Refereed Journal Publications

1. Trends in the Electronic Control of Mine Hoists

*Madiseti, V. and Ramlu, M.,
IEEE Transactions on Industry Applications, Vol IA-22, No. 6,
November/December 1986. Pages 1105-1112*

2. Multilevel range/NEXT performance in digital subscriber loops

Brand, G.; Madiseti, V.; Messerschmitt, D.G.;
Communications, Speech and Vision, IEE Proceedings I [see also IEE
Proceedings-Communications] ,Volume: 136 , Issue: 2 , April 1989
Pages:169 – 174

3. Seismic migration algorithms on parallel computers

Madiseti, V.K.; Messerschmitt, D.G.;
Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and
Signal Processing, IEEE Transactions on], Volume: 39 , Issue: 7 , July 1991
Pages:1642 – 1654

4. Asynchronous algorithms for the parallel simulation of event-driven dynamical systems

Madiseti, V.K.; Walrand, J.C.; Messerschmitt, D.G.:
ACM Transactions on Modeling and Computer Simulation, v 1, n 3, July 1991,
Pages: 244-74

5. Synchronization mechanisms for distributed event-driven computation

Madiseti, V.K.; Hardaker, D.:

ACM Transactions on Modeling and Computer Simulation, v 2, n 1, Jan. 1992,
Pages: 12-51

6. Efficient VLSI Architectures for the Arithmetic Fourier Transform (AFT)

Kelley, B.T.; Madiseti, V.K.;

Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and
Signal Processing, IEEE Transactions on] ,Volume: 41 , Issue: 1 , January
1993

Pages:365-378

7. The fast discrete Radon transform. I. Theory

Kelley, B.T.; Madiseti, V.K.;

Image Processing, IEEE Transactions on ,Volume: 2 , Issue: 3 , July 1993

Pages:382 – 400

8. The Georgia Tech digital signal multiprocessor

Barnwell, T.P., III; Madiseti, V.K.; McGrath, S.J.A.;

Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and
Signal Processing, IEEE Transactions on] ,Volume: 41 , Issue: 7 , July 1993

Pages:2471 – 2487

9. The MIMDIX Environment for Parallel Simulation

Madiseti, V.K.; Hardaker, D.; Fujimoto, R.M.:

Journal of Parallel and Distributed Computing, v18, no. 4, August 1993,

Pages: 473-83.

10.LMSGEN: a prototyping environment for programmable adaptive digital filters in VLSI

Romdhane, M.S.B.; Madiseti, V.K.;

Chapter in VLSI Signal Processing, VII, 1994.,

Pages:33 – 42

11. Fixed-point co-design in DSP

Egolf, T.W.; Famorzadeh, S.; Madiseti, V.K.;

Chapter in VLSI Signal Processing, VII, 1994.,

Pages:113 - 126

12. A fast spotlight-mode synthetic aperture radar imaging system

Madiseti, V.K.;

Communications, IEEE Transactions on ,Volume: 42 , Issue: 234 , February-
April 1994

Pages:873 – 876

13. Rapid prototyping on the Georgia Tech digital signal multiprocessor

Curtis, B.A.; Madiseti, V.K.;

Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and Signal Processing, IEEE Transactions on] ,Volume: 42 , Issue: 3 , March 1994

Pages:649 – 662

14.Low-power signaling in asymmetric noisy channels via spectral shaping

Sipitca, M.; Madiseti, V.K.;

Signal Processing Letters, IEEE, Volume: 1 , Issue: 8 , Aug 1994

Pages:117 – 118

15. A quantitative methodology for rapid prototyping and high-level synthesis of signal processing algorithms

Madiseti, V.K.; Curtis, B.A.;

Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and Signal Processing, IEEE Transactions on] ,Volume: 42 , Issue: 11 , Nov. 1994

Pages:3188 – 3208

16. Computer Simulation of Application-Specific Signal Processing Systems

Casinovi, G.; Madiseti, V.K.;

International Journal in Computer Simulation, Vol. 4, No. 4, Nov 1994.

17. System partitioning of MCMs for low power

Khan, S.A.; Madiseti, V.K.;

Design & Test of Computers, IEEE ,Volume: 12 , Issue: 1 , Spring 1995

Pages:41 – 52

18. Error correcting run-length limited codes for magnetic recording

Jaejin Lee; Madiseti, V.K.;

Magnetics, IEEE Transactions on ,Volume: 31 , Issue: 6 , Nov. 1995

Pages:3084 – 3086

19. Virtual prototyping of embedded microcontroller-based DSP systems

Madiseti, V.K.; Egolf, T.W.;

Micro, IEEE ,Volume: 15 , Issue: 5 , Oct. 1995

Pages:9 – 21

20. Constrained multitrack RLL codes for the storage channel

Lee, J.; Madiseti, V.K.;

Magnetics, IEEE Transactions on ,Volume: 31 , Issue: 3 , May 1995

Pages:2355 – 2364

21. Rapid digital system prototyping: current practice, future challenges

Madisetti, V.K.;

Design & Test of Computers, IEEE ,Volume: 13 , Issue: 3 , Fall 1996

Pages:12 – 22

22. Conceptual prototyping of scalable embedded DSP systems

Dung, L.-R.; Madisetti, V.K.;

Design & Test of Computers, IEEE ,Volume: 13 , Issue: 3 , Fall 1996

Pages:54 – 65

23. Advances in rapid prototyping of digital systems

Madisetti, V.K.; Richards, M.A.;

Design & Test of Computers, IEEE ,Volume: 13 , Issue: 3 , Fall 1996

Pages:9

24. Combined modulation and error correction codes for storage channels

Jaejin Lee; Madisetti, V.K.;

Magnetics, IEEE Transactions on ,Volume: 32 , Issue: 2 , March 1996

Pages:509 – 514

25. Model-based architectural design and verification of scalable embedded DSP systems-a RASSP approach

Dung, L.-R.; Madisetti, V.K.; Hines, J.W.;

Chapter in VLSI Signal Processing, IX, 1996.

Pages:147 – 156

26. Low-power digital filter implementations using ternary coefficients

Hezar, R.; Madisetti, V.K.;

Chapter in VLSI Signal Processing, IX, 1996.,

Pages:179 – 188

27. All-digital oversampled front-end sensors

Romdhane, M.S.B.; Madisetti, V.K.;

Signal Processing Letters, IEEE, Volume: 3 , Issue: 2 , Feb. 1996

Pages:38 – 39

28. Modeling COTS components in VHDL

Calhoun, S., Reese, R; Egolf, T., Madisetti, V.K.;

Journal of VLSI Signal Processing, Volume: 14 , Issue: 2 , Nov 1996

Pages: 24 – 31

29. VHDL-Based Rapid Systems Prototyping

Egolf, T.; Madisetti, V.K.;

Journal of VLSI Signal Processing, Volume: 14 , Issue: 2 , Nov 1996

Pages: 40-52

30. Interface design for core-based systems

Madisetti, V.K.; Lan Shen;

Design & Test of Computers, IEEE ,Volume: 14 , Issue: 4 , Oct.-Dec. 1997

Pages:42 - 51

31. Incorporating cost modeling in embedded-system design

Debardelaben, J.A.; Madisetti, V.K.; Gadiant, A.J.;

Design & Test of Computers, IEEE ,Volume: 14 , Issue: 3 , July-Sept. 1997

Pages:24 - 35

32. On homomorphic deconvolution of bandpass signals

Marenco, A.L.; Madisetti, V.K.;

Signal Processing, IEEE Transactions on [see also Acoustics, Speech, and

Signal Processing, IEEE Transactions on] ,Volume: 45 , Issue: 10 , Oct. 1997

Pages:2499 - 2514

33. A case study in the development of multi-media educational material: the VHDL interactive tutorial

Gadiant, A.J.; Stinson, J.A., Jr.; Taylor, T.C.; Aylor, J.H.; Klenke, R.H.;

Salinas, M.H.; Madisetti, V.K.; Egolf, T.; Famorzadeh, S.; Karns, L.N.; Carter, H.W.;

Education, IEEE Transactions on ,Volume: 40 , Issue: 4 , Nov. 1997

Pages:17 pp.

34. Adaptive mobility management in wireless networks

Jeongwook Kim; Madisetti, V.K.;

Electronics Letters ,Volume: 34 , Issue: 15 , 23 July 1998

Pages:1453 - 1455

35. Efficient implementation of two-band PR-QMF filterbanks

Hezar, R.; Madisetti, V.K.;

Signal Processing Letters, IEEE ,Volume: 5 , Issue: 4 , April 1998

Pages:92 - 94

36. On fast algorithms for computing the inverse modified discrete cosine transform

Yun-Hui Fan; Madisetti, V.K.; Mersereau, R.M.;

Signal Processing Letters, IEEE ,Volume: 6 , Issue: 3 , March 1999

Pages:61 - 64

37. System on chip or system on package?

Tummala, R.R.; Madiseti, V.K.;

Design & Test of Computers, IEEE ,Volume: 16 , Issue: 2 , April-June 1999

Pages:48 – 56

38. Reengineering legacy embedded systems

Madiseti, V.K.; Jung, Y.-K.; Khan, M.H.; Kim, J.; Finnessy, T.;

Design & Test of Computers, IEEE ,Volume: 16 , Issue: 2 , April-June 1999

Pages:38 – 47

39. Reengineering digital systems

Madiseti, V.K.;

Design & Test of Computers, IEEE ,Volume: 16 , Issue: 2 , April-June 1999

Pages:15 – 16

40. Parameter optimization of robust low-bit-rate video coders

Sangyoun Lee; Madiseti, V.K.;

Circuits and Systems for Video Technology, IEEE Transactions on, Volume: 9

Issue: 6 , Sept. 1999

Pages:849 – 855

41. Closed-form for infinite sum in bandlimited CDMA

Jatunov, L.A.; Madiseti, V.K.;

Communications Letters, IEEE ,Volume: 8 , Issue: 3 , March 2004

Pages:138 – 140

**42. A new protocol to enhance path
reliability and load balancing in mobile ad hoc networks**

Argyriou, A.; Madiseti, V.K.;

Journal of Ad Hoc Networks, Elsevier Press, 2004

43. Closed-form analysis of CDMA systems using Nyquist pulse

Jatunov, L.A.; Madiseti, V. K.;

Communications Letters, IEEE (Under Revision), 2005.

**44. Systematic Design of End-to-End Wireless Mobility Management
Protocols,**

Argyriou, A.; Madiseti, V. K.;

ACM/Springer Wireless Networks (WINET), Accepted 2005.

45. A Novel End-to-End Approach for Video Streaming Over the Internet,

Argyriou, A.; Madiseti, V. K.;

Kluwer Telecommunications Systems, Vol. 28, No. 2, Pages 133-150, Jan

2005. *Special Issue on Multimedia Streaming.*

- 46. An Analytical Framework of RD Optimized Video Streaming with TCP,**
Argyriou, A.; Madisetti, V. K.;
IEEE Transactions on Multimedia, Submitted for review in March 2005.
- 47. Modeling the Effect of Handoffs on Transport Protocol Performance,**
Argyriou, A.; Madisetti, V. K.;
IEEE Transactions on Mobile Computing, Submitted for review in March 2005
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- 6. High speed migration of multidimensional seismic data**
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- 9. The fast discrete Radon transform**
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- 11. Multitrack RLL codes for the storage channel with immunity to
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Ph.D. Students Graduated

- 1. Brian T. Kelley, 1992**
VLSI Computing Architectures for High Speed Signal Processing
Member of Technical Staff, Motorola

Winner of Dr. Thurgood Marshall Dissertation Fellowship Award
- 2. Bryce A. Curtis, 1992**
Special Instruction Set Multiple Chip Computer for DSP
Member of Technical Staff, IBM
- 3. Jaejin Lee, 1994**
Robust Multitrack Codes for the Magnetic Channel
Professor, Yonsei University, Korea
- 4. Mohamed S. Ben Romdhane, 1995**
Design Synthesis of Application-Specific IC for DSP
Director of IP, Rockwell
- 5. Shoab A. Khan, 1995**
Logic and Algorithm Partitioning on MCMs
Professor, National University of Science & Technology, Pakistan
- 6. Lan-Rong Dung, 1997**
VHDL-based Conceptual Prototyping of Embedded DSP Architectures
Professor, National Chaio Tung University, Taiwan

Winner of VHDL International Best PhD Thesis Award, 1997

7. Thomas W. Egolf, 1997

Virtual Prototyping of Embedded DSP Systems
Distinguished Member of Technical Staff, Agere

8. Alvaro Marenco, 1997

On Homomorphic Deconvolution of Bandpass Signals
Professor, Texas A&M University

Winner of GIT ECE Outstanding Teaching Assistant Award

9. Shahram Famorzadeh, 1997

BEEHIVE: A Distributed Environment for Adaptive Signal Processing
Member of Technical Staff, Rockwell

10. Timothy J. Klausutis, 1997

Adaptive Lapped Transforms with Applications to Image Coding.
US Air Force/Univ. of Florida

11. Lan Shen, 1998

Temporal Design of Core-Based Systems
Member of Technical Staff, IBM

12. James DeBardelaben, 1998

Optimization Based Approach to Cost Effective DSP Design
Research Scientist, Johns Hopkins University

Georgia Tech ECE Faculty Award

13. Sangyoun Lee, 1999

Design of Robust Video Signal Processors
Professor, Yonsei University

US Army Sensors Lab Research Excellence Award, 1999

14. Rahmi Hezar, 2000

Oversampled Digital Filters
Member of Technical Staff, Texas Instruments

15. Yong-kyu Jung, 2001

Model-Based Processor Synthesis
Professor, Texas A&M University

16. Mustafa Turkboylari, 2002

Handoff Algorithms for Wireless Applications
Member of Technical Staff, Texas Instruments

17. Yun-Hui Fan, 2002

A Stereo Audio Coder with Nearly Constant Signal to Noise Ratio
Post-Doctoral Research Associate, Northeastern University

18. Subrato K. De, 2002

Design of a Retargetable Compiler for DSP

Member of Technical Staff, Qualcomm

US Army Sensors Lab Research Excellence Award, 1999

19. Chonlameth Aripnikanondt, 2004

System-on-Chip Design with UML

Professor, King Mongkut's University, Thailand

US Army Sensors Lab Research Excellence Award, 1999

20. Loran Jatunov, 2004

Performance Analysis of 3G CDMA Systems

Senior Research Scientist, Soft Networks, LLC. Now at Samsung

21. Antonios Argiriou, 2005, Research Scientist, Philips

22. Pilho Kim, 2009, Scientist, VP Technologies, Inc.

23. M. Sinnokrot, 2009, Staff Engineer, Apple

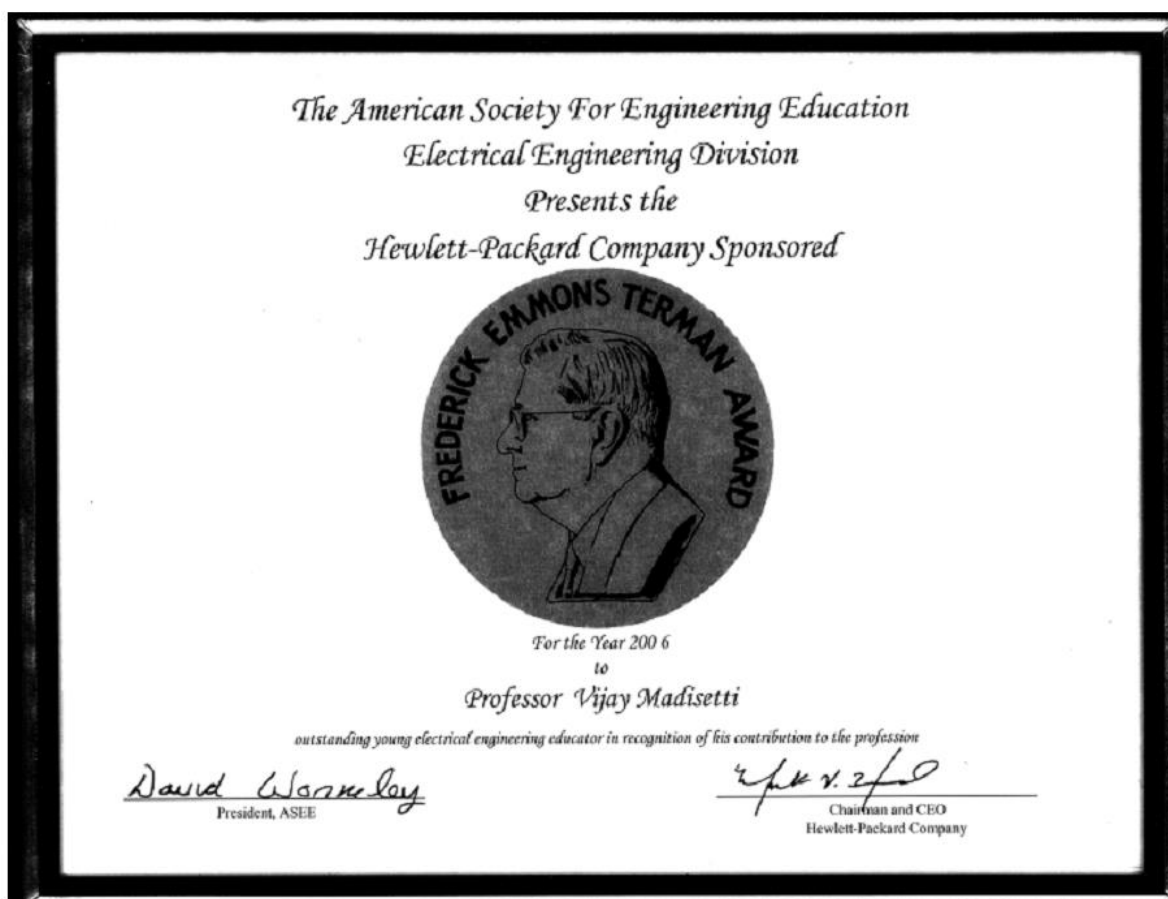
24. A. Yusuf, 2013, Professor, National University, Pakistan

25. Joel Corporan, 2023, Senior Scientist, Warner Media, USA

Awards & Honors

1. **Jagasdis Bose National Science Talent Fellowship**, Indian Institute of Technology, Kharagpur, 1980-1984
2. **General Proficiency Prize**, Indian Institute of Technology, Kharagpur, 1984
3. **Demetri Angelakos Outstanding Graduate Student Award**, Univ. of California, Berkeley, 1989
4. **Ira Kay IEEE/ACM Best Paper Award** for Best Paper presented at IEEE Annual Simulation Symposium, 1989
5. **IBM Faculty Development Award** 1990
6. **Technical Program Chair**, IEEE Workshop on Parallel and Distributed Simulation. 1990
7. **Technical Program Chair**, IEEE MASCOTS'94
8. **NSF RI Award**, 1990
9. **VHDL International Best PhD Dissertation Advisor Award**, 1997

10. Georgia Tech Outstanding Doctoral Dissertation Advisor Award, 2001
11. ASEE 2006 Frederick Emmons Terman Medal, 2006
12. Fellow of IEEE



Intellectual Property Disclosures (Georgia Tech)

<u>Patent</u>	<u>Date</u>	<u>Description</u>
2843	2004	Method and Apparatus for Improving the Performance of Wireless LANs
2825	2003	Method and Apparatus for Optimal Partitioning and Ordering of Antennas for Layered Space-Time Block Codes in MIMO Communications Systems
2815	2003	How to Rapidly Develop a SyD Application
GSU-023	2003	Rapid Development of SyD Applications

2810	2003	System on Mobile Devices Middleware Design
2718	2003	A Transport Layer Algorithm for Improved Anycast Communication
2717	2003	A Novel Transport Layer Load-Balancing Algorithm
2716	2003	A Transport Layer QoS Algorithm
2715	2003	A Novel Transport Layer Algorithm for MPLS Performance
2659	2002	A New Algorithm and Technology for Implementing Mobile IP with Applications to Voice and Video over Mobile IP
2656	2002	Debugging with Instruction-Level Reverse Execution
2655	2002	Embedded Software Streaming
2539		System of Databases: An Enabling Technology for Programming
2517	2002	A Dynamic Instantiated Real-Time Operating System Debugger
2516	2002	A Dynamic Real-Time Operating System
GSU-009	2001	System of Databases: Architecture,, Global Queries, Triggers and Constraints
2480	2001	Mobile Fleet Application based on SyD Technology
2479	2001	System of Databases: A model with coordination links and a calendar application
1893	1999	Beehive
1726	1995	Very High Scale Integrated Circuit Hardware Description Language Models (VHDL Models)
1401	1995	Self-Compensation Receiver (SCR)