

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner

v.

SITNET LLC,
Patent Owner

Case IPR2026-00110
U.S. Patent No. 12,120,769

**DECLARATION OF BERNARD J. JANSEN, PH.D.,
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 12,120,769**

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Meta EX1003
Meta v. SitNet
IPR2026-00110

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1. [1.P] A computer-implemented method comprising: 50
2. [1.A] maintaining, by a networking server configured to maintain data defining a multi-dimensional information network, a database of a plurality of user nodes and multi-dimensional node-to-node links characterizing relationships between the plurality of user nodes via dimensions in the multi-dimensional information network, wherein at least some of the user nodes of the plurality of user nodes are respectively associated with user data; 50
3. [1.B] providing, by the networking server, [to] respective user devices associated with respective user nodes of the plurality of user nodes, respective composite data feeds that are based on the database of the plurality of user nodes and multi-dimensional node-to-node links; 55
4. [1.C] establishing, by an event node server, an event node associated with an event in a particular geographical area, wherein the event node is discoverable to each respective user device of a first subset of a plurality of user devices by browsing a respective composite data feed; 59
5. [1.D.1] joining the first subset of the plurality of user devices that have discovered the event node to the event node, wherein user devices of the first subset of the plurality of user devices are respectively associated with a first subset of user nodes of the multi-dimensional information network that are joined to a centralized architecture for the event node, ... 62
6. [1.D.2] wherein the event node is configured as a central node in the centralized architecture for accessing information associated with the event from a location in the multi-dimensional information network; 66
7. [1.E] creating, by the networking server, based on the database of the plurality of user nodes and multi-dimensional node-to-node links, a projection of the plurality of user nodes, wherein the projection represents a second subset of user devices, wherein the second subset of user devices is selected based on respective distances of devices of the second subset of user devices from the event; 67

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9.	[1.G] recording respective responses to the respective requests to connect;	73
10.	[1.H.1] making a subset of the respective responses viewable, via the event node, to a first device, associated with a first node, that is connected to the event node, ...	74
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3.	[1.B] providing, by the networking server, [to] respective user devices associated with respective user nodes of the plurality of user nodes, respective composite data feeds that are based on the database of the plurality of user nodes and multi-dimensional node-to-node links;	113
4.	[1.C.] establishing, by an event node server, an event node associated with an event in a particular geographical area, wherein the event node is discoverable to each respective user device of a first subset of a plurality of user devices by browsing a respective composite data feed;	116
5.	[1.D.1] joining the first subset of the plurality of user devices that have discovered the event node to the event node, wherein user devices of the first subset of the plurality of user devices are respectively associated with a first subset of user nodes of the	

- multi-dimensional information network that are joined to a centralized architecture for the event node, ... 120
6. [1.D.2] wherein the event node is configured as a central node in the centralized architecture for accessing information associated with the event from a location in the multi-dimensional information network; 122
 7. [1.E] creating, by the networking server, based on the database of the plurality of user nodes and multi-dimensional node-to-node links, a projection of the plurality of user nodes, wherein the projection represents a second subset of user devices, wherein the second subset of user devices is selected based on respective distances of devices of the second subset of user devices from the event; 125
 8. [1.F] transmitting, by the networking server, respective requests to connect to the event node to the second subset of user devices, wherein the respective requests to connect are in forms of roll calls; 129
 9. [1.G] recording respective responses to the respective requests to connect; 131
 10. [1.H.1] making a subset of the respective responses viewable, via the event node, to a first device, associated with a first node, that is connected to the event node, ... 131
 11. [1.H.2] wherein each response of the subset was received from a device associated with a node having a single degree of separation from the first node in the database of the plurality of user nodes and multi-dimensional node-to-node links; 132
 12. [1.I] analyzing (a) the database of the plurality of user nodes and multi-dimensional node-to-node links, and (b) data of user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event node to identify at least one second node included in the database of the plurality of user nodes and multi-dimensional node-to-node links that is: (a) not connected to the event node, and (b) connected via at least one dimension to at least one user node of the multi-dimensional information network that is joined to the centralized architecture for the event node; and 135

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I, Bernard J. Jansen, hereby declare as follows.

I. INTRODUCTION

1. I have been retained as an expert witness on behalf of Meta Platforms, Inc. (“Petitioner”) for the above-captioned *inter partes* review (IPR). I am being compensated for my time in connection with this IPR at my standard consulting rate. My compensation is not contingent on either my expert opinion or the outcome of this litigation. I have no other interest in this proceeding.

2. I understand that this Declaration accompanies a petition for IPR of U.S. Patent No. 12,120,769 (“the ’769 patent”) (EX1001), which resulted from U.S. Patent Application No. 18/639,871 (“the ’871 application”), filed on April 18, 2024. I understand that the ’769 patent alleges a priority date of February 2, 2007 (the “Priority Date”). I refer to this date throughout this declaration.

3. In preparing this Declaration, I have reviewed the ’769 patent and each of the documents cited herein, in light of general knowledge in the art before February 2, 2007. In formulating my opinions, I have relied upon my experience, education, and knowledge in the relevant art. In formulating my opinions, I have also considered the viewpoint of a person of ordinary skill in the art (“POSA”) (as explained further below in Sections V.C and IX) prior to February 2, 2007.

II. MY BACKGROUND AND QUALIFICATIONS

4. My analysis is based on my experience, training, knowledge, and

education, and it is formed through the application of that experience, training, knowledge, and education in the principles of search engines, Web search, keyword advertising, display advertising, online advertising, Web analytics, network communications, and related areas.

5. I received my B.S. in Computer Science from the United States Military Academy in 1985, my M.S. in International Relations from Troy State University in 1994, my M.CS. in Computer Science from Texas A&M University in 1996, and my Ph.D. in Computer Science from Texas A&M University in 1999.

6. I was a tenure-track professor at Penn State from 2002 through 2016, departing as a tenured, full-time professor on January 1, 2017, to become a principal research scientist at the Qatar Computing Research Institute where I am currently employed. I was a Senior Fellow at the Pew Internet & American Life Project, which is part of the Pew Research Center, from 2010 through 2012. I was a University Expert at the National Ground Intelligence Center from 2011 through 2014. Before my professorship at Penn State, I was a Lecturer in the Computer Science Program at the University of Maryland (Asian Division) for one year. Before that, I was an Assistant Professor in the Department of Electrical Engineering and Computer Science at the United States Military Academy, also known as West Point, for three years.

7. In addition to my academic credentials, my professional experience

includes twenty years of practice in the U.S. military, serving in the Infantry as an enlisted soldier and then as a communications officer, upon commissioning, working primarily in a variety of information technology-related positions planning and establishing communication networks from portable ground radios to large satellite communication radios, and evaluating the performance of these networks. I also led a large multimedia team at a major U.S. Army educational facility, responsible for designing, providing, and assessing multimedia products, including the organizational website. I employed various software programs and databases for interactive products and website design for these tasks. I used these programs and others to develop interactive websites and multimedia applications, including employing analytics for the performance evaluation of these websites and applications. During this time, the team received several product awards and honors, including one award for website development, four for multimedia applications development, and one for software development.

8. I am the editor-in-chief of the international academic journal *Information Processing and Management*, a premier journal in computing science and information science, including computational science, online analytics, and social media computing. I am a former Editor-in-Chief of the journal *Internet Research*, a top-ranked journal in the Web science and business domains that examines the Internet's social, ethical, economic, and political implications.

9. I have authored approximately 400 academic publications on Web searching, search engines, keyword advertising, online advertising, branding, Web analytics, social media, social networks, and related fields. Approximately 300 of my publications address search engine optimization, search analytics, Web analytics, online advertising, keyword advertising, search engines, or Web searching. My recent research focuses on online analytics, investigating the qualitative and quantitative attributes of digital content usage and social computing analytics, which investigates social behavior using algorithmic methods. I have authored, co-authored, or co-edited four books, including Web Search: Public Searching of the Web (2007), Understanding User – Web Interactions via Web Analytics (2009), Understanding Sponsored Search (2011), Data-Driven Personas (2021), and Understanding Audiences, Customers, and Users via Analytics – An Introduction to the Employment of Web, Social, and Other Types of Digital People Data (2023). In a 2020 study, I was ranked in the top 2% of researchers in my field. In the 2024 edition of the Best Computer Science Scientists in the World, my research was ranked 1371st worldwide (~top ten percent of the top computer science researchers). EX1036.

10. My professional expertise includes search engine optimization, Web analytics, search engines, Web searching, social media, online advertising, online reputation management techniques, and related computer science and data science

areas, including programming and networks. Throughout my academic career, I have worked with various search engines and information searching applications to understand user information behavior on the Web and other environments. For example, as part of my Master's program in Computer Science, I designed and coded a text-based search engine, and my thesis involved the building of a tool for network performance monitoring. For my Doctorate program in Computer Science, I developed a program interface for Web search engines and implemented it on the Gigabyte search engine. I have been invited to present research at major search engine companies, including Google and Yandex, and many search marketing agencies.

11. As a computer scientist, I have engaged in and am experienced with classic computer science areas, such as programming, software development, algorithms, and networking, along with non-traditional areas, such as data analytics, keyword advertising, and online advertising. I have taught various computer courses at the undergraduate and graduate levels, including micro-computing, programming (in various programming languages), and the Web/Internet. I have taught a Web technology overview course (websites, mobile, social media, Web metrics, market analysis, etc.) and a graduate-level research course for professional masters students. Previously, I taught courses in keyword and display advertising where student teams engaged with small-medium-sized

enterprises (SMEs) to implement online advertising campaigns. I have supervised students with SMEs on various online advertising platforms, including Google Ads and Facebook Ads. I have experience with several online marketing platforms, including Google Ads, Facebook Ads, LinkedIn Ads, and Microsoft Advertising.

12. I have conducted research and teaching concerning search engines and websites, including search engine optimization, content creation, search engine keyword advertising, Web searching, and Web analytics. In the field of online searching, online advertising, and Web analytics, I have worked directly with real user searching data from several Web search engines. I have also analyzed Web data of traffic and other attributes from various websites and social media accounts. I have analyzed real user data from a multi-million-dollar online advertising marketing campaign that spans multiple years, involving thousands of ads and key terms. I have also analyzed user referral traffic to websites and monetized this traffic via online advertising. A 2015 review of keyword advertising research reported that I was the predominant researcher in the field of search engine advertising, EX1033, 12, along with co-authors. I have developed Web analytics models and processes to analyze business goals and have used Web and online advertising analytics data in my research and teaching.

13. I have advised government agencies and private companies in consulting and expert witness matters, including online searching, online

advertising, search engines, locating relevant information, and disseminating defaming statements, among other related areas.

14. I have personal knowledge or have developed knowledge of the technologies discussed in this Declaration based upon my education, training, or experience with the matters discussed herein.

15. I understand that a copy of my complete *Curriculum Vitae* has been submitted as Exhibit 1004, which includes a list of publications I have authored in the past ten years, a list of cases in which I have testified as an expert in deposition or trial in the past four years, and other details regarding my expertise and qualifications.

III. SUMMARY OF OPINIONS

16. In forming my opinions about the '769 patent, I have considered the following grounds of unpatentability. Based on my review of the prior art references that form the basis of these grounds, it is my opinion that claims 1-30 of the '769 patent would have been obvious to a POSA prior to February 2, 2007.

Ground	35 U.S.C.	Claims	References
1	§103(a)	1-30	Kraft, Nguyen, Altman
2	§103(a)	1-24, 26-29	Wong, Burfeind, Crowley
3	§103(a)	25, 30	Wong, Burfeind, Crowley, Altman

17. I have been asked to consider how a POSA would have understood the challenged claims in light of the disclosures of the '769 patent. I have also been asked to consider how a POSA would have understood the prior art references Kraft, Nguyen, Altman, Wong, Burfeind, and Crowley.

18. Further, I have been asked to consider and provide my technical review, analysis, insights, and opinions regarding whether a POSA would have understood that the combinations of the prior art references listed in the table above render obvious claims 1-30 of the '769 patent.

IV. LIST OF DOCUMENTS CONSIDERED

19. In forming my opinions, I have considered the documents listed below in addition to any other documents cited in this Declaration. To the best of my knowledge, these documents are true and accurate copies of what they purport to be. An expert in the field would reasonably rely on them to formulate opinions such as those set forth in this Declaration.

Exhibit No.	Description
1001	U.S. Patent No. 12,120,769 to Cona <i>et al.</i> , issued October 15, 2024 (“the ’769 patent”)
1002	Prosecution History of U.S. Patent No. 12,120,769 (“’769 File History”)
1005	U.S. Patent No. 7,747,648 B1 to Kraft <i>et al.</i> (“Kraft”)
1006	U.S. Patent Publication No. 2005/0033615 A1 to Nguyen <i>et al.</i> (“Nguyen”)
1007	U.S. Publication No. 2008/0103784 A1 to Wong <i>et al.</i> (“Wong”)
1008	U.S. Publication No. 2007/0233635 to Burfeind <i>et al.</i> (“Burfeind”)
1009	U.S. Publication No. 2006/0270419 to Crowley <i>et al.</i> (“Crowley”)
1010	U.S. Publication No. 2007/0281690 to Altman <i>et al.</i> (“Altman”)
1011	U.S. Patent No. 8,024,330 to Franco <i>et al.</i> (“Franco”)
1012	U.S. Publication No. 2006/0047825 to Steenstra <i>et al.</i> (Steenstra”)
1013	U.S. Publication No. 2003/0197615 to Roche <i>et al.</i> (“Roche”)
1014	U.S. Patent No. 8,346,864 B1 to Amidon <i>et al.</i> (“Amidon”)
1015	Boyd & Ellison, <i>Social Network Sites: Definition, History, and Scholarship</i> , Journal of Computer-Mediated Communication, 13 (2008) pp. 210-230.
1016	U.S. Patent Application Publication No. 2007/0194938 to Mitchell (“Mitchell”)
1017	U.S. Publication No. 2003/0162557 to Shida (“Shida”)
1018	November 26, 2006 Wikipedia page “Social network” (from web.archive.org) (accessed Jan. 24, 2024)
1019	Adamic & Adar, <i>How to Search a Social Network</i> , SOCIAL NETWORKS 27, 187-203 (2005), accessed at https://www.cs.toronto.edu/~bor/303s19/docs/adamic-adar.pdf .
1020	Caroline Haythornthwaite, <i>Social Networks and Internet Connectivity Effects</i> , INFORMATION, COMMUNICATION & SOCIETY 125-147 (2005), accessed at https://www.dhi.ac.uk/san/waysofbeing/data/communication-zangana-haythornthwaite-2005.pdf

Exhibit No.	Description
1021	Andrew Turner, <i>Introduction to Neogeography</i> 36-37 (2006).
1022	Gary Rivlin, <i>Friendster, Love and Money</i> , N.Y. TIMES (Jan. 24, 2005), https://www.nytimes.com/2005/01/24/technology/friendster-love-and-money.html
1023	<i>Myspace Events</i> , MYSPACE, (from web.archive.org) (accessed Nov. 5, 2025)
1024	Alex Williams, <i>MySpace: A Site with 26 Million 'Friends'</i> , N.Y. TIMES (Sept. 1, 2005), https://www.nytimes.com/2005/09/01/technology/myspace-a-site-with-26-million-friends.html .
1025	Theodora Stites, <i>Someone to Watch Over Me (on a Google Map)</i> , N.Y. TIMES (July 9, 2006), https://www.nytimes.com/2006/07/09/fashion/sundaystyles/someone-to-watch-over-me-on-a-google-map.html
1026	Amanda Lenhart & Mary Madden, <i>Social Networking Websites and Teens</i> , PEW RSCH. CTR. (Jan. 7, 2007), https://www.pewresearch.org/internet/2007/01/07/social-networking-websites-and-teens/
1027	Janet Kornblum, <i>Teens Hang Out at MySpace</i> , USA TODAY (Jan. 8, 2006) (from web.archive.org) (accessed Nov. 3, 2025)
1028	<i>Subset</i> , DICTIONARY.COM, https://www.dictionary.com/browse/subset (accessed Nov. 3, 2025)
1029	Joseph T. Plummer, <i>The Concept and Application of Life Segmentation</i> , 38 J. MKTG. 1, 33-37 (Jan. 1974)
1030	<i>Meta Platforms, Inc. v. SitNet LLC</i> , IPR2024-00529, Final Written Decision, Paper 33 (P.T.A.B. Sept. 8, 2025).
1031	<i>Meta Platforms, Inc. v. SitNet, LLC</i> , IPR2024-00530, Final Written Decision, Paper 30 (PTAB September 8, 2025)
1032	Claim Construction Order in <i>SitNet LLC v. Meta Platforms, Inc.</i> , Case No. 1:23-cv-06389-AS (SDNY) (Dkt. 79) filed July 26, 2024
1033	A Systematic Review on Search Engine Advertising

Exhibit No.	Description
1034	U.S. Publication No. 2006/0272012 to Wu (“Wu”)
1035	U.S. Patent No. 6,910,077 to Najork (“Najork”)
1036	Best Computer Science Scientists - Data Sources for the 11th Edition of the Research.com Best Computer Science Scientists Ranking (Page 14) https://research.com/scientists-rankings/computer-science?page=14

V. LEGAL UNDERSTANDING

20. I have also relied upon various legal principles (as explained to me by Meta’s counsel) in formulating my opinions. My understanding of these principles is summarized below.

A. My Understanding of Claim Construction

21. I understand that during an *inter partes* review proceeding, claims are to be construed in light of the specification as would be read by a person of ordinary skill in the relevant art at the time the application was filed. I understand that claim terms are given their ordinary and customary meaning as would be understood by a person of ordinary skill in the relevant art in the context of the entire disclosure. A claim term, however, will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the claim term in the specification. In this case, the claim term will receive the definition set forth in the patent.

B. My Understanding of Obviousness

22. I understand that a patent claim is invalid if the claimed invention would have been obvious to a POSA at the time the application was filed. This means that even if all of the requirements of the claim cannot be found in a single prior art reference that would anticipate the claim, the claim can still be invalid.

23. To obtain a patent, a claimed invention must have, as of the priority date, been nonobvious in view of the prior art in the field. I understand that an invention is obvious when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a POSA.

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

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

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

(3) explain how the prior art references could have been combined in order to create the inventions claimed in the asserted claim.

25. I also understand that prior art references can be combined under several different circumstances. For example, it is my understanding that one such

circumstance is when a proposed combination of prior art references results in a system that represents a predictable variation, which is achieved using prior art elements according to their established functions.

26. I also understand that when considering the obviousness of a patent claim, one should consider whether a teaching, suggestion, or motivation to combine the references exists so as to avoid impermissibly applying hindsight when considering the prior art. I understand this test should not be rigidly applied, but that the test can be important to avoid such hindsight.

27. I understand that certain objective indicia can be important evidence as to whether a patent is obvious or nonobvious. Such indicia include:

(1) commercial success of products covered by the patent claims; (2) a long-felt need for the invention; (3) failed attempts by others to make the invention; (4) copying of the invention by others in the field; (5) unexpected results achieved by the invention as compared to the closest prior art; (6) praise of the invention by the infringer or others in the field; (7) the taking of licenses under the patent by others; (8) expressions of surprise by experts and those skilled in the art at the making of the invention; and (9) the patentee proceeded contrary to the accepted wisdom of the prior art.

28. At this point, I am not aware of any objective indicia of non-obviousness. However, I reserve the right to review and opine on any evidence of

objective indicia of non-obviousness that may be presented during this proceeding.

29. I also understand that “obviousness” is a legal conclusion based on the underlying factual issues of the scope and content of the prior art, the differences between the claimed invention and the prior art, the level of ordinary skill in the prior art, and any objective indicia of non-obviousness.

30. For that reason, I am not rendering a legal opinion on the ultimate legal question of obviousness. Rather, my testimony addresses the underlying facts and factual analysis that would support a legal conclusion of obviousness or non-obviousness, and when I use the term obvious, I am referring to the perspective of one of ordinary skill at the time of invention.

C. A Person of Ordinary Skill in the Art

31. I understand that a POSA is presumed to be aware of all pertinent art, thinks along conventional wisdom in the art, and is a person of ordinary creativity—not an automaton.

32. I have been asked to consider the level of ordinary skill in the field that someone would have had at the time the claimed invention was made. In deciding the level of ordinary skill, I considered the following:

- the levels of education and experience of persons working in the field;
- the types of problems encountered in the field; and

- the sophistication of the technology.

33. My opinion below explains how a POSA would have understood the technology described in the references I have identified herein around the February 2, 2007, timeframe, which I have been advised is the earliest possible effective filing date for the '769 patent. However, my opinions herein would not be affected if the '769 patent is found to only be entitled to a later effective filing date.

34. Regardless of whether I use “I” or a “POSA” during my technical analysis below, all of my statements and opinions are always to be understood to be based on how a POSA would have understood or read a document at the time of the alleged invention.

VI. OVERVIEW OF THE '769 PATENT

35. The '769 patent is directed to a “network system for accessing situation related information.” EX1001, Abstract. The claimed embodiments are directed to a “system [that] includes a network connection for receiving an indication of an occurrence of a situation.” EX1001, Abstract. The '769 patent describes the claimed “situation” broadly, stating that situations include social events, emergency events, weather phenomena, natural disasters, etc. *E.g.*, EX1001, 5:9-24, 31:64-65. Situations also include “weather related activities, such as skiing or surfing.” EX1001, 5:9-24.

36. A “projection,” also referred to as “a ‘projected’ view,” is described as “a subset of the nodes” of a social network and can be determined based on a wide variety of criteria, including the geographic location of the user device as recited in the ’769 patent claims. EX1001, 17:4-5, 22:52-23:39. In short, the ’769 patent relates simply to methods and systems that allow a set of participants in a social network to exchange information about an event or situation.

37. One example embodiment of a SitNet 3000 is illustrated in Figure 28, reproduced below.

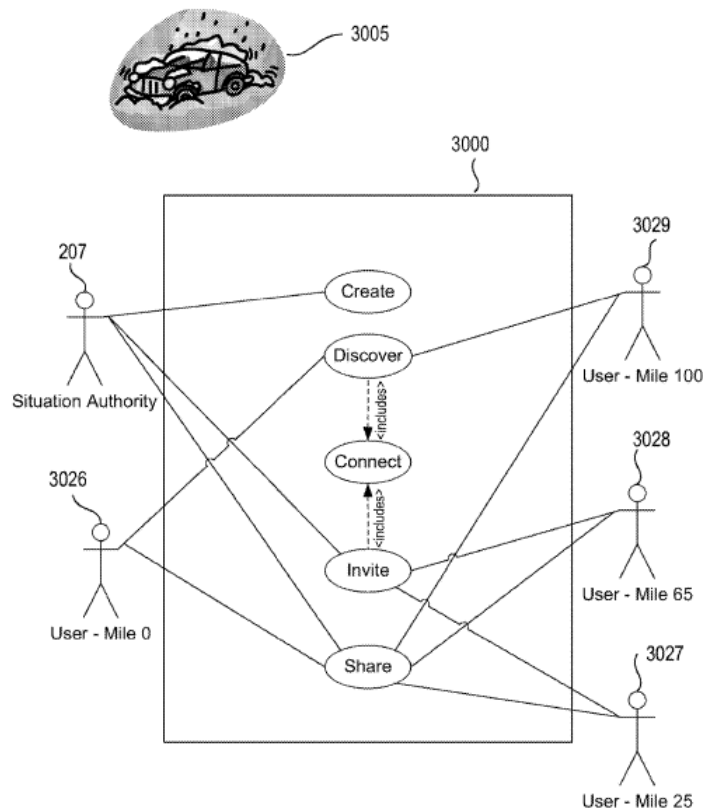
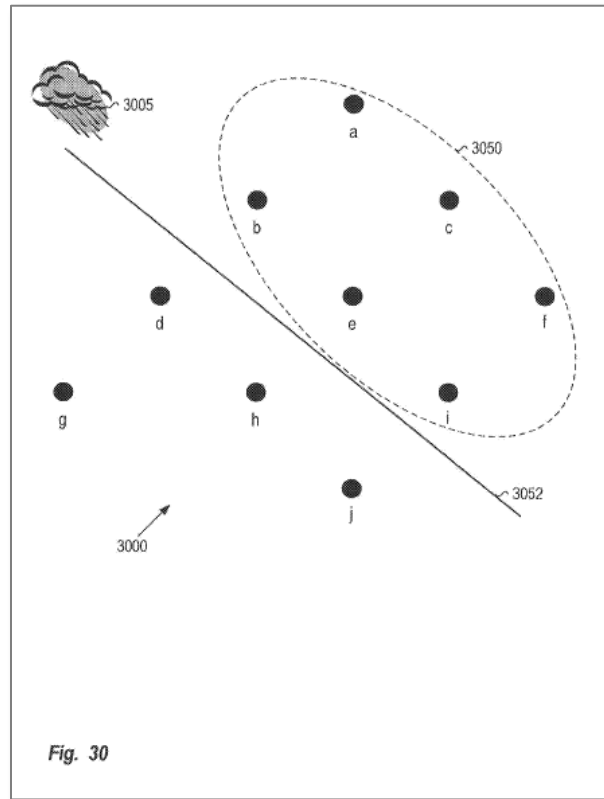


Fig. 28

EX1001, FIG. 28

38. In Figure 28, situation authority 207 creates an event node (not shown in Figure 28) relating to a storm event 3005. EX1001, 24:16-27. Users (i.e., travelers 3026-3029) connect to the event node, either by discovering it or being invited to join if they are within a pre-determined distance from the location associated with the event. EX1001, 24:27-33. Information regarding the event (e.g., traffic, weather) is shared between users and/or by the situation authority. EX1001, 24:33-47; *also* 24:48–26:11 (discussing additional ways to share information). Information may be distributed via “centralized connections” between “the situation authority server” and “the user devices.” EX1001, 6:61-65. Accordingly, an event node “corresponding to [a] situation” may be made available to multiple users. EX1001, 24:16-47, FIG 28. And as shown in Figure 28, “some travelers (3027, 3028) have been invited to join the SitNet 3000 by [a] situation authority 207, while other travelers (3026, 3029) have joined the SitNet 3000 based on a discovery of the event node by their own devices.” EX1001, 24:36-40.

39. Figure 30, reproduced below, shows an example of a geographic projection 3050 of nodes of a situational network 3000. EX1001, 23:8-9.

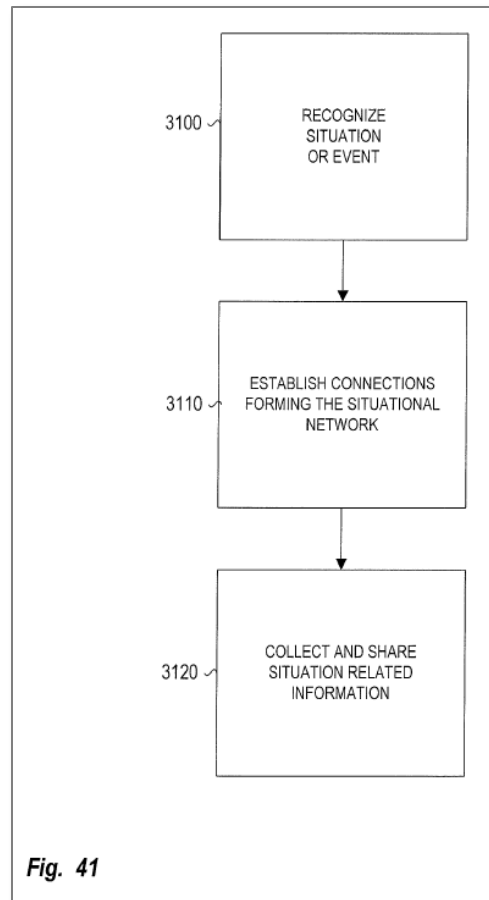


EX1001, FIG. 30.

40. In Figure 30, network 3000 includes the ten nodes labeled (a) through (j). EX1001, 23:9-10. In this example, the situation 3005 is a severe rainstorm posing a flood threat to persons located on one side of a river (boundary 3052). EX1001, 23:13-16. Geographic projection 3050 includes a subset of the nodes, i.e., nodes (a), (b), (c), (e), (f), and (i), which are included based on their location with respect to boundary 3052, i.e., those users threatened by flood waters. EX1001, 23:9-18.

41. The '769 patent also describes a “roll call” feature, which can be included in the situational network. EX1001, 27:20-23. Using this feature, a message is sent out to users, and the user responses are received and recorded. EX1001, 27:23-38. The responses may be made viewable to users within the situational network or to users not connected to the situational network. EX1001, 27:38-28:11.

42. The '769 patent makes clear that the implementation of its methods is architecture agnostic. *See* EX1001, 6:58-59 (“A variety of different architectures may be used to connect the devices of participants in the situational network.”). Regardless of the architecture, the same generic process is used to form the situational network. EX1001, 7:48-53. This process is shown in Figure 41, reproduced below.



EX1001, FIG. 41.

43. The '769 patent also says that the situational network is implemented using known and conventional technologies. For example, users are connected via the situational network using known devices, such as cell phones, PDAs, personal computers, network servers, or “other devices generally known to those skilled in the art that enable connection to, from and through the computer network.”

EX1001, 4:52-57. Further, participants in the situational network are associated with “nodes,” which are simply the users’ point of connection to the network, and which “may be implemented using a wide variety of available hardware and

technologies generally known in the art, such as software on a personal computer or a handheld PDA.” EX1001, 15:34-51, 15:59-63. As the ’769 patent also explains, a POSA would have understood that the nodes of the network “may be interconnected and may communicate with each other using a wide variety of available hardware and technologies generally known in the art, such as TCP/IP over an Ethernet or a wireless network.” EX1001, 15:63-67.

VII. STATE OF THE ART

44. As I explain above, the ’769 patent describes systems and techniques “for accessing situation related information.” EX1001, Abstract. The claims of the ’769 patent recite general concepts, such as maintaining “a database of a plurality of user nodes and multi-dimensional node-to-node links,” providing “respective user devices associated with respective user nodes ... composite data feeds,” “establishing an event node associated with an event in a particular geographic area,” joining a “first subset of the plurality of user devices” to the event node, creating a “projection of the plurality of user nodes,” transmitting requests to connect the event node to a “second subset of user devices,” recording responses to the “requests to connect,” making the “subset of the respective responses viewable to a first device,” analyzing a database and user node data to identify that the second node is “not connected to the event node” and “connected to a “user node,” and delivering “information to the at least one second node.”

45. These concepts were well known before the '769 patent's earliest possible priority date. For instance, systems for sharing information items related to situations or events were well known. Such systems may include social networks as well as systems for sharing information items related to events.

A. Social Networks

46. The earliest social network sites were launched in the late 1990s, with such sites growing in popularity through the 2007 priority date of the '769 patent. EX1015, 212. In November 2006, the Wikipedia page for "Social network" described a "social network" as a "social structure made of nodes which are generally individuals or organizations." EX1018, 1. The Wikipedia page confirms the popularity of Internet-based social networks in this time frame. EX1018, 3-4.

47. Some references, such as U.S. Patent No. 8,346,864 to Amidon, filed before the Priority Date of the '769 patent, indicate "a 'social network' refers to a group of persons or other entities ... linked to one another through one or more types of social connections." EX1014, 1:27-30. Amidon continues, describing that "[m]any social networking systems attempt to provide computer-based tools for maintaining, enhancing, and creating social networks." EX1014, 1:38-40. Amidon also describes that communication among users of social networking web sites was known. *See, e.g.*, EX1014, 1:41-49.

48. Other prior art references, such as Kraft, include systems for

managing communications of users across an Internet environment that include features of conventional networks as well as additional, expansive features that “provid[e] additional avenues for categorizing, filtering and retrieving information.” EX1005, 10:25-30.

49. The Background section of Wong also confirms that online social networking systems were known and were “popular” for connecting with, and sharing information with, other users via the Internet. EX1007, ¶3.

50. Moreover, social networks were gaining increasing prominence for facilitating real life interactions, i.e., event planning, via an online environment. For instance, social network platforms such as Friendster and MySpace, were boasting millions of registered users and billions of total page views. *See* EX1022, 4. On these networking platforms, “[u]sers can converse via instant message, play games, contribute to blogs or browse through a range of local cultural events.” EX1022, 4. Social Networks such as MySpace included an events page allowing users to organize and invite users to local events. EX1023, 1. For instance, it was known that “social networking model [could be expanded] into a one-stop Web spot, incorporating elements from other sites popular with the young: the instant-message capabilities of America Online, the classified ads of Craigslist.com, the invitation service of Evite.com and the come-hither dating profiles of match.com.” EX1024, 3. Many social networks also translated offline relationships (e.g.,

friends, close friends) into a social networking platform. *E.g.*, EX1020, 135-136.

Many of these network sites, such as Flavorvill, Meetup, and GeoCaching, used these relationships to facilitate and encourage real interactions between members.

EX1025, 4. Indeed, it was commonly known that “[i]n addition to socializing online, teens employ social networking sites for scheduling and coordinating events with friends.” EX1026, 3.

51. Indeed, this confirms my opinion that the concepts of communication and event planning via online social networks were well known and would have been readily appreciable by a POSA in the relevant time frame.

B. Delivering Event Information to Nodes in a Social Network

52. As I explain above, the ’769 patent claims broadly require establishing nodes in a multi-dimensional social network and delivering information items to the nodes.

53. The ’769 patent describes that participants in the multi-dimensional information network (i.e., users) are associated with “nodes.” The ’769 patent’s “nodes” are the users’ point of connection to the network. *See* EX1001, 15:43-51. A node of the ’769 patent “may be implemented using a wide variety of available hardware and technologies generally known in the art, such as software on a personal computer or a handheld PDA.” EX1001, 15:60-67. Before the Priority Date of the ’769 patent, the concept of nodes was commonly implemented in social

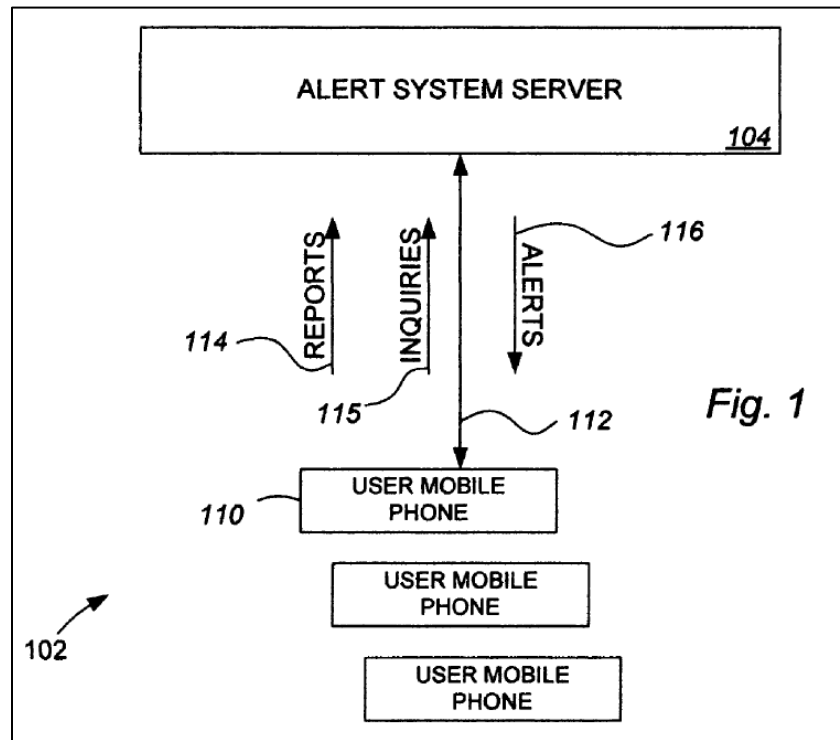
networks to interconnect various users, which access the network via their respective devices. *See generally* EX1019. Thus, the concept that users are associated with devices—which are in turn associated with nodes in the social network—was well known. In other words, it was common knowledge before the Priority Date of the '769 patent that a user accesses a social network via an associated user device (such as a computer or cell phone) and that each user is associated with a node that represents that user in the social network.

54. I note that the claims do not require any particular manner in which the information item is received or made available to the user devices. These broad, conceptual claim elements were well known prior to the '769 patent. For instance, such claimed elements were commonly found in emergency warning systems and event planning systems.

1. Emergency Warning Systems

55. It was known for emergency warning systems to receive information items describing emergency events from users near the events, and to use that information to warn other nearby users of the event. For instance, Franco discloses an “incident alert system” in which “[a] user uses a networked mobile phone with geo-positioning capability to communicate with a server to report incidents... based on the user’s current geographic position.” EX1011, Abstract. “Reports of incidents are transmitted to the server accompanied by the current position of the

user/mobile phone.” EX1011, Abstract. The server then reports the information related to the incident to certain users within a “zone of interest” near the incident. EX1011, 2:17-25, 3:7-28, FIG. 1.

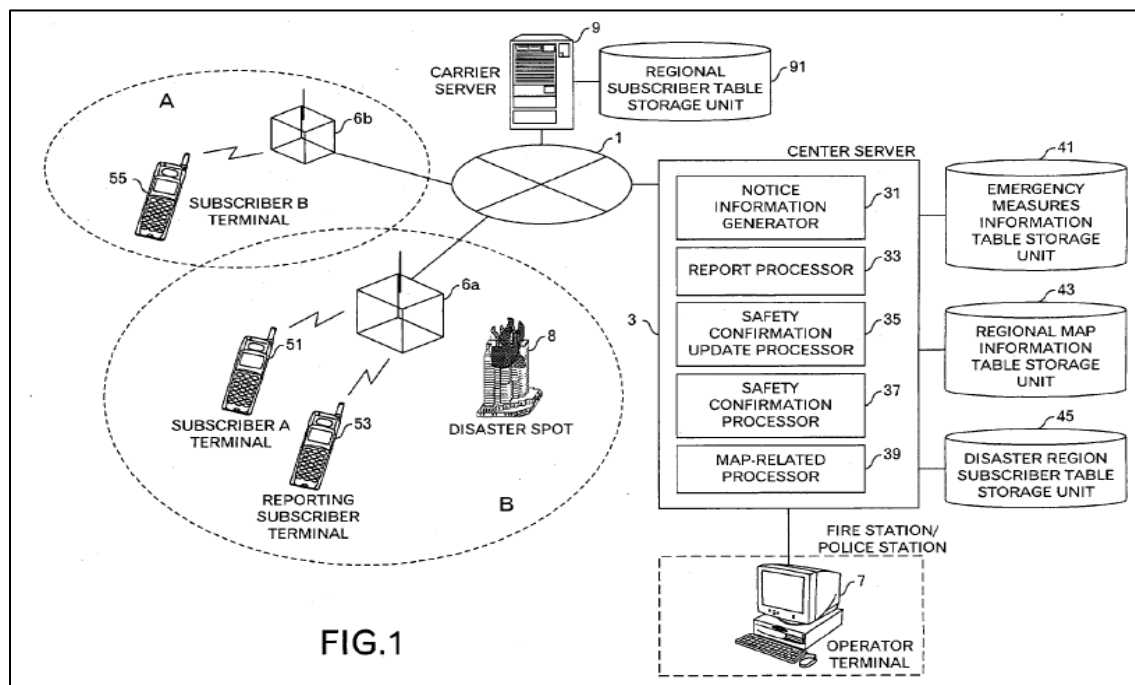


EX1011, FIG. 1.

56. Franco thus capitalized on the intuitive idea that “facilitating information sharing based on users’ geographic locations... significantly opens the opportunities for individuals to be Good Samaritans by informing others of hazards or by responding to urgent requests for assistance by others in need.” EX1011, 1:53-58. Indeed, this confirms my opinion that the claimed concepts of delivering information items related to situations (i.e., an event) among nodes in a social network were well known and would have been readily appreciable by a POSA in

the relevant time frame.

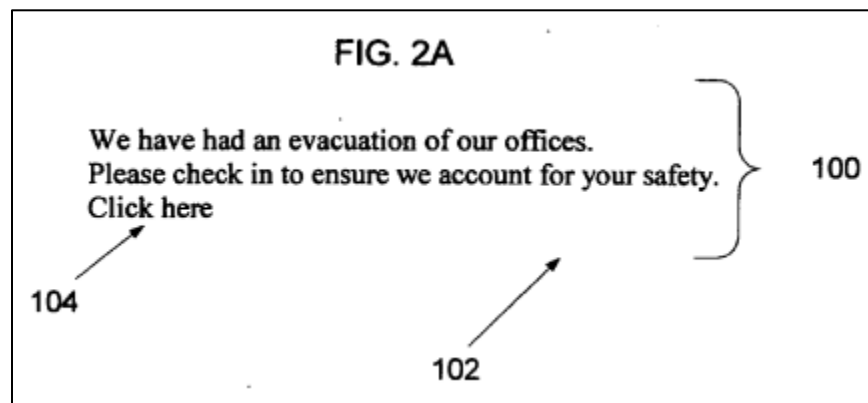
57. As another example, Shida is directed to a system for confirming the safety of persons upon the occurrence of a disaster. EX1017, Abstract. When a disaster occurs, a reporting subscriber terminal (e.g., user device) generates and transmits a disaster occurrence report to a “carrier server,” which in turn transmits “disaster information included in the disaster occurrence report” to a “center server.” EX1017, ¶¶33, 37, FIG. 1. The center server then determines “the subscribers... who should be informed of the occurred disaster.” EX1017, ¶46. Specifically, “the subscribers to be notified are subscribers who exist in the disaster occurring region,” as specified by a “disaster region subscriber table” stored at the center server. EX1017, ¶¶39, 46.



EX1017, FIG. 1.

58. The center server “generates notice information” related to the disaster “and transmits it to the subscribers to be notified.” EX1017, ¶46. “The subscriber terminal of the designated subscriber receives the broadcast notice information from the mobile communication network system, and displays it on the display device.” EX1017, ¶46.

59. Mitchell discloses another example emergency warning system. Specifically, Mitchell is directed to an “intelligent headcount system” that “ensur[es] that all persons have been accounted for... in real time in response to an emergency or disaster declaration.” EX1016, ¶11; *see also* EX2016, Abstract. When a disaster is detected, a server provides an “alert message” to a user, prompting the user to check in by sending an “acknowledgement signal” that indicates the user’s status. EX1016, ¶¶35-37.



EX1016, FIG. 2A.

60. Roche teaches a “disaster recovery virtual roll call and recovery management system” that “allows any organization to locate their staff and allocate resources to their staff in the event of a disaster.” EX1013, Abstract. “In case of

disaster, the system can contact the users over one or more communications networks... and request the user provide their status.” EX1013, Abstract. “The users can send user status updates to the web network using internet enabled devices, such as personal computers, telephones, or handheld portable computers.” EX1013, Abstract. “The system can compile the information, and generate reports on group and individual status.” EX1013, Abstract.

61. These example systems thus show that the claimed concepts of maintaining nodes in a multi-dimensional social network and delivering information items related to an event with user devices located near the event were well known. As I explain in greater detail below, the prior art references applied herein—including Kraft, Nguyen, Altman, Wong, Burfeind, and Crowley—teach similar social network communication fabrics and event (i.e., an emergency situation) information delivery systems that teach and/or render obvious the claims.

2. Event Planning Systems

62. The claimed concepts of establishing nodes in a multi-dimensional social network and delivering information items related to events to the nodes were also known via event planning systems. For instance, Burfeind discloses a system for “schedul[ing] a location-specific event.” EX1008, Abstract. For instance, an “event organizer” plans an event by using a “portable device” to access an “organization device” implemented as a server. EX1008, Abstract, ¶¶56, 59, 66,

146-147. The event organizer provides “event information” to the organization device, which uses the information to create a new event. EX1008, ¶¶108, 110, 162. The organization device then sends invitations (information items) to invitees of the events and “track[s] the attendance status of each event invitee.” EX1008, ¶¶108, 131.

63. As another example, Crowley discloses a system for coordinating meetings between friends and acquaintances. EX1009, Abstract. Specifically, Crowley discloses “location-based social software” for “establishing connection between users of mobile devices.” EX1009, ¶¶7-8. Specifically, Crowley’s system determines when a user’s acquaintances are geographically proximate to an event venue, and automatically sends invitations to those acquaintances, inviting them to meet the user at that venue. EX1009, ¶45.

64. For instance, Crowley discloses an example where a user “TJ” is “located at a bar called the Luna Lounge.” EX1009, ¶45. At TJ’s request, the system “identif[ies] which of [TJ’s] acquaintances is currently active in the system, and... which of the acquaintances is near the Luna Lounge.” EX1009, ¶45. The system then “send[s] each of the acquaintances messages” inviting them to meet TJ at Luna Lounge. EX1009, ¶45, *see also* ¶78.

65. As another example, Steenstra teaches a “[l]ocation based service (LBS) system and method for creating a social network.” EX1012, Title. The LBS

system “includes an interest group feature” that shares information related to an event with user devices located proximate to the event. EX1012, ¶50. For instance, Steenstra describes an example in which a user named “Alex” creates “an interest group” for basketball. EX1012, ¶50. The system makes information related to the event available to other users “based on their being in the same geographical location as Alex.” EX1012, ¶50. The system then enables the users to “arrange to meet at the Neighborhood Park and play 3-on-3 basketball.” EX1012, ¶50.

66. Such references confirm my opinion that the claimed concepts of establishing nodes in a multi-dimensional social network and delivering information items related to events to the nodes were well known. Indeed, as I explain in greater detail below, the prior art disclosed herein—including Kraft, Nguyen, Altman, Wong, Burfeind, and Crowley—teaches these claim elements via event planning systems.

VIII. PROSECUTION HISTORY

67. It is my understanding that the ’769 patent issued on October 15, 2024, from U.S. Patent Application No. 18/639,871 (“’871 application”), and claims a priority date of February 2, 2007. EX1002, 16. Over the course of the ’871 application’s prosecution, Applicant submitted multiple information disclosure statements citing to IPR proceedings for patents within the ’769 family, including grandparents of the ’769 patent. *E.g.*, EX1002, 108-110. The ’769 patent

issued after a single office action in which the Examiner rejected all claims under the judicially created doctrine of obviousness-type double patenting over the claims of other SitNet issued patents. EX1002, 177-183. Applicant filed Terminal Disclaimers. EX1002, 203-204. In response, the Examiner issued a Notice of Allowance, but did not provide any comments on the reasons for allowance. EX1002, 243-248, 280-282. The prosecution history includes no substantive discussion of the claims in view of prior art.

IX. PERSON OF ORDINARY SKILL IN THE ART

68. In my opinion, a person of ordinary skill in the art (“POSA”) at the time of the ’769 patent would have had a Bachelor’s degree in Computer or Electrical Engineering or equivalent discipline, and approximately two years’ experience in telecommunications or computer networking. I also believe additional education could substitute for professional experience, and significant work experience could substitute for formal education.

69. I am well qualified to determine the level of ordinary skill in the art. I am very familiar with the technology of the ’769 patent during the February 2007 timeframe. As mentioned above, by 2007, I was a tenured track professor at Penn State University and had acquired extensive experience relating to computer networking and telecommunications.

X. CLAIM CONSTRUCTION

70. I have been informed that the challenged claims of the '769 patent are to be given their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention in light of the specification and the prosecution history pertaining to the patent.

71. Based on my review of the Final Written Decision in IPR2024-00529, I understand that the Board determined that the term “event node” required no construction and that additional limitations from the specification should not be imported into the claims. EX1030, 8-12. I agree with this assessment, and it is my opinion that the same understanding should apply to the claims of the '769 patent.

72. I also understand that the district court construed the term “projection” to mean “subset.” EX1032, 5.

73. It is my opinion that none of the claim terms require explicit constructions for the purpose of this *inter partes* review and assessing the obviousness of the claims based on the prior art that I have discussed in this declaration. Regardless, the art teaches the claims of the '769 patent under the prior constructions as well.

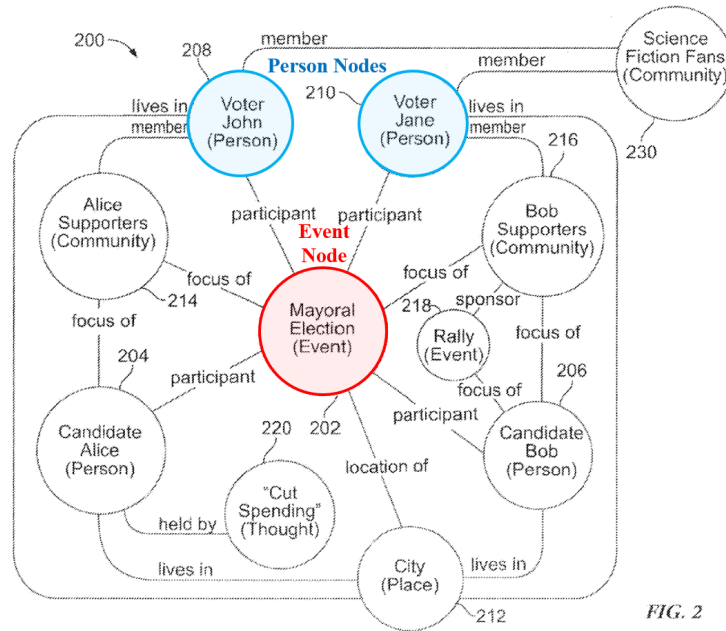
XI. OVERVIEW OF THE PRIOR ART

A. Kraft

74. Kraft generally discloses “systems and methods for information retrieval and communication using a world model.” EX1005, 2:35-37. Kraft

discloses a “[w]orld server 160 maintains a world model data store 162 that stores a ‘world model.’” EX1005, 6:33-35. Kraft’s “world model is made up of *interrelated entity models*, where each entity model corresponds to an entity (or abstraction) in the real world, such as a *person*, place, business, other tangible *thing*, community, *event*, or thought.” EX1005, 2:37-41, 8:28-31 (emphasis added). The interrelated entity models of the world model are “linked to each other by navigable relationships.” EX1005, 8:1-3. Kraft’s “world model can include features of a conventional social network” but “allows other types of entities, not just users, to be included as full participants in the network, thereby providing additional avenues for categorizing, filtering and retrieving information.” EX1005, 10:25-30.

75. Kraft indicates its world server 160 includes a query response module 166. EX1005, 6:52-65. The query response module interacts with client systems 120 to retrieve information from the world model or to add/modify entity models 164. EX1005, 6:52-65. Kraft’s “world model” and the components contained therein are illustrated in Figure 2. EX1005, 8:35-38.



EX1005, FIG. 2 (annotated).

B. Nguyen

76. Nguyen is directed to “an event planning system providing an interface allowing a user, that is an event planner, to organize events and manage information associated with the events.” EX1006, ¶3. Nguyen describes an “important advantage of the event planning system ... is that it facilitates event planning tasks including identifying and contracting with venue providers and vendors for the event, inviting guests, soliciting RSVP fees from invitees who respond affirmatively, receiving the RSVP fees, tracking RSVP status of each invited guest, tracking and managing RSVP accounts generated by the RSVP fees, and sending guest reminders.” EX1006, ¶23.

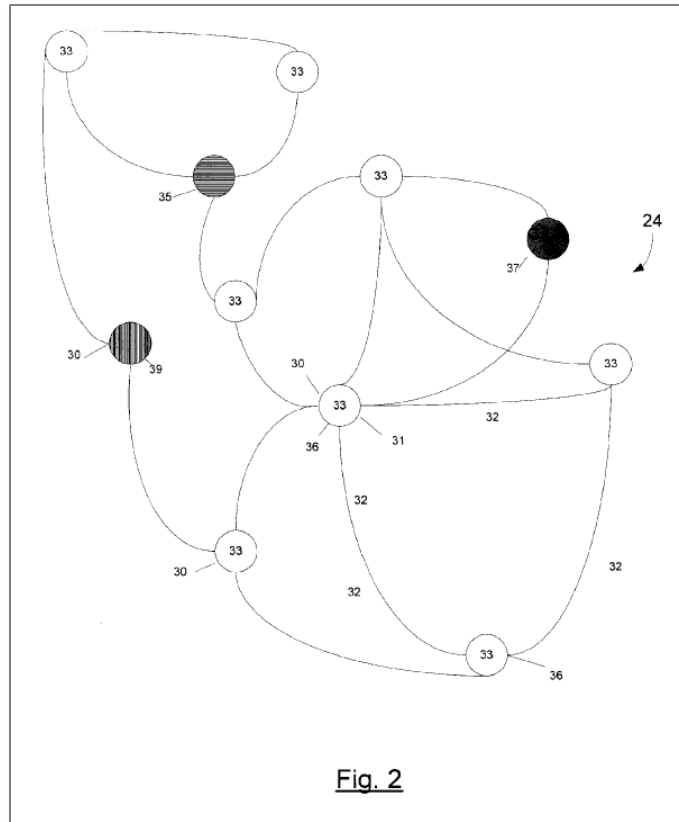
C. Altman

77. Altman is directed to a “location-based social network manager

process.” EX1010, ¶8. The manager allows users “to set up virtual networks that connect that user to other people, places, and events” and “utilizes the geographic location information for each of these items.” EX1010, ¶39. Mobile communication devices include a location determination component, such as a GPS module. EX1010, ¶40. Location information, “such as location histories, frequently visited areas, and so on, is stored in the location database 126.” EX1010, ¶37.

D. Wong

78. Wong relates to a “method and system for generating an interactive computerized biological network consisting of living and non-living entities based upon the multiple relationship types which can exist between entities.” EX1007, Abstract. Wong teaches creating a social network. *See, e.g.*, EX1007, Abstract, ¶¶2-3, 17-19. Wong’s network 24 is illustrated in Figure 2, reproduced below.



EX1007, FIG. 2.

79. In Wong, the social “network of living and non-living entities is represented by a number of elements, each representing a living or non-living entity, which are referred to as ‘nodes’ 30, joined by connections 32, referred to as ‘linkages’, to other nodes 30.” EX1007, ¶21. Each node of Wong’s network represents a living or non-living entity, such as people, places, objects (e.g., groups, organizations, or businesses), or animals. EX1007, ¶¶21-22. When a new node is created, the new node is linked to existing nodes. EX1007, ¶¶27, 41, FIG. 6. Two existing nodes may also be linked. EX1007, ¶28, FIG. 7.

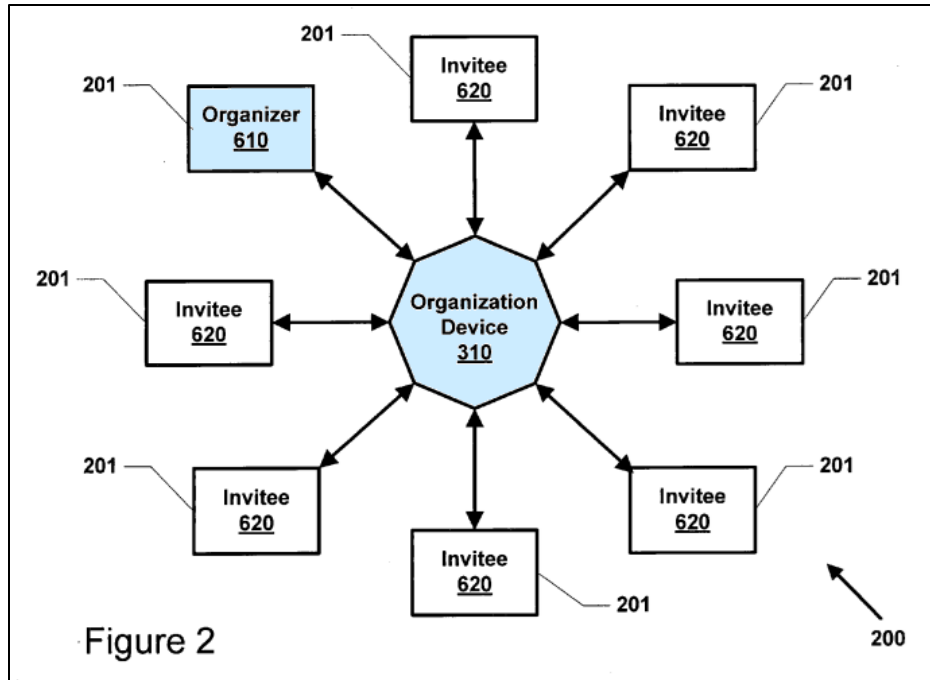
80. In Wong, people or organizations “can represent themselves to other

persons or organizations of persons through their active nodes and interact electronically with other persons or organizations of persons represented by an active node.” EX1007, ¶30. Users 10 access the network via computer terminals 14. EX1007, ¶17. Wong teaches that the computer terminals can include a variety of devices, such as “laptops, desktops, handheld, personal digital assistants, mobile telephones or any other device capable of communicating over a network.” EX1007, ¶17.

81. Wong also teaches communication between nodes in a social network. “The social networking features ... facilitate many forms of communication, such as notification of updates, alerts, sharing of files and photos, blogs, instant messaging and comments.” EX1007, ¶44. The social networking features include e.g., “notification of updates, alerts, sharing of files and photos, blogs, instant messaging and comments.” EX1007, ¶44. The sender of communications can select which nodes in the network can receive a particular communication. EX1007, ¶44.

E. Burfeind

82. Burfeind’s system enables a user to “schedule[] a location-specific event.” EX1008, Abstract. In Burfeind’s network 200, “users 201, such as event participants, are communicatively coupled to an organization device 310,” which facilitates event planning. EX1008, ¶54, FIG. 2.



EX1008, FIG. 2.

83. As depicted in FIG. 2, “event organizer 610” (a user) provides event information—including time, location, and invitees for the event—to “organization device 310,” which in turn communicates the invitations and other event information to invitees 620. EX1008, ¶¶52-57, 108, 111-113, 115, FIG. 2.

84. Invitees can view events to which they are invited in event listing 2110. EX1008, ¶¶120-122, FIG. 21. “[E]ach entry 2115 includes a hyperlink 2117 associated with a webpage containing additional information about the event.” EX1008, ¶¶120-122, FIG. 21. The information described in Burfeind can include the event name and time. EX1008, ¶¶120-122, FIG. 21.

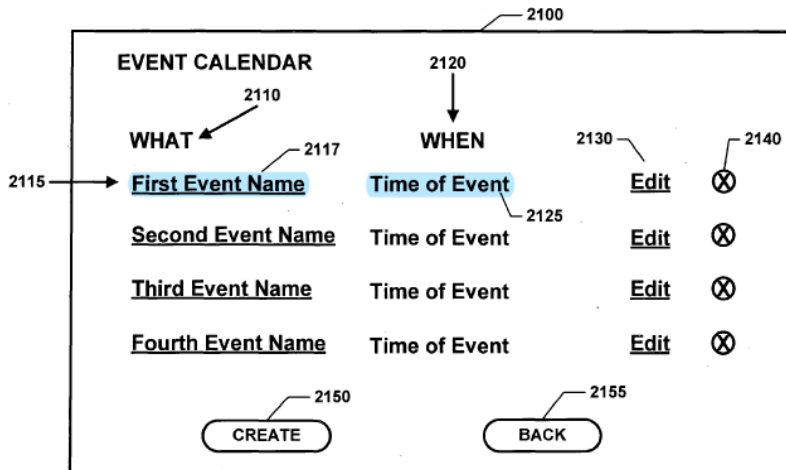


Figure 21

EX1008, FIG. 21.

85. Burfeind’s interface 2100 also includes additional interactable elements, including elements for “modify[ing] the date, time, location, and other information associated with the event.” EX1008, ¶123.

F. Crowley

86. Crowley’s system coordinates meetings between friends and acquaintances. EX1009, Abstract. Crowley’s system and core functionality underscore a commonly known aspect in social networks, which includes coordinating meetings among social friend groups. *See* EX1020, 136-137. Crowley discloses “location-based social software” for “establishing connection between users of mobile devices.” EX1009, ¶¶7-8. Specifically, Crowley’s system determines when a user’s participating acquaintances are geographically proximate to an event venue. EX1009, ¶45. Crowley’s system then automatically sends

invitations to those individuals, inviting them to meet the user at that venue.

EX1009, ¶45.

XII. GROUND 1: CLAIMS 1-30 WOULD HAVE BEEN OBVIOUS IN VIEW OF KRAFT, NGUYEN, AND ALTMAN

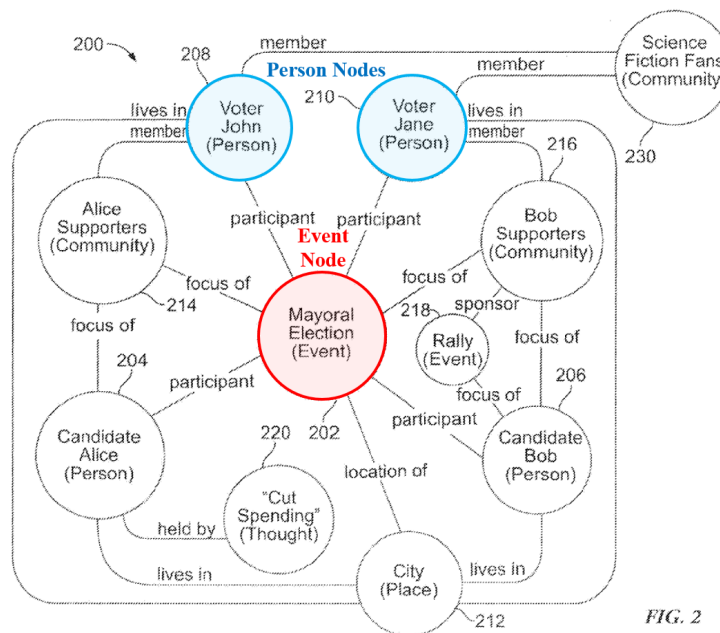
87. In my opinion, the combination of Kraft, Nguyen, and Altman renders obvious claims 1-30.

A. Motivation to Combine.

88. Kraft describes that a participant in its world model (e.g., an event manager) can create an Event entity model that represents an event. EX1005, 9:50-66, 15:28-16:54. An event may include a variety of real-world events, “such as elections, natural disasters, sports events, and so on.” EX1005, 9:50-66. Kraft also discloses defining relationships of the Event entity to numerous existing entity models 400, such as Person entity models. EX1005, 10:7-18, 16:28-42, FIG. 3. For example, a Person entity may be a “participant” of an event. EX1005, 10:7-18, 16:28-42, FIG. 3.

89. Kraft does not disclose methods for tracking responses from the invited entity. In my opinion, a POSA would have recognized that it would have been useful in Kraft’s world model to facilitate event planning tasks, such as inviting existing Person entity models to connect to an Event entity model (e.g., as a participant, sponsor or other relationship) and to track responses from the invited entity. As I describe above, systems for enabling communications between

individuals affected by a disaster or between individuals for event planning were well known and commonly implemented. *See* Section VII.A-B. Indeed, Kraft discloses that its world server 160 allows for “the full complexity and scope of interrelationships that exist in the real world [to] be modeled.” EX1005, 9:3-5. The full complexity and scope of interrelationships between real-world people, things, events, and more, as described by Kraft, include facilitating communications between individuals for event planning, among other real-world applications. As depicted in FIG. 2 of Kraft, relationships may be defined between different entities, such as Persons and Events:



EX1005, FIG. 2 (annotated).

90. Moreover, Kraft explicitly contemplates a matrix “illustrating some [of the] relationship types that may be defined” among Entities. EX1005, 10:13-15.

For instance, Kraft's FIG. 3 depicts how "an entity model belonging to the 'row' category 302 can be related to an entity model belonging to the 'column' category 304 by any of the relationships in the intersection cell 306." EX1005, 10:15-18.

Accordingly, Kraft's system aims to capture how "[i]n the real world, entities are interrelated, and relationships between entities may be of different types." EX1005, 10:7-8. As depicted in FIG. 3 of Kraft, the unique relationships defined among various entities may be different for each entity-to-entity relationship:

	Person	Business	Place	Thing	Community	Thought	Event
Person	trusts trusted by	owner of employed by customer of	lives at	owns	member of	thinks subject of	sponsors participates in focus of
Business	owned by employer of patronized by	owns owned by distributor for	located at	makes sells	interest of	subject of	sponsors participates in focus of
Place	home of	location of	located in	location of	interest of location of	subject of	location of focus of
Thing	owned by	made by sold by	located at	type of includes	interest of	subject of	used in focus of
Community	includes	interested in	located at interested in	interested in	interested in interest of	subject of interested in	sponsor of participates in focus of
Thought	thought by	is about	is about	is about	is about interest of	subject of	is about focus of
Event	sponsored by participant focused on	sponsored by participant focused on	occurs at focused on	uses focused on	sponsored by focused on participant	subject of focused on	focus of

FIG. 3

EX1005, FIG. 3

91. As one example, a POSA would have understood that persons would be interested in sending invitations to events to various parties, such as employees, friends, family members, etc., and tracking their respective responses. Indeed,

Kraft highlights its system model's relationships between entities reflecting real-world components, such as people, events, and tangible things. *See, e.g.*, EX1005, 9:50-10:6. That is, certain parties could be invited to attend a particular event based on a relationship to the event or another entity (e.g., trust and/or a relationship between two Persons, a relationship between a device and a person, a location of the person proximate to an event, etc.). *See* EX1005, 9:42-49.

92. My opinion is informed by multiple corroborating references that provide techniques for enabling parties to communicate event invites to other parties and for one or more parties to track the status of a particular invite. *See* EX1009, EX1012. For instance, Crowley discloses an example where a user "TJ" is "located at a bar called the Luna Lounge." EX1009, ¶45. At TJ's request, the system "identif[ies] which of [TJ's] acquaintances is currently active in the system, and ... which of the acquaintances is near the Luna Lounge." EX1009, ¶45. The system then "send[s] each of the acquaintances messages" inviting them to meet TJ at Luna Lounge. EX1009, ¶45, *see also* ¶78.

93. Steenstra also teaches a "[l]ocation based service (LBS) system and method for creating a social network." EX1012, Title. The LBS system "includes an interest group feature" that shares information related to an event with user devices located proximate to the event. EX1012, ¶50.

94. Because a POSA would have recognized it would be useful to

incorporate event planning into Kraft, a POSA, in my opinion, would have been led to Nguyen. Similar to Kraft, Nguyen describes a network for connecting users. Nguyen describes embodiments “for planning and organizing events, and more specifically to an event planning system providing an interface allowing a user, that is an event planner, to organize events and manage information associated with the events.” EX1006, ¶3. Specifically, Nguyen describes a centralized system for enabling “a user to plan an event, generate and send invitations, track RSVP status, and manage RSVP fee account information.” EX1006, ¶55. The system stores and tracks “event information indicative of a name, time, date, and location for a planned event; invitee information including information indicative of addresses of the invited guests (e.g., home and business Email addresses, home and business postal addresses, home and business FAX numbers, and a preferred method of sending invitations); invitation format information; and paid RSVP requirements indicative of RSVP fees required to be paid by each invited guest in order to respond affirmatively to the invitation.” EX1006, ¶57.

95. Nguyen’s system provides numerous advantages, such as allowing the user to “select an option of viewing event summary information associated with a selected event, the event summary information including RSVP status information associated with each of the invitees for the selected event.” *See* EX1006, ¶¶18, 21.

96. A POSA would have been motivated to incorporate Nguyen’s

invitation and tracking system into Kraft in order to achieve the explicit advantages taught by Nguyen of facilitating event planning tasks (sending invitations and tracking responses) and managing relationships between an Event and other entities (e.g., to update the relationship of a Person as a “participant” of the Event entity based on a “yes” response to an invitation to join the event). For example, Nguyen’s features could be implemented in Kraft’s world server system to modify various entity models to define relationships amongst the entities, such as whether a Person entity is attending (e.g., “a participant” as described in Kraft’s FIG. 3) an Event. *See* EX1005, 10:7-30, FIG. 3.

97. A POSA would have had a reasonable expectation of success in implementing Nguyen’s invitation and RSVP tracking in Kraft because both Kraft and Nguyen similarly use conventional elements, such as servers that send/receive communications to/from clients and databases to store information. *See e.g.*, EX1005, 4:64-5:14, FIG. 1; EX1006, ¶55, FIG. 1A. Thus, a POSA would have readily been able to implement Nguyen’s event planning functions in Kraft.

98. The Kraft-Nguyen combination combines known prior art elements (e.g., Kraft’s communication network that includes a world server with Nguyen’s event planning functions) according to known methods to yield predictable results (e.g., the ability of Kraft’s system to send and track invitations to join an event). A POSA would have understood that Kraft’s communication network was ready for

improvement to provide Nguyen's event planning functions (such as Nguyen's invitation and RSVP tracking). Nguyen's features would have been predictably implemented in Kraft and would have operated in the same manner as in Nguyen. For instance, both Kraft and Nguyen use conventional computing and communications elements, which would allow invitations to be sent to various Person entities, who may become a "participant" of the Event entity based on a response to the invitation. *See* EX1005, FIG. 3 (depicting this relationship via a relationship matrix). Kraft's "user-defined metadata fields" of the entity may be advantageously modified to track the relationship between the Event entity and the Person entity (e.g., a Person entity being a "participant" of the Event entity). *See* EX1005, 10:7-15, FIG. 3; EX1006, ¶58.

99. Kraft also does not explicitly disclose techniques for connecting users to events based on their current location. This would have led a POSA to a reference like Altman. Similar to Kraft, Altman discloses a virtual network that connects users to people, places, and events. EX1010, ¶39. And similar to Nguyen, Altman discloses that its social network manager includes "an event manager module." EX1010, ¶53. The event manager module allows a user to create and manage events and send invitations regarding the events. EX1010, ¶53.

100. Kraft discloses its entities may include a "Location" field, but Kraft's system focuses on a static location entered by the user, such as an "address."

EX1005, 11:39-41. A POSA would have found it obvious that it would be useful to incorporate Altman's teachings of a location determination component (e.g., GPS module) and location history/frequently visited areas into Kraft's world model (as modified by Nguyen). Many systems existing before the priority date of the '769 patent, such as Kraft and Nguyen, incorporate a user's location to define a particular relationship between a user and another entity (e.g., an event). *E.g.*, EX1005, 8:57-52, 9:23-26; EX1006, ¶62. Indeed, many systems existing before the priority date of the '769 patent used GPS coordinates of the user device to determine the location of a user. *E.g.*, EX1009, ¶59.

101. A POSA would have been motivated to include Altman's teachings of GPS location to use a more precise and current location of users who are close enough to the event to invite to participate. Prior to 2007, it was known that GPS locations of users proximate to an event could be used for invitations to participate in such events. As an example, Crowley's system determines when a user's acquaintances are geographically proximate to an event venue, and automatically sends invitations to those acquaintances, inviting them to meet the user at that venue. EX1009, ¶45.

102. A POSA would have also been motivated to incorporate Altman's teachings of location history/frequently visited areas to identify potential participants/invitees for the event that, although may not be currently

geographically proximate, are likely to travel to the event location. For example, systems existing prior to the priority date of the '769 patent store user preferences to identify users as potential participants of an event. *See* EX1011, 2:17-25, 3:7-28, FIG. 1. In Franco, a user's "zone of interest" can be expanded or contracted based on various user parameters, one being "a history of each user's location in a user position database" which can be used to predict whether a user would likely attend an event (such as responding to a request for assistance). EX1011, 2:17-25, 3:7-28, 7:3-5, FIG. 1.

103. A POSA would have a reasonable expectation of success in implementing Altman's GPS and location history in the combination of Kraft and Nguyen and would have been further motivated to make the combination, because it is simply a predictable combination of known elements. Kraft includes a database (e.g., world model data store 162) that stores location data of an entity (within entity model 400). EX1005, 12:36-50, FIG. 4. This could be combined with Altman's database that obtains and stores GPS location and location history within a database (e.g., location database 126). EX1010, ¶¶37, 71. It was commonly known that social networks store location data of an entity, many of which include specific GPS location information and location history. *See* EX1009, ¶¶11, 63; EX1011, 4:24-38. Thus, it is my opinion that the combination of Kraft's world model with Altman's specific GPS location information and

location history could have been made by a POSA according to known methods to yield the predictable result of Kraft's world model storing specific GPS location information and location history.

B. Independent Claim 1

1. [1.P] A computer-implemented method comprising:

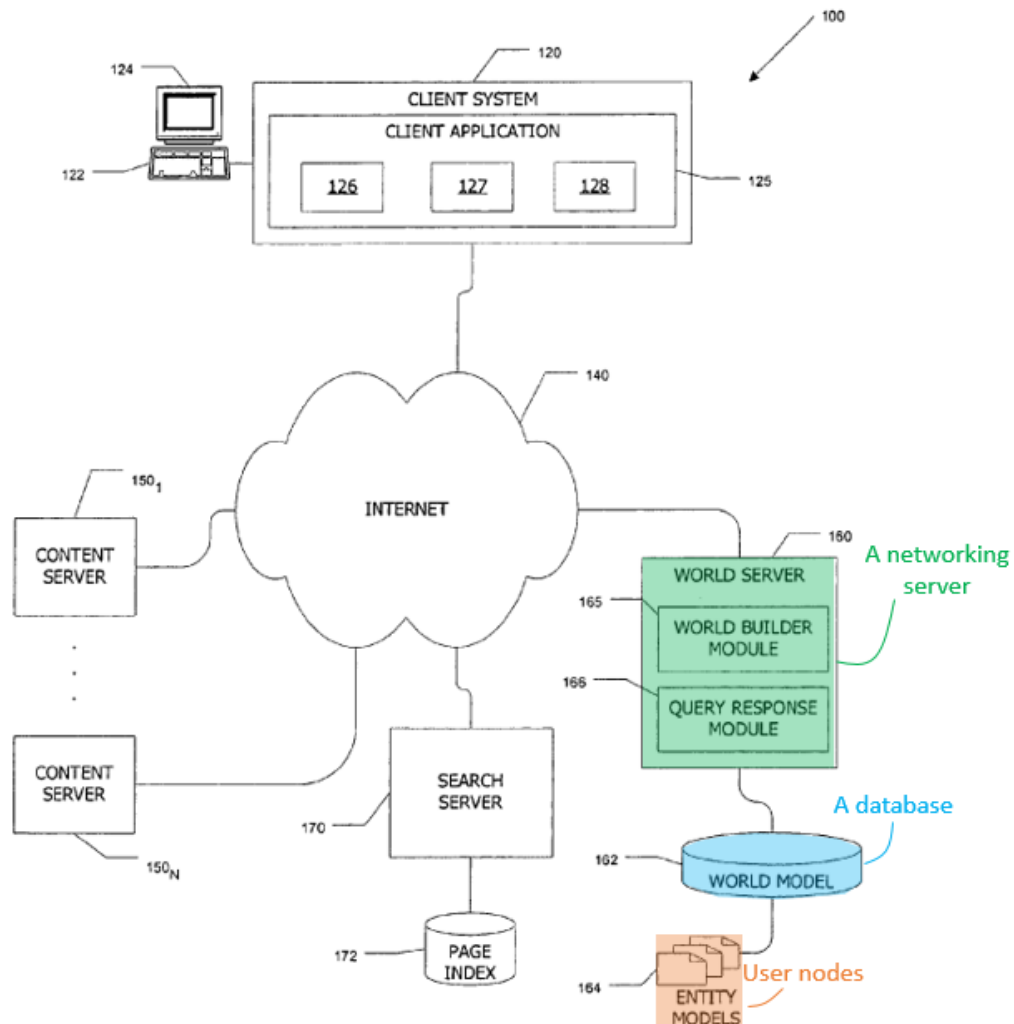
104. I understand that, in certain circumstances, the preamble of a claim may be limiting. To the extent the preamble is determined to be limiting, it is my opinion that Kraft teaches this element. As I discuss above, Kraft discloses "systems and methods for information retrieval and communication using a world model." EX1005, 2:35-37. Kraft also discloses "a communication network 100 including a client system 120," which is "configured to communicate with a world server system 160" to interact with its world model. EX1005, 4:64-5:12.

2. [1.A] maintaining, by a networking server configured to maintain data defining a multi-dimensional information network, a database of a plurality of user nodes and multi-dimensional node-to-node links characterizing relationships between the plurality of user nodes via dimensions in the multi-dimensional information network, wherein at least some of the user nodes of the plurality of user nodes are respectively associated with user data;

105. In my opinion, Kraft teaches claim element [1.A].

106. First, Kraft, in my opinion, teaches "*maintaining, by a networking server configured to maintain data ... a database.*" Kraft's world server 160 (a *networking server*) maintains a world model data store 162 (a *database*). EX1005,

6:33-35. Kraft's world server is a networking server that is "communicably coupled to the world model data store." EX1005, 2:47-50. World server 160 includes a query response module 166. EX1005, 6:52-53. Query response module 166 interacts with client systems 120 and enables users to search world model data store 162. EX1005, 6:57-59. Kraft's system is illustrated as an information retrieval and communication network 100 in FIG. 1.



EX1005, FIG. 1 (annotated)

107. Second, in my opinion, Kraft’s world model is “*data defining a multi-dimensional information network*, as recited in claim element [1.A]. The ’769 patent uses a “multi-dimensional personal information network” and “N-dimensional social network (NDSN)” interchangeably. *See* EX1001, 6:24-28, 8:4-8, 15:1-4. Specifically, the ’769 patent indicates the NDSN is “also referred to hereafter as a multi-dimensional personal information network.” EX1001, 8:4-8. The “NDSN uses multiple dimensions of association to characterize the relationships,” such as family, professional, consumer, and healthcare connections. EX1001, 15:9-16.

108. Kraft’s world model “provides a searchable set of interrelated entity models 164.” EX1005, 6:35-37. Kraft describes various entity models 164, where each entity model 164 “corresponds to some entity existing in the real world, such as *a person*, business, other tangible thing, place, community, event, or thought” and is “implemented as a data structure.” EX1005, 6:37-42, 8:26-31 (emphasis added). The data structure provides access to information about the real-world entity that the node represents. EX1005, 6:37-42, 8:26-31.

109. Third, Kraft discloses a “real-world person who is a world-model participant may choose to create” one or more Person entity models “to represent himself or herself in the world model.” EX1005, 14:1-15. The Person entity models are *a plurality of user nodes* stored in database 162. Like the ’769 patent,

the user nodes of Kraft correspond to some entity existing in the real world and “contain [a] user’s profile, which may include information regarding the user’s basic personal information.” *Compare* EX1005, 6:35-42, 8:26-31, *with* EX1001, 17:63-18:15. As described by the ’769 patent, user nodes can be “a [Personal Information Aggregator]” that is implemented as a data structure used to store personal information. *E.g.*, EX1001, 9:65-10:3.

110. Kraft’s entity models are “linked to each other by navigable relationships.” EX1005, 8:1-3. In other words, the entities are linked “*via dimensions in a multi-dimensional information network.*” Kraft’s world model captures and stores relationships between user nodes along multiple dimensions, which are “*node-to-node links characterizing relationships between the plurality of user nodes via dimensions in the multi-dimensional network.*” Kraft’s world model 162—depicted, as an example, in FIG. 2— “can be represented visually using a network graph, with each node representing an entity model 164 and each edge representing a relationship between entity models.” EX1005, 8:32-36. Person entity models may be interconnected and “can have trust (or friendship) relationships with each other.” EX1005, 10:22-26. A world model “can include features of a conventional social network” and also “allows other types of entities, not just users, to be included as full participants in the network.” EX1005, 10:25-30. World model 200 can model “the full complexity and scope of

interrelationships that exist in the real world.” EX1005, 9:3-5. Kraft also indicates that other relationships may be depicted, such as an “employer to employee” relationship. EX1005, 16:45-47. Kraft also indicates that users may also be linked by common interests and community involvement. *E.g.*, EX1005, 9:5-14; FIG. 2. For example, two users (*e.g.*, Jane node 210 and Joe node 202) may be linked to a community of science fiction fans. EX1005, 9:5-14; FIG. 2. Like in the ’769 patent, Kraft models the full scope of interrelationships (*the multi-dimensional network*) wherein each modeled relationship—such as trust/friendship, employer/employee, and common communities—is a *dimension*. *E.g.*, EX1005, 9:5-14; FIG. 2.

111. Fourth, Kraft teaches “*wherein at least some of the user nodes of the plurality of user nodes are respectively associated with user data,*” as recited in claim element [1.A]. Kraft indicates an entity model defines “relationships that may exist among entity models.” EX1005, 10:7-51. For example, a Person entity model can have a trust relationship with another Person entity. EX1005, 10:7-51. An entity model “stores other information about the real-world entity it represents.” EX1005, 10:7-51. An entity model specifies various other information that could be stored therein, such as: “structured metadata section 406” that “stores a number of field-value pairs related to the real-world entity being modeled”; content section 404 that provides content “that pertains to the real-world entity

being modeled”; and “[r]elationships section 430 [that] defines relationships between the entity model and other entity models.” EX1005, 11:36-12:18, 13:6-26, FIG. 4. Person entity models —like the *user nodes* of the ’769 patent—“might include name, age, sex, address, occupation, or the like” the metadata fields. EX1005, 11:39-43. These fields “may be varied as desired.” EX1005, 11:39-43. In my opinion, the metadata fields, content data, and relationship data is *user data associated with* the Person entity (*user node*).

112. Thus, in my opinion, Kraft teaches claim element [1.A].

3. **[1.B] providing, by the networking server, [to]¹ respective user devices associated with respective user nodes of the plurality of user nodes, respective composite data feeds that are based on the database of the plurality of user nodes and multi-dimensional node-to-node links;**

113. In my opinion, Kraft teaches claim element [1.B].

¹ In my opinion, a POSA would have understood that a networking server is not providing the user devices themselves, but rather the server is providing the claimed *composite data feeds* **to** the user devices. Indeed, the ’769 patent describes a SitNet may “share or provide information to other users in the SitNet,” as opposed to providing *respective user devices*. EX1001, 22:13-15. In my opinion, this claim element should be read as *providing ... [to] respective user devices* as opposed to providing user devices themselves. A server is not capable of providing a user

114. First, in my opinion, Kraft’s client devices are “*respective user devices associated with respective user nodes of the plurality of user nodes*” (i.e., the real-world persons associated with Person entity models). Kraft discloses users may interact with the world model using client devices 120. EX1005, 6:61-65. Client systems 120 can include various *user devices* (e.g., desktop personal computers, laptops, personal digital assistants (PDA), and cell phones. EX1005, 5:13-19. Client system 120 interacts with world server 160 as a “user” to retrieve information from the world model. EX1005, 6:61-65. Client system 120 may also interact with world server as “a participant” to add or modify entity models 164 in world model data store 162. EX1005, 6:61-65. The entity models of Kraft also store contact information, such as an IM or other communication channel, to contact the entity manager (e.g., for a Person entity, the real-world person the entity represents). EX1005, 11:5-29; 13:61-14:15. In other words, users may be contacted at devices identified in the communications channel (e.g., at a device associated with the IM contact). Each of these users—for example, a user defined by an IM screen name—is associated with a *user node* reflected by a real-world person of an entity model. EX1005, 11:18-29.

115. A POSA would have understood that at least some of Kraft’s *user*

device.

devices are associated with respective user nodes of the plurality of user nodes—

the real-world persons associated with Person entity models—because Kraft

discloses users may interact with world model using client system 120 as

“participants” or “users.” A POSA would readily understand that Kraft discloses

user devices that are associated with respective user nodes of the plurality of user

nodes.

116. *Second*, Kraft’s world server 160 (*the networking server*) includes “a query response module 166” which “*provid[es] ... respective composite data feeds that are based on the database of the plurality of user nodes and multi-dimensional node-to-node links.*” EX1005, 6:52-59. The query response module interacts with client system 120 and “enables users to search world model data store 162 for entity models 164 that match user-specified criteria.” EX1005, 6:52-59. Kraft indicates that user “can access world model data store 162 to facilitate information retrieval” through “a world search module 126 of client application 125.” EX1005, 18:31-40. The world search module 126 “interacts with query response module 166 of world server 160.” EX1005, 18:31-40. For example, a user can submit a query to world server 160 through “a conventional Web browser to a page providing a search interface to world server 160.” EX1005, 18:41-44. Once a search query is submitted, “the search is performed,” and “search results, including links to matching entity models from world model data store 162, are returned to

the user, e.g., in the form of a search results Web page listing the matched entity models.” EX1005, 18:61, 19:6-9. Each entity model includes a content section that provides “content (or links to content) that pertains to the real-world entity being modeled.” EX1005, 11:47-49. Thus, Kraft describes a *networking server* (world server 160) provides the claimed *user devices* with *respective composite data feeds* (the search results from world model data store 162 that are returned to a user device). *See* EX1005, 19:6-9. Each user device may perform respective searches of the entity models using Kraft’s query response model 126, which “search[es] world server data store 162 for entity models 164.” EX1005, 6:57-59.

117. In my opinion, Kraft’s search result listing is consistent with the ’769 patent’s use of the term “data feed.” The ’769 patent discusses data feeds broadly. It does not limit the form of a data feed but provides embodiments where a “[u]ser 250 requests the PIA 400 to receive a data feed” by “sending a requestData message” to an entity, to which the entity responds by “provid[ing] the requested data feed to the PIA 400 by sending the provideData message to the PIA 400.” EX1001, 12:52-64. The ’769 patent further describes the data feed may be “single use” such that static data is provided to the user. EX1001, 10:29-36, 13:31-41. Moreover, the ’769 patent describes that “[t]he event node may be discovered” by “**searching ... the network** for information about the situation or event.” EX1001, 20:46-49. Kraft’s user performs similar operation, searching the network for entity

models (including events) via the user's device.

118. Thus, in my opinion, Kraft teaches claim element [1.B].

4. **[1.C] establishing, by an event node server, an event node associated with an event in a particular geographical area, wherein the event node is discoverable to each respective user device of a first subset of a plurality of user devices by browsing a respective composite data feed;**

119. In my opinion, Kraft teaches claim element [1.C].

120. First, Kraft's world server 160 "may include multiple servers and associated database systems." EX1005, 7:45-48. Kraft teaches "*establishing, by an event node server*" (the particular server of world server 160 that creates and stores an Event entity) "*an event node associated with an event*" (an "event" entity model) "*in a particular geographical area*" (the "location" specified in the metadata). Kraft describes that an entity model may be assigned an "event" category. EX1005, 9:50-66. An event category may be assigned for "entity models representing occurrences such as elections, natural disasters, sports events, and so on." EX1005, 9:50-66. Kraft's "world-model participants can create and update entity models via client application 125 (FIG. 1), which interacts with world-builder module 165 of world server 160." EX1005, 15:21-28, FIG. 1. Kraft describes how a participant may interact with the world-builder module 165. For example, a participant can select a category for the new entity model 400 (e.g., event); complete core information for the entity model, including structured

metadata (e.g., location); and populate content section 404. EX1005, 15:47-52; 15:64-16:14. Kraft also discloses defining relationships of the new entity model to existing entity models. For example, “if the metadata includes a ‘Location’ field, a relationship to a Place entity model representing that location can be automatically defined.” EX1005, 16:28-34. Kraft further discloses world server 160 “may include multiple servers and associated database systems.” EX1005, 7:45-48. Thus, Kraft teaches *establishing, by an event node server* (the server of world server 160 that creates and stores the Event entity) *an event node associated with an event* (the created “event” entity model) *in a particular geographical area* (the “location” specified in the metadata). In my opinion, a POSA would have understood Kraft’s location is *particular geographic location*. Kraft allows for a search interface to search for keywords “to a particular structured metadata field,” which may include “a specified geographic location.” EX1005, 18:44-50. Figure 2 of Kraft illustrates an example event node 202 that represents a mayoral election located in a city represented by node 212. EX1005, 8:40-45, FIG. 2.

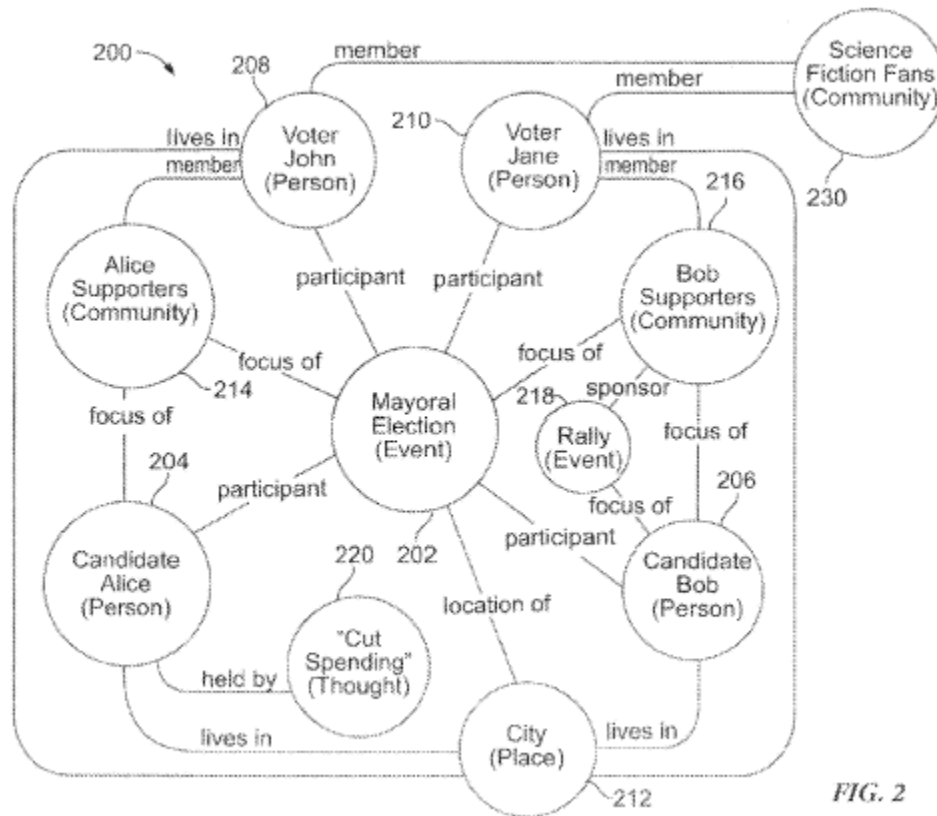


FIG. 2

EX1005, FIG. 2.

121. Second, in my opinion, Kraft also describes that the event node (Event entity model) “is discoverable to each respective user device of a first plurality of user devices by browsing a respective composite data feed.” For example, Kraft’s client devices may search and browse a list of entity models on a “Web browser ... providing a search interface.” EX1005, 18:41-44. A user, via their device, may search for keywords for “a particular category of entities,” which may include an Event entity model. EX1005, 9:50-66, 18:45-50. Kraft discloses that after a participant commits a new entity model to the world model data store 162, “it becomes accessible to other users via various search and navigation interfaces and

tools.” EX1005, 16:54-59. As described for element [1.B], client system 120 (the *user device*) can “communicate with a world server system 160” —via “world search module 126”— “to search world model data store 162 for entity models that match user-specified criteria.” EX1005, 5:8-10, 6:52-59, 18:31-54. For example, users may search for “entities located near a specified geographic location,” EX1005, 18:47-50. In some embodiments, the “matched entity models might be shown by reference to locations on a map.” EX1005, 19:17-23. The user may select a matched entity model of interest to show an “entity view.” EX1005, 19:37-3941. The entity view “displays information from the entity model in a user-readable form.” EX1005, 19:37-41.

122. Thus, in my opinion, Kraft teaches claim element [1.C].

5. **[1.D.1] joining the first subset of the plurality of user devices that have discovered the event node to the event node, wherein user devices of the first subset of the plurality of user devices are respectively associated with a first subset of user nodes of the multi-dimensional information network that are joined to a centralized architecture for the event node,**

123. In my opinion, the Kraft-Altman combination teaches claim element [1.D.1].

124. First, in my opinion, the Kraft-Altman combination renders obvious “*joining the first subset of the plurality of user devices that have discovered the event node to the event node, wherein user devices of the first subset of the plurality of user devices are respectively associated with a first subset of user*

nodes of the multi-dimensional information network” (user devices are associated with user nodes through an “own” relationship as I describe below). Kraft describes its world model as defining relationships that exist among entity models. EX1005, 10:7-15. Kraft provides a matrix that illustrates exemplary relationship types that may be defined among the entities. EX1005, 10:7-15; FIG. 3. For example, relationship types that may be defined between a Person entity and an Event entity include “sponsored by,” “participant,” and “focused on.” EX1005, 10:10-18; FIG. 3. A Person entity can also be indirectly related to an event by being a “member of” a community that is “focused on” or a “participant” of an event. EX1005, FIG. 3; *see also* EX1005, FIG. 2 (Kraft describing how “Jane” is a member of the “Bob Supporters” community, which the community may be focused on the “Mayoral Election” event).

125. One such relationship is *ownership*—for example, a Person entity can “own” a “thing” entity, which can be “focused on” an event. EX1005, 10:10-18, FIG. 3. In my opinion, a POSA would have understood that the user may create a “Thing entity” to add a “user device” (e.g., a client device 120, such as a cell phone) to Kraft’s world model and define an “own” relationship with its Person entity to model its real-world relationship with the device. A POSA would have been motivated to create a “user device” entity and associate it with a user because Kraft describes that “any type of real-world entity can be represented by an entity

model,” including “tangible things” and its world model reflects real world relationships. EX1005, 8:23-31, 10:10-13, FIG. 3.

126. Such a real-world relationship between a user and a device was well-known, as evidenced by Altman’s teachings of associating user profile information and user location with a mobile device operated by the user. EX1010, ¶¶8, 32, 36-37, 44. For example, a POSA would have known a relationship between a device entity (e.g., a “thing”) and a person entity to identify a user’s location and send the user event invitation and information. *E.g.*, EX1009, ¶¶8-10, 44-48. A POSA would have recognized that capturing a relationship between a user and a device (e.g., a person “owning” the device) would have been useful to send event invitations and information to a user via their owned device. *See generally* EX1006; EX1009. A POSA would have been further motivated to create an association between a user and a device in Kraft’s world model to allow the location of a user to be more precisely determined (as taught by Altman and as I discuss further in Sections XII.A and XII.B.7).

127. A POSA would have recognized from Kraft’s description of its relationships that after a user has discovered an event node (as described in claim element 1.C), Kraft’s relationships enable a user to *join the event node* by modifying the relationship of their Person entity model (e.g., to be “focused on” or a “participant” of the discovered event). EX1005, 17:11-17, 17:35-37; FIG. 3. For

example, a user may discover an Event entity via a category search or a keyword search. EX1005, 18:41-52. The user may join the event entity by directly by modifying their Person entity model relationships to be a participant of the Event entity. *See e.g.*, EX1005, 5:64-6:4, 7:3-7, 18:26-29. The user's device entity (created and associated to the user as I describe above) is then *joined to the event node* through its relationship with Person entity (representing the user. In other words, the device is joined to the user node, which in turn is joined to the event node, and thus is indirectly joined to the event. In my opinion, a POSA would have understood that the device entity may also, or alternatively, have a direct "focused on" relationship with the event.

128. In my opinion, a POSA would have further understood that additional users who discover the event would follow a similar process to *join their user devices* (the claimed "*first subset*") to *the event node*. A POSA would have understood that a "subset" includes a "set of one." Thus, I have been advised that the claim does not require multiple users to join the event node.

129. Second, in my opinion, Kraft teaches, or renders obvious, "*a first subset of user nodes of the multi-dimensional information network ... that are joined to a centralized architecture for the event node.*" For the reasons I describe above, Kraft teaches that the user nodes are joined to the event node. As I will discuss for claim element [1.D.2], the event node is *configured as a central node in*

the centralized architecture.

130. Thus, in my opinion, the Kraft-Altman combination teaches claim element [1.D.1].

- 6. [1.D.2] wherein the event node is configured as a central node in the centralized architecture for accessing information associated with the event from a location in the multi-dimensional information network;**

131. In my opinion, Kraft teaches claim element [1.D.2].

132. In Kraft, an Event entity (the claimed *event node*) *is configured as a central node in the centralized architecture for accessing information associated with the event.* The event node is stored and accessed from its central location on the world server 160 to obtain information associated with the event, such as to process search requests or queries. EX1005, 5:64-6:3, FIG. 1. For the reasons I describe in claim elements [1.B] and [1.C], Kraft's client systems communicate with world server system to "search world model data store 162 for entity models 164 that match user-specified criteria" and a user may select a matched entity model (e.g., an Event) to obtain information about the entity. EX1005, 5:8-10, 6:51-59, 18:31-40, 19:37-41.

133. Further, Kraft teaches that the information is accessed *from a location in the multi-dimensional network.* As I discuss in claim elements [1.P], [1.B], and [1.D.1], client systems 120 are part of Kraft's multi-dimensional network and at least some of the devices are associated with user nodes. EX1005, 4:64-5:12, FIG.

1.

134. Thus, in my opinion, Kraft teaches claim element [1.D.2].

7. **[1.E] creating, by the networking server, based on the database of the plurality of user nodes and multi-dimensional node-to-node links, a projection of the plurality of user nodes, wherein the projection represents a second subset of user devices, wherein the second subset of user devices is selected based on respective distances of devices of the second subset of user devices from the event;**

135. In my opinion, the Kraft-Altman combination teaches claim element [1.E].

136. First, Kraft teaches “*creating, by the networking server, based on the database of the plurality of user nodes and multi-dimensional node-to-node links, a projection of the plurality of user nodes*” (world server 160 creates a view of Person entities that match specified criteria upon user request). The ’769 patent describes a “projected view” as a subset of the nodes of the NDSN. EX1001, 17:4-5; 22:52-54. A projected view is “also referred to as a projection.” EX1001, 17:4-5; 22:52-54. Kraft discloses that a participant may “access a search-and-navigation interface to the world model data store 162.” EX1005, 16:36-39. For example, a participant may access the search-and-navigation interface to identify entity models that should be related. EX1005, 16:36-39. The interface “may include a network view, similar to FIGS 2 and 5, as well as other components” of exemplary search and navigation interfaces. EX1005, 16:36-42; FIGS. 2, 5. Users may also

search for entity models that match specified criteria, and a “network graph similar to those of FIGS. 2 and 5 might be used to display the matching entity model as well as related entity models.” EX1005, 19:6-8, 19:29-32; *see also* EX1005, 20:59-21:9, FIGs. 2, 5.

137. Second, in my opinion, the Kraft-Altman combination renders obvious “*wherein the projection represents a second subset of user devices*” (the user device(s) associated with the user node(s) in the projection). For the reasons I discuss for claim elements [1.B] and [1.D.1], Kraft-Altman teaches that user devices associated with user nodes and that relationships between Kraft’s user nodes (Person entities) and their devices (Thing entities) are stored in the world model. EX1005, 8:28-31, 10:10-13, FIG. 3. For instance, a POSA would have known that relationships between users and their devices were present in many prior art systems, such as those used for incident alert systems and event planning. *See, e.g.*, EX1009, Abstract; EX1011, Abstract.

138. Third, in my opinion, the Kraft-Altman combination renders obvious, “*wherein the second subset of user devices is selected based on respective distances from the event.*” Kraft describes that the metadata associated with its entity models may include a “location” or “address” field. EX1005, 11:36-45. Additionally, the metadata fields “may be varied as desired.” EX1005, 11:36-45. Kraft describes embodiments in which “some or all of the structured metadata

fields may be user-defined.” EX1005, 11:43-45. Kraft teaches that a search may be performed that is “constrained in some way by geographic location.” EX1005, 19:18-20. Kraft teaches that the projection (e.g., the network view) can be based on a variety of criteria. EX1005, 19:17-32. In some examples, the criteria may include geographic location. EX1005, 19:17-32. For example, Figure 2 of Kraft illustrates a projection in which the candidate and voter participants in the mayoral election event all live in the same city 212. EX1005, FIG. 3.

139. In my opinion, a POSA would have understood that a participant, such as the event organizer (“the real-world person responsible” for the event), would have been motivated to create a view of devices close to the event (*devices selected* based on a similar location as the event) to identify entity models that should be related” to the event (e.g., to identify potential participants close enough to the event to participate). EX1005, 11:5-8, 16:36-39, 21:3-9. This functionality was well known in the art, as many emergency warning systems and event planning systems identified particular user nodes based on geographic location. *See generally* EX1008, EX1009, EX1011. However, Kraft’s location is static and does not explicitly disclose selecting the subset of user devices based on current respective distances between the device (e.g., mobile device) and the event at the time the projection is created.

140. In my opinion, this would have led a POSA to Altman. Altman

determines the geographic location of a mobile communication device operated by a location field user and the location of event(s). EX1010, ¶¶8, 39 (describing a “location-based social network manager ... that connect[s] [a] user to other people, places, and events in a manner that adaptively utilizes the geographic location information for each of these items.”). The location information “is transmitted and stored in the server computer of the network.” EX1010, ¶63. The GPS location of the device may be provided in real-time or by polling each device at a set frequency. EX1010, ¶¶65-67. Based on the location of the device, relative distances to events may be provided to the user and users may be alerted of locations of events of interest when the user enters a particular area (i.e., alerted *based on distance from the event*). EX1010, ¶¶54, 61.

141. Kraft teaches that its entity models may be automatically updated to reflect changes that can be detected or reported to the world server 160. In my opinion, a POSA would have found it obvious to include Altman’s teachings of obtaining and storing the GPS location of a user device in Kraft (e.g., in the location field of a Person entity associated with the device or in a location field of a Thing entity that represents the device) and would have been motivated to do so for the reasons I discuss in Section XII.A. For example, Kraft indicates that “some or all of the structured metadata fields [in an entity model] may be user-defined.” EX1005, 11:44-45. A POSA would readily understand that Altman’s GPS location

may be included in such metadata, as implemented in accordance with the combination of Kraft-Nguyen. Geotagging social media activity using GPS data was known before the priority date of the '769 patent, and leveraging such data would further capture the interrelationships of real-world entities via a (e.g., Kraft's world model and entity models contained therein). *See* EX1021, 25-26.

142. Thus, in my opinion, the Kraft-Altman combination teaches claim element [1.E].

- 8. [1.F] transmitting, by the networking server, respective requests to connect to the event node to the second subset of user devices, wherein the respective requests to connect are in forms of roll calls.**

143. In my opinion, the Kraft-Nguyen-Altman combination renders obvious claim element [1.F].

144. The '769 patent describes a "roll call" feature. The roll call includes a "check-in" feature, which allows users to be invited to respond to an invitation. EX1001, 27:20-26. However, Kraft does not explicitly disclose transmitting requests to connect to the event node in the form of roll calls. Nguyen does.

145. Nguyen discloses "an event planning system that facilitates event planning tasks." EX1006, ¶11. Nguyen's system allows the event planner to specify "invited guest information including information indicative of addresses of the invited guests," such as an email address. EX1006, ¶60. Nguyen also allows the event planner to specify "allowable RSVP methods indicating procedures by which

an invitee may RSVP for the planned event.” EX1006, ¶60. Nguyen’s server computer then “generates and sends the specified invitations to the specified invitees ... each invitation soliciting a response.” EX1006, ¶62. Thus, it is my opinion that Nguyen teaches the claim element [1.F]. Nguyen *transmit[s]*, by a server, *respective requests to respond to an event invitation, wherein the respective requests to connect are in the forms of roll calls* by requesting the invitee to check-in with an RSVP response. EX1006, ¶62 (indicating that the request “include links to the associated invitation Web page with which the invitees may interact to RSVP for the event.”).

146. As I discuss above in Section XII.A, a POSA, in my opinion, would have been motivated to incorporate Nguyen’s teachings of transmitting invitations to specified invitees and soliciting a response (a *roll call*) into Kraft’s world model to facilitate event planning. Kraft highlights its system models relationships between entities reflecting real-world components, such as people, events, and tangible things. EX1005, 9:50-10:6. One relationship includes whether a “Person entity” is a “participant” of an “Event entity.” EX1005, FIG. 3. Nguyen’s teachings would advantageously allow for Kraft’s world model to achieve the advantages of Nguyen’s event planning system. Kraft describes how a participant (e.g., the event planner) can create an Event entity node. EX1005, 16:28-42. A participant may also “define relationships” between the Event entity node and other entities (e.g.,

user nodes) EX1005, 16:28-42; *see also* EX1005, 16:28-42 (indicating “user-defined metadata fields” may specify a particular relationship between entities). A POSA would have understood, or found obvious, that Kraft’s participant (event planner) would be motivated to use Nguyen’s event planning teachings to invite the users to connect to the event node to facilitate event planning, which would greater facilitate Kraft’s modeling of “the full complexity and scope of interrelationships that exist in the real world.” EX1005, 9:3-5. Thus, in my opinion, the combination of Kraft, Nguyen, and Altman renders obvious *transmitting, by the networking server* (Kraft’s world server), *respective requests to connect to the event node to the second subset of user devices* by sending requests to the devices associated with the second subset of user nodes. Because the request would solicit a response (as taught by Nguyen’s request for an RSVP response from an invitee) the requests *are in forms of roll calls*. EX1006, ¶62.

147. Thus, in my opinion, the Kraft-Nguyen-Altman combination renders claim element [1.F] as obvious.

9. [1.G] recording respective responses to the respective requests to connect;

148. In my opinion, the Kraft-Nguyen combination renders claim element [1.G] obvious.

149. Nguyen discloses its event planning database 16 includes “a plurality of participant payment records.” EX1006, ¶66. Each record may be associated with

a guest invited to the associated event. EX1006, ¶66. A respective participant record includes “RSVP status information indicating whether ... the invitee has accepted or declined the invitation” (i.e., a recorded *response to the respective request*.) EX1006, ¶66. In my opinion, a POSA would have been motivated to incorporate Nguyen’s teachings of recording responses to invitations in Kraft for the reasons I discuss in Section XII.A and for claim element [1.F]. For example, Nguyen’s system would allow Kraft’s world model to track whether a Person is attending an event. EX1005, 16:28-42; EX1006, ¶62. A response—such as an RSVP to an event—may be recorded as “RSVP status information.” EX1006, ¶66. A POSA would have understood Nguyen’s teachings would have been readily implemented in Kraft via a modification to one or more fields of an entity model (e.g., metadata of an entity model. *E.g.*, EX1005, 11:36-45, 13:6-15, FIG. 4. Thus, Kraft-Nguyen teaches *recording respective responses to the respective requests to connect* to the event node.

150. Thus, in my opinion, the Kraft-Nguyen combination renders claim element [1.F] obvious.

10. [1.H.1] making a subset of the respective responses viewable, via the event node, to a first device, associated with a first node, that is connected to the event node,

151. In my opinion, the Kraft-Nguyen combination renders claim element [1.H.1] as obvious.

152. First, Nguyen teaches “*making ... respective responses viewable*” because Nguyen describes its event planning server system allows the event planner to enable an invitee “to view information indicating other invitees associated with the planned event, and RSVP status information associated with each of the other invitees.” EX1006, ¶¶18, 93.

153. Second, in my opinion, Kraft-Nguyen renders obvious “*making a subset of the respective responses viewable, via the event node.*” Kraft describes that its entity models include relationship, category information, and other information about the entity. EX1005, 10:49-11:45, FIG. 4. Kraft also discloses “the entity model data structure” may include additional elements. EX1005, 13:40-45. In my opinion, a POSA would have found claim element [1.H.1] obvious in view of the Kraft-Nguyen combination to include Nguyen’s RSVP information in the related event node data structure to conveniently track the responses to the requests to connect to the event node. As I discuss above, Kraft may implement Nguyen’s teachings via a modification to one or more fields of an entity model (e.g., metadata of an entity model). EX1005, 11:36-45, FIG. 4. Moreover, a POSA would have been motivated to track and record the RSVP responses in Kraft’s system for the reasons I discuss above in Sections XII.A and XII.B.G. As taught by Nguyen, those responses can be made viewable to other invitees (e.g., through an event invitation Web page with which the invitees may interact). EX1006, ¶¶18,

62, 93. Kraft-Nguyen teaches the claimed subset of responses for the reasons I state for claim element [1.H.2].

154. Third, in my opinion, the combination of Kraft and Nguyen renders obvious making the responses viewable “*to a first device associated with a first node that is connected to the event node.*” For the reasons I discuss above for claim element [1.B], Kraft teaches user devices associated with user nodes. Thus, in Kraft-Nguyen, the RSVP information stored in the event node may be made viewable by the event node (for example, through a web page as taught by Nguyen) to a first device associated with a Person node (first node) that was invited to connect to the event node as a participant.

155. Thus, in my opinion, the Kraft-Nguyen combination renders claim element [1.H.1] as obvious.

11. [1.H.2] wherein each response of the subset was received from a device associated with a node having a single degree of separation from the first node in the database of the plurality of user nodes and multi-dimensional node-to-node links;

156. In my opinion, the Kraft-Nguyen combination renders claim element [1.H.2] as obvious.

157. For the reasons I discuss for claim element [1.E], Kraft teaches creating a projection of user nodes, as described in the ’769 patent. *See* EX1001, 17:4-5; 22:52-54. For example, the manager participant of the event entity (e.g.,

the event manager) can create the projection of user nodes to identify potential participants for the event. EX1005, 8:28-31, 10:10-12, FIG. 3. Kraft further teaches that Person entities may be related through a trust (or friendship) relation. EX1005, 10:22-25. A POSA would have understood at least one of the user nodes (i.e., a subset of at least one) associated with a potential participant, and invited to connect to the event as I discuss in claim element [1.F], would be connected to the event manager's Person entity (*first node*) through a trust/friendship relationship because it would be logical for the manager to invite friend(s) to participate in the event. For example, inviting friends to events was a common mechanism found in prior social networking systems. EX1009, ¶45, *see also* ¶78 (allowing a user to send an event invite request to an acquaintance). Thus, in my opinion, the combination of Kraft and Nguyen renders obvious *each response of the subset was received from a device associated with a node having a single degree of separation from the first node in the database of the plurality of user nodes and multi-dimensional node-to-node links* because, for example, the response discussed in [1.G] can be received from a friend.

158. Thus, in my opinion, the Kraft-Nguyen combination renders claim element [1.H.2] as obvious.

12. [1.I] analyzing (a) the database of the plurality of user nodes and multi-dimensional node-to-node links, and (b) data of user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event

node to identify at least one second node included in the database of the plurality of user nodes and multi-dimensional node-to-node links that is: (a) not connected to the event node, and (b) connected via at least one dimension to at least one user node of the multi-dimensional information network that is joined to the centralized architecture for the event node; and

159. In my opinion, Kraft teaches claim element [1.I].

160. For the reasons I state for claim elements [1.B] and [1.E], Kraft describes that users may search for entity models that match specified criteria. *See e.g.*, EX1005, 16:36-42, 18:31-19:32; *supra* Sections XII.B.3, XII.B.7. For example, a participant may access a search-and-navigation interface to identify entity models that should be related. *See e.g.*, EX1005, 16:36-42, 18:31-19:32. A network graph may be displayed, similar to the network graphs depicted in FIGS. 2 and 5 of Kraft. EX1005, 20:59-67. In the network graph(s), all related entity models up to a maximum degree of separation (e.g., 2) from the current entity may be shown. EX1005, 20:59-67. For example, FIG. 2 depicts a Mayoral Event entity as an event node, which is connected to Voter Jane 210 as a participant with a first degree of separation. EX1005, FIG. 2. When world server performs the specified search, it is “*analyzing (a) the database of the plurality of user nodes and multi-dimensional node-to-node links, and (b) data of user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event node*” because world server 160 analyzes relationship data of Person

entities connected to the Event entity to show entities related to two degrees of separation to the Event entity. EX1005, 8:23-9:40, FIG. 2.

161. In view of Kraft's description of displaying a network graph related to the currently viewed entity for two degrees of separation, the network graph of the Event entity will show both the user nodes (Person entities) connected to the Event entity (i.e., in one degree of separation). EX1005, 8:23-9:40, FIG. 2. Kraft also describes that the network graph will *identify* user nodes (*at least one second node*) having a second degree of separation from the event node. EX1005, 8:23-9:40, FIG. 2. In other words, Kraft teaches identifying user nodes that are not directly connected to the event node but connected to a user node connected to the event.

162. Thus, in my opinion, Kraft teaches claim element [1.I].

13. [1.J] delivering information to the at least one second node, wherein the information was received from an information node configured to store and provide supplemental information via the multi-dimensional information network.

163. In my opinion, the Kraft-Nguyen renders claim element [1.J] as obvious.

164. Kraft teaches *delivering information* to nodes in several exemplary ways. Entity models may “be automatically updated to reflect changes in real-world relationships that can be that can be detected by or reported to world server 160.” EX1005, 18:18-26. For example, if a user joins a community group, that transaction can be reported to world server 160 (i.e., by an “*information node*” that

reports the transaction). EX1005, 18:17-26. The Person entity model can then be modified to reflect the user's membership in the group. EX1005, 18:17-26. Kraft also discloses content—included in the entity model's content section 404—“may be stored on servers other than world server 160” (i.e., “*information node*”) and that content “may be automatically added or updated.” EX1005, 11:46-56. In other words, the content is *delivered* to the event node from the content server (an *information node*). Kraft discloses the content may be “links to content” that pertains to the real-world entity being modeled. EX1005, 11:46-48. Thus, in my opinion, Kraft renders obvious “*delivering information to the at least one second node from an information node*” (e.g., the content server delivers content or other data that pertains to the Person entity being modeled) “*configured to store and provide supplemental information via the multi-dimensional information network*” (e.g., a content provider that stores information pertaining to the second node and provides that information via Kraft's world model to the second node).

165. Thus, in my opinion, the Kraft-Nguyen combination renders obvious claim element [1.J].

C. Independent Claim 11

166. In my opinion, the Kraft-Nguyen-Altman combination renders claim 11 as obvious. Claim 11 sets forth elements substantially the same as claim 1, which, in my opinion, are rendered obvious for the same reasons as claim 1.

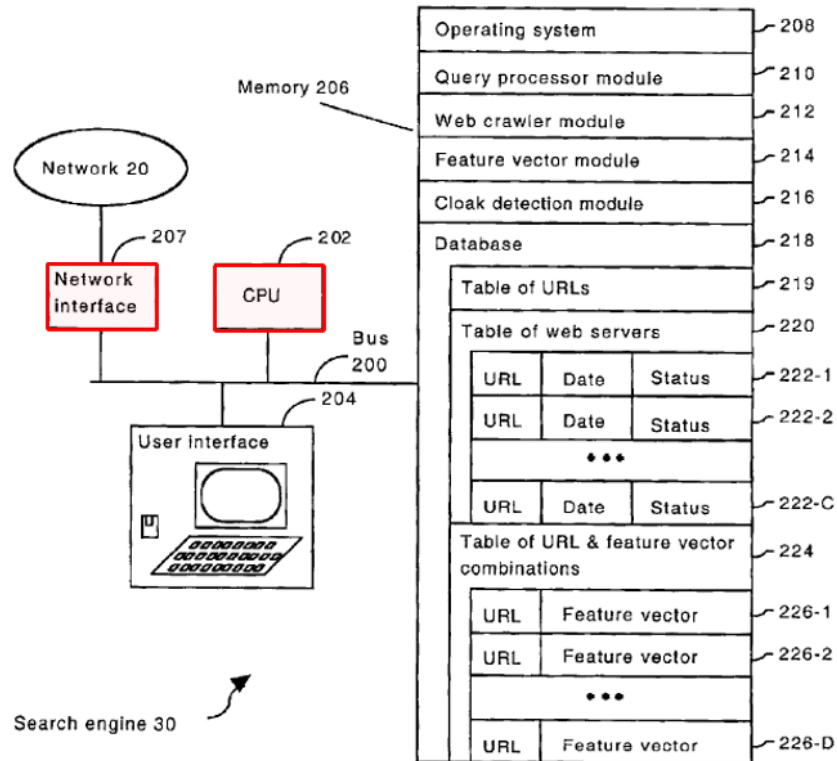
167. In my opinion, the combination of Kraft, Nguyen, and Altman also renders obvious the additional generic server components (*memory, network controller, central processing unit*) recited in claim 11. Such elements were commonly used in similar social networking and system event systems. For instance, Kraft discloses “elements in the system shown in FIG. 1” (including world server 160) include “conventional, well-known elements.” *E.g.*, EX1005, 5:14-15; FIG. 1. Nguyen also describes its exemplary system as containing generic computing components. *See, e.g.*, EX1006, ¶¶55-56 (describing its system as including “a processing unit 36 communicatively coupled to a bus 38; a system memory unit 44, such as a hard disk or other memory storage device, communicatively coupled to the processing unit via the bus.”). First, a POSA would have recognized that “world model data store 162” is stored in *memory* of world server 160 (the claimed *networking server*). EX1005, 6:34-36. Second, a POSA would have further recognized *network controller(s)* of world server 160 are *configured to perform the provide, transmit, and deliver* limitations because Kraft discloses its world server 160 communicates with client system 120 and that it uses a network, such as the Internet, for these communications—a network controller is a conventional component used for network communications. EX1005, 5:8-12, 5:33-39; FIG. 1.

168. Finally, a POSA would have further recognized that *one or more*

central processing units of world server 160 are *coupled to the one or more networking controllers* (to send/receive communications) and *are configured to* perform the remaining limitations of claim 11 because a CPU is a conventional component that executes instructions to perform server functions. The '769 patent only describes its particular server components generally. EX1001, 13:50-52, 15:64-67 (indicating that the NDSN “may be implemented using a wide variety of available hardware and technologies generally known in the art” and “the nodes of the NDSN 100 may be interconnected and may communicate with each other using a wide variety of available hardware and technologies generally known in the art.”).

169. Indeed, it was well known at the time of the '769 patent that servers included processors and network interfaces. For example, in 2006, Wu described that a “server,” as it existed in the prior art, “can be a powerful personal computer (PC)” having “a central processing unit (CPU)” and “a memory unit” configured to “perform high-speed logic operation and signal processing.” EX1034, ¶4; *also* ¶11 (“The multifunction server includes a central processing unit (CPU) and a memory unit.”). Wu further described servers “connect[ed] to the Internet” and various host devices via a standard “network interface.” EX1034, ¶¶11, 21. Similarly, in 2005, Najork described “a search engine 30 includ[ing] **standard server components** such as **one or more processing units 202**, an optional user interface 204 (e.g.,

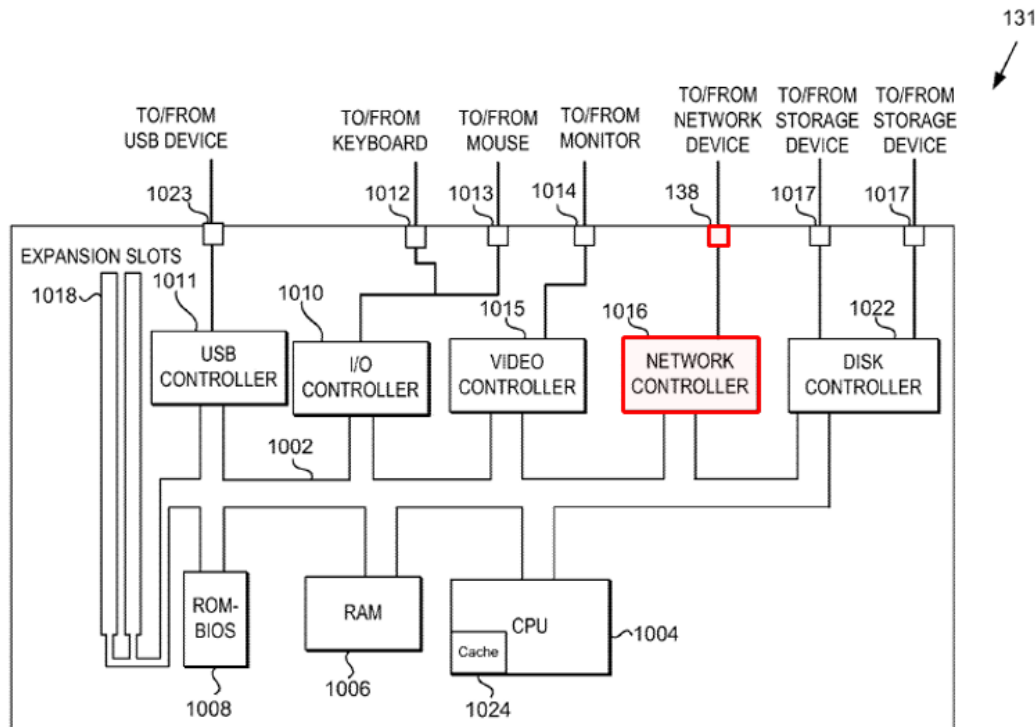
keyboard, mouse, and a display), memory 206, [and] **a network interface 207 for coupling the search engine 30 to clients 40 and web servers 50 via communications network 20.** EX1035, 3:59-64.



EX1035, FIG. 2 (annotated).

170. A POSA would have understood that Kraft's world server 160 would similarly include "standard server components" such as a central processing unit and network interface to operate and receive/transmit data over the network. EX1035, 3:60-64. Moreover, a POSA would have understood that the '769 patent's description of a "network controller" (only mentioned once in the specification) aligns with the general understanding of a network interface that would be present on an Internet-connected server. For example, the '769 patent

describes “network controller 116” as residing within the “server,” as illustrated in Figure 23, which is connected “to the network port 138.”



EX1001, FIG. 23 (annotated).

171. A POSA would, therefore, have understood the “*network controller*” to function similar to a standard network interface present on standard servers at the time of the ’769 patent. Accordingly, it is my opinion that the additional elements of independent claim 11 would have been obvious in view of Kraft, Nguyen, and Altman’s teachings.

172. Thus, in my opinion, the Kraft-Nguyen-Altman combination teaches independent claim 11.

D. Claims 2 and 12.

173. In my opinion, Kraft teaches *wherein user devices connected to the event node are enabled to communicate via a message board available by way of the event node*, as recited in claims 2 and 12.

174. Kraft discloses its entity models (e.g., an Event entity, which is the claimed event node) define at least one communication channel 420. EX1005, 12:36-12:49. The communication channel may be “a message board channel 428.” EX1005, 12:36-12:50. Kraft indicates that “a user who has retrieved entity model 400 from world model data store 162”—using a client device 120 (user devices) connected to the event node as I described with respect to claim 1—can use message board channel 428 (a *message board*) to “post messages about the entity and to view and respond to postings from other users” using message board channel 428. EX1005, 12:67-13:5.

175. Thus, in my opinion, Kraft teaches claims 2 and 12.

E. Claims 3 and 13.

176. In my opinion, Kraft teaches *wherein identifying the at least one second node comprises identifying nodes associated with user data that indicate an association with the particular geographical area of the event*, as recited in claims 3 and 13.

177. For the reasons I state for claim elements [1.B], [1.E], and [1.I], Kraft

discloses users may search for entity models that match specified criteria (“*identifying the at least one second node*”). *E.g.*, EX1005, 6:52-59, 18:31-40. For example, users may search for “entities located near a specified geographic location” by performing a search of Person entities with user data that indicates the person is associated with the same location as the Event entity. EX1005, 18:47-50. For example, Kraft teaches that a search may be performed that is “constrained in some way by geographic location.” EX1005, 19:18-20. Kraft describes that the search may be directed to a particular metadata field, which may include a geographic location. EX1005, 11:36-45. As I discuss for claim element [1.E], Kraft-Altman renders obvious storing the current GPS location of the user’s device in the location field of the Person entity (i.e., *user data that indicates a particular association with a geographical area*). Because Kraft also teaches the generic networking components used by the ’769 patent for implementation, Kraft also teaches that the central processing units are configured to perform these features, as recited in claim 13.

178. Thus, in my opinion, Kraft renders obvious claims 3 and 13.

F. Claims 4 and 14.

179. In my opinion, Kraft teaches *updating user data associated with user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event node based on joining the centralized*

architecture for the event node, as recited in claim 4 and similarly recited in claim 14.

180. As I discuss in [1.D.1], Kraft teaches joining user nodes to an event node by modifying the relationship data of a Person entity model (the claimed user node) to indicate a relationship with the event. EX1005, 17:11-17, 17:35-37. This is because the relationship data is user data associated with user nodes (as I discuss in [1.A]) and the data is updated based on joining the centralized architecture for the event node. Section XII.B.5.

181. Further, Kraft also teaches the generic networking components used by the '769 patent for implementation. Thus, Kraft also teaches that the central processing units are further configured to perform these features, as recited in claim 14.

182. Thus, in my opinion, Kraft renders obvious claims 4 and 14.

G. Claims 5 and 15.

183. In my opinion, Kraft teaches *delivering additional information to at least one device based on the updated user data*, as recited in claim 5 and similarly recited in claim 15. Claims 5 and 15 depend from claims 4 and 14, respectively.

184. Kraft teaches that its entity models include a communication channel for communicating with the entity model's manager "or for communications pertaining to the entity (either the real world entity or the entity model)." EX1005,

12:36-39. This communication channel enables a user to initiate direct communication with the entity. EX1005, 6:42-48, 12:36-63. For example, Kraft indicates that e-mail, IM, chat room, message board, or other communication channels may be used. EX1005, 6:42-48, 12:36-63. Kraft provides an example of a user sending a message to an Event entity “to volunteer as a poll worker” and that such messages are routed to the participant responsible for the event node.

EX1005, 9:29-39. Thus, a POSA would have recognized that based on the updated user data—for example, the relationship data that is modified as described in claim 4 to join the event node—communications about the real-world event (e.g., real-world questions or feedback about the event, such as a message to volunteer) are additional information that is delivered to at least one device (the device associated with the communication channel of the event entity). EX1005, 4:64-5:12, FIG. 1. Because Kraft also teaches the generic networking components used by the ’769 patent for implementation, Kraft also teaches that one or more network controllers are configured to perform this feature, as recited in claim 14. Section XII.F.

185. Thus, in my opinion, Kraft teaches claims 5 and 15.

H. Claims 6 and 16.

186. In my opinion, the Kraft-Nguyen-Altman combination renders obvious *wherein the projection represents the second subset of user devices determined to be geographically proximate to the event*, as recited in claims 6 and

16.

187. In Kraft-Altman, when the projection that I discuss in claim element [1.E] is created based on the location field (which stores the current GPS location of the user's device,) *“the projection represents the second subset of user devices determined to be geographically proximate to the event.”*

188. Thus, in my opinion, the Kraft-Nguyen-Altman combination renders obvious *“the projection represents the second subset of user devices determined to be geographically proximate to the event”* as recited in claims 6 and 16.

I. Claims 7 and 17.

189. In my opinion, the Kraft-Nguyen-Altman combination renders obvious *wherein a particular user device is determined to be geographically proximate to the event based on the user device and the event occurring in the same town*, as recited in claims 7 and 17.

190. In particular, for the reasons I discuss with regards to claims 6 and 16, in my opinion, Kraft and Altman render obvious that the projection represents *user devices determined to be geographically proximate to the event*. Kraft discloses its location may be a city and provides an example of a user requesting a network view—a *projection*, as recited in the claims—of businesses located in the same city as the viewed entity. EX1005, 16:28-42. Similarly, in Kraft-Altman, a user may create a projection based on *the event occurring in the same town* (i.e., the city

location of the device event matches the city location of the event). EX1005, 8:44-48, 21:4-9, FIG. 3; *see also* EX1005, FIG. 2 (illustrating a projection that includes City node 212). Kraft indicates that users may request a “local” search “that is constrained in some way by a geographic location.” EX1005, 19:18-23. Altman describes deriving the geographic location of a mobile communication device operated by a user and the location of event(s). EX1010, ¶¶8, 39. Because Kraft also teaches that the generic networking components used by the ’769 patent for implementation, Kraft also teaches the central processing units are configured to perform these features, as recited in claim 17.

191. Thus, in my opinion, the Kraft-Nguyen-Altman combination renders obvious claims 7 and 17.

J. Claims 8 and 18.

192. In my opinion, the Kraft-Nguyen-Altman combination renders obvious *wherein a particular user device is determined to be geographically proximate to the event based on GPS data of the particular user device*, as recited in claims 8 and 18.

193. Altman describes the geographic location of the mobile device (that I discuss in claim 6) “can be a GPS module ... that provides the location of the mobile communication devices.” EX1010, ¶40. Kraft also teaches the generic networking components used by the ’769 patent for implementation, thus, Kraft

also teaches that the central processing units are configured to perform these features, as recited in claim 18.

194. Thus, in my opinion, the Kraft-Nguyen-Altman combination renders obvious claims 8 and 18.

K. Claims 9 and 19.

195. In my opinion, Kraft renders obvious *wherein the single degree of separation is indicative of a friend relationship*, as recited in claim 9 and similarly recited in claim 19.

196. For the reasons I state for claim element [1.H.2], Kraft teaches *a single degree of separation* that is a friendship relation. EX1005, 10:22-25. For example, Kraft teaches two Person entities may be connected by a “trust” relationship. EX1005, FIG. 3. Kraft also describes that trust and friendship can be used interchangeably by indicating “Person entity models can have trust (or friendship) relationships with each other.” EX1005, 10:22-25.

197. Thus, in my opinion, Kraft renders obvious claims 9 and 19.

L. Claims 10 and 20.

198. In my opinion, Kraft renders obvious *wherein the single degree of separation is indicative of a family relationship*, as recited in claims 10 and 20.

199. For the reasons I state for claim element [1.H.2], Kraft teaches that a single degree of separation can be a trust (e.g., friendship) relation. EX1005,

10:22-25. Kraft discloses its world model includes “features of a conventional social network” (*the single degree of separation*) that “reflect[s] different real-world roles (e.g., career, social, **family**, etc.)” (*is indicative of a family relationship*). EX1005, 10:25-27, 10:42-48, 14:14-17 (emphasis added). Altman teaches its social network includes family relationships. EX1010, ¶41. Indeed, social media networks, such as those disclosed in Kraft, commonly “indicate[] the ways in which [nodes] are connected through various social familiarities ranging from casual acquaintance to **close familial bonds**.” *See* EX1018, 1.

200. Thus, in my opinion, Kraft renders obvious claims 10 and 11.

M. Independent Claims 21 and 26

201. In my opinion, the Kraft-Nguyen-Altman combination renders claims 21 and 26 as obvious. With the exception of the differences noted below, these claims set forth elements substantially the same as claims 1 and 11, which, are rendered obvious for the reasons I discuss in Sections XII.B-C.

202. In my opinion, claim elements [21.I] and [26.I] are substantially the same as [1.I], other than reciting the claimed *analyzing to identify at least one second node is based at on user data associated with the at least one second node and the second node is connected via one dimension of the multi-dimensional information network to the event node*. For the reasons I set forth for claim element [1.I], in my opinion, Kraft renders obvious the claimed analyzing to identify at

least one second node. For example, a participant may access a search-and-navigation interface to identify entity models that should be related. *See e.g.*, EX1005, 16:36-42, 18:31-19:32. In my opinion, Kraft teaches that the analysis is based on user data associated with the at least one second node because Kraft indicates the entities store user data and users may search the content of entities (including user data associated with Person entities, such as relationship data) for entity models that match user-specified criteria. *See* Sections XII.B.2-3, XII.B.7, XII.B.12; EX1005, FIG. 3, 16:28-42. For example, a participant can search for Person entities that have a relationship, such as participant, to an Event entity. For the same reasons, in my opinion, Kraft renders obvious that the identified second node is connected via at least one dimension to the event node because Kraft describes a search, or network view, to identify Person entities connected as a “participant” to the Event entity. *E.g.*, EX1005, FIG. 3, 16:28-42.

203. Claim elements [21.J] and [26.J] are substantially the same as [1.J], other than specifying the information is *event information relevant to the event*. I have been advised by Meta’s counsel that the specific content of the “*event*” information is unrelated to the function of the claim should not be given patentable weight. I do not provide an opinion as to whether the claimed *event information relevant to the event* is limiting; however, it is my opinion that the claimed delivery of information to at least one second node can be performed in the same manner

irrespective of the particular content of information that is provided.

204. Regardless, in my opinion, the combination of Kraft and Nguyen renders obvious delivering the claimed *event information* to the second node. For the reasons I discuss for claim element [1.J], Kraft teaches automatically updating content section 404 of entity model with “links to content” that pertain to the real-world entity being modeled. EX1005, 11:45-48. Kraft also teaches its entity model data structures are illustrative, and variations are possible. EX1005, 13:40-42; *also* EX1005, 24:36-45 (“the entity model is not limited to any particular data structure or content”). Nguyen describes a user may post an invitation Web page in a list of public events “thereby enabling any user to access the invitation Web page.” EX1006, ¶62. Thus, in my opinion, it would have been obvious in view of the combination of Kraft and Nguyen to *deliver[] event information relevant to the event to the at least one second node* (e.g., delivering, to the content section or other data structure of the second node, a link to an invitation web page to the event as taught by Nguyen). The delivered *event information is received from an information node* (the content provider) as claimed for the reasons I discuss for claim element [1.J]. A POSA would have been motivated to *deliver information relevant to the event* to the second node to fulfill Kraft’s stated objective of modeling “the full complexity and scope of interrelationships that exist in the real world.” EX1005, 9:3-5. Kraft’s objective can be fulfilled by modeling the second

node that received an invitation to the event, which other interested users may then discover by viewing the content of the second node, as taught by Nguyen. *E.g.*, EX1006, ¶62.

205. Accordingly, Kraft-Nguyen-Altman renders obvious claims 21 and 26.

N. Claims 22 and 27.

206. In my opinion, Kraft teaches claims 22 and 27 for the reasons I discuss for claim 2. Claims 22 and 27 are almost identical to claim 2, as these claims recite *wherein user devices connected to the event node are enabled to communicate via a message board available on the event node*.

207. Accordingly, Kraft teaches claims 22 and 27.

O. Claims 23 and 28.

208. In my opinion, Kraft renders obvious *wherein identifying that the at least one second node is connected via the at least one dimension of the multi-dimensional information network to the event node comprises: identifying user data associated with the at least one second node indicating an interest in at least one particular topic relevant to the event*, as recited in claim 23 and similarly recited in claim 28.

209. In my opinion, Kraft's Person data indicating membership in a Community with a relationship or interest in the event is *user data associated with*

the at least one second node indicating an interest in the at least one particular topic relevant to the event. Kraft describes its world model includes “Community” entities “representing groups of people united by a common interest or characteristic.” EX1005, 9:61-63. Community entities may, for example, be connected to events through a “focus of,” “sponsor of,” or “participant of” relationships. EX1005, FIGS. 2, 3. Kraft illustrates exemplary Community entities (214, 216) related to a mayoral event. EX1005, 8:49-62, FIG. 2. And as I discuss in claim [1.B], [1.E], [1.I], and claim 21, Kraft describes a user may perform a search for entities that match user-specified criteria. EX1005, 5:8-10, 6:52-59, 18:31-54. In my opinion, a POSA would have recognized from these teachings that a search for Person entities (i.e. the claimed *user nodes*) with user data indicating they are members of a community with a relationship or interest in the event *identifies* *user data associated with the at least one second node indicating an interest in the at least one particular topic relevant to the event.* For example, membership in “Bob Supporters” 216 in Fig. 2 indicates interest in Mayoral Election 202 and membership in “Science Fiction Fans” 230 in Fig. 2 indicates interest in a topic relevant to Science Fiction events. EX1005, FIG. 2. It was commonly known that social networks could include user data that identified particular interests specified by a user. EX1015, 3.

210. Kraft also teaches the claimed *identifying* through the display of a

network graph within two degrees of separation of an entity. EX1005, 20:59-67;

Section XII.B.7. For example, Kraft's network graph of an event with a related Community entity also identifies Person entities (second nodes) that are members of the Community, which have *user data indicating an interest in the topic relevant to the event*. EX1005, 20:59-67, FIG. 2; Section XII.B.7.

211. Accordingly, Kraft renders obvious claims 23 and 28.

P. Claims 24 and 29.

212. In my opinion, Kraft renders obvious *wherein identifying that the at least one second node is connected via the at least one dimension of the multi-dimensional information network to the event node comprises: identifying a user data associated with the at least one second node indicating participation in at least one particular activity relevant to the event*, as recited in claim 24 and similarly recited in claim 29.

213. In my opinion, Kraft teaches these claims in at least two ways. First, for the reasons I state for claim elements [1.B], [1.E], [1.I], and claim 21, Kraft describes that a user may perform a search for entities that match user-specified criteria. *See e.g.*, EX1005, 16:36-42, 18:31-19:32. Kraft also teaches events may have a “focus on” relationship to other events. EX1005, FIG. 3. In my opinion, a POSA would have recognized, from Kraft, that a search for Person entities (the claimed *user nodes*) with user data indicating they are participants of a second

event relevant to the event (e.g., related through a “focus on” relationship)

identif[ies] user data associated with the at least one second node indicating participation in at least one particular activity (participation in the related event) relevant to the event. For instance, determining participation in an activity was commonly used in social networks and event planning systems existing prior to the priority date of the '769 patent. EX1009, ¶45. Kraft describes an example of this, and indicates “voter Joe (node 208), who supports candidate Alice, is linked to the community of Alice supporters (node 214). In this example, the community of Bob supporters is organizing a rally (event node 218) in support of Bob's candidacy.” EX1005, 8:55-59, FIG. 2.

214. Second, Kraft also teaches the claimed *identifying* through the display of a network graph within a specified degree of separation from the entity. For example, a display of the network graph shown in Figure 2 within three degrees of separation would display the participants of “Rally” 218. EX1005, 8:57-52, 9:23-26, FIG. 2. Here, Kraft *identif[ies] second node[s]* that have *user data indicating participation in an activity relevant to the Mayoral Election event*, such as Rally 218. EX1005, 8:57-52, 9:23-26, FIG. 2.

215. Accordingly, Kraft renders obvious claims 24 and 29.

Q. Claims 25 and 30.

216. In my opinion, the combination of Kraft, Nguyen, and Altman renders

obvious *wherein identifying that the at least one second node is connected via the at least one dimension of the multi-dimensional information network to the event node comprises: identifying a user data associated with the at least one second node indicating participation travel history to a particular region relevant to the event*, as recited in claim 25 and similarly recited in claim 30.

217. For the reasons I state for claim 21, Kraft renders obvious analyzing its database to identify at least one second node connected via at least one dimension of the multi-dimensional information network to the event node. Section XII.J. Kraft does not describe its user data (data associated with a Person entity) includes travel history.

218. Altman does. Altman describes its data store includes location information for each user, such as location histories and frequently visited areas. EX1010, ¶¶37, 71; FIG. 1; *also* EX1010, FIG. 13 (illustrating a location history table). A POSA would have been motivated to incorporate Altman's teachings of user location history—the *participation travel history* recited in claims 25 and 30—in the combination of Kraft and Nguyen for the reasons I discuss above in Section XII.A. For instance, Altman's teachings could be incorporated into the combination by storing location history as metadata in a Person entity associated with the user. EX1005, 15:64-16:14. Kraft already contemplates storing geographic locations of an entity within the entity model (e.g., as structured

metadata 406 in entity model 400). EX1005, 15:64-16:14, FIG. 4. Kraft also describes a history section 440 within the entity model, which tracks modifications to an entity model. EX1005, 13:27-39, FIG. 4. In the Kraft-Nguyen-Altman combination, a search for Person entities with user data having location history to the event location/region *identif[ies] user data associated with the at least one second node indicating participation travel history to a particular region relevant to the event*. As I discuss above, Kraft describes that a user may perform a search for entities that match user-specified criteria. EX1005, 5:8-10, 6:51-59, 18:31-54.

219. As I discuss above, Altman can be implemented in the combination of Kraft and Nguyen to include location history within an entity model 400. *See* EX1005, 13:27-39, FIG. 4.

220. Thus, in my opinion, the Kraft-Nguyen-Altman combination renders obvious claims 25 and 30.

XIII. GROUND 2: CLAIMS 1-24 AND 26-29 WOULD HAVE BEEN OBVIOUS IN VIEW OF WONG, BURFEIND, AND CROWLEY.

221. In my opinion, the combination of Wong, Burfeind, and Crowley renders obvious claims 1-24 and 26-29.

A. Motivation to Combine

222. Wong teaches creating a social network composed of nodes (representing entities, e.g., users or objects) and connections (representing the relationship between entities). EX1007, ¶¶6, 17, 22-24. In Wong, the “individual

represented by an active node can join groups, organize memberships, send emails from the node, and the like and in particular **take advantage of the activities facilitated by the social networking features** of the network of living and non-living entities, such as using certain communication tools.” EX1007, ¶44 (emphasis added). Wong, thus, explicitly recognizes the benefit of including and utilizing various “social networking features.”

223. As I discuss above, by February 2007, it was well-known to use social networks to facilitate and organize events, including location-specific events. *See supra* Section VII.A, ¶50; *see also supra* Section VII.B (describing examples of systems used for delivering event information to nodes in a social network). A POSA would have been motivated to include such well-known event-organizing capabilities in Wong’s social network and would have looked for references including implementation details for event-organization functionality. Indeed, social network systems were used for local event planning before the Priority Date of the ’769 patent. For instance, prior to the earliest Priority Date of the ’769 patent, MySpace was looking to expand into the facilitation of local event planning, which included concerts and festivals. EX1027, 3. Burfeind and Crowley are such references.

224. In my opinion, a POSA would have been motivated to include the event-organizing capabilities of Burfeind’s user network as an additional “social

networking feature” in Wong’s social network because it would have amounted simply to including a known technique (event-organizing capabilities) into a known system ready for improvement (Wong’s social network) to yield predictable results (a social network including event-organizing capabilities).

225. Burfeind’s organization device communicates invitations and other information regarding an event to invitees. EX1008, ¶¶52-57, 108, 115. In Wong, communication happens between nodes in the network. EX1007, ¶44. Indeed, Wong describes each node contains communication tools for “communicat[ing] with other entities within or outside the network using the features of the social network” and/or “communicat[ing] with nodes in the same network.” EX1007, ¶19; *see also* EX1007, ¶¶31-32. Wong discloses that users—such as Burfeind’s organizer 610—can create new nodes. EX1007, ¶¶26-27, 41, FIGs. 5, 6. New nodes can also be linked to existing nodes. EX1007, ¶¶26-27, 41, FIGs. 5, 6. Although Wong describes four exemplary “main node types”—people, places, objects, animals—Wong also teaches that there may be additional node types. EX1007, ¶¶21-22. Indeed, Wong indicates that its system, including its main node types, are “not limiting in scope.” *See* EX1007, ¶¶4-5. Based on these teachings, a POSA would have recognized that a **new node related to the event** (i.e., an *event node*) would be useful in Wong’s social network to facilitate the event-related communication in the social network. Therefore, in the Wong-Burfeind

combination, a new node associated with the event would be created in Wong's network 24.

226. Further, a POSA would have had a reasonable expectation of success in implementing Burfeind's features in Wong, including the creation of a new *event node*. Wong recognizes that creating nodes was "well known to web site programmers." EX1007, ¶18. Indeed, node creation and utilization was a common mechanism for defining and traversing social networks. *See generally* EX1019; *see also supra* Section VII.B, ¶53. In Wong, nodes are created and/or edited by a user accessing the network via a user device. EX1007, ¶¶17-19. Information representing the nodes is stored on the social network server. EX1007, ¶¶17-19. Likewise, in Burfeind, events are created and/or edited by the event organizer (a user) accessing the organization device (a server) via a user device and updating the information related to the event. EX1008, ¶¶57, 59. As in Wong, Burfeind's users access the user network via user devices, such as computers or cellular phones. EX1008, ¶¶56-57, FIG. 3. Burfeind's event organizer 610 communicates with organization device 310 over a networked environment. EX1008, ¶¶56-57, FIG. 3.

227. Similar to Burfeind, Crowley discloses a system for coordinating meetings between friends and acquaintances. EX1009, Abstract. Unlike Burfeind's manual selection of invitees, EX1008, ¶¶159-161, FIG. 33, Crowley's system

determines when a user's participating acquaintances are geographically proximate to an event venue, and automatically sends invitations to those individuals, inviting them to meet the user at that venue. EX1009, ¶45. Indeed, Crowley acknowledges the inefficiencies of systems like Burfeind that "require the organizer to select attendees from a manually-created list of acquaintances, such as members of an e-mail address book." EX1009, ¶4. For instance, as shown in Figure 33, Burfeind indicates that "invited contacts can [] be selected from a dropdown menu" or from an "address book." EX1008, ¶¶159-161.

Figure 33

3300

NEW EVENT

NAME EVENT
Plundering 3305

WHEN IS EVENT? 3310
Date: May 15, 2006 3314
Time: 5pm 3316

WHERE IS EVENT?
Mongolia 3320

WHO IS INVITED?
PICK ADDRESSES MANUALLY → 3330

ADDRESS BOOK: 3335

3337

☒ Genghis Kahn 3336

☐ Boss

☒ Bob Mongol

☒ John Doe 3338

3350 **CREATE**

3355 **BACK**

NEW EVENT	
NAME EVENT	Plundering
WHEN IS EVENT?	Date: May 15, 2006 Time: 5pm
WHERE IS EVENT?	Mongolia
WHO IS INVITED?	PICK ADDRESSES MANUALLY →

ADDRESS BOOK:

- ☒ Genghis Kahn
- ☐ Boss
- ☒ Bob Mongol
- ☒ John Doe

CREATE **BACK**

EX1008, FIG. 33 (annotated).

228. In Burfeind, to invite guests to the event, the event organizer manually

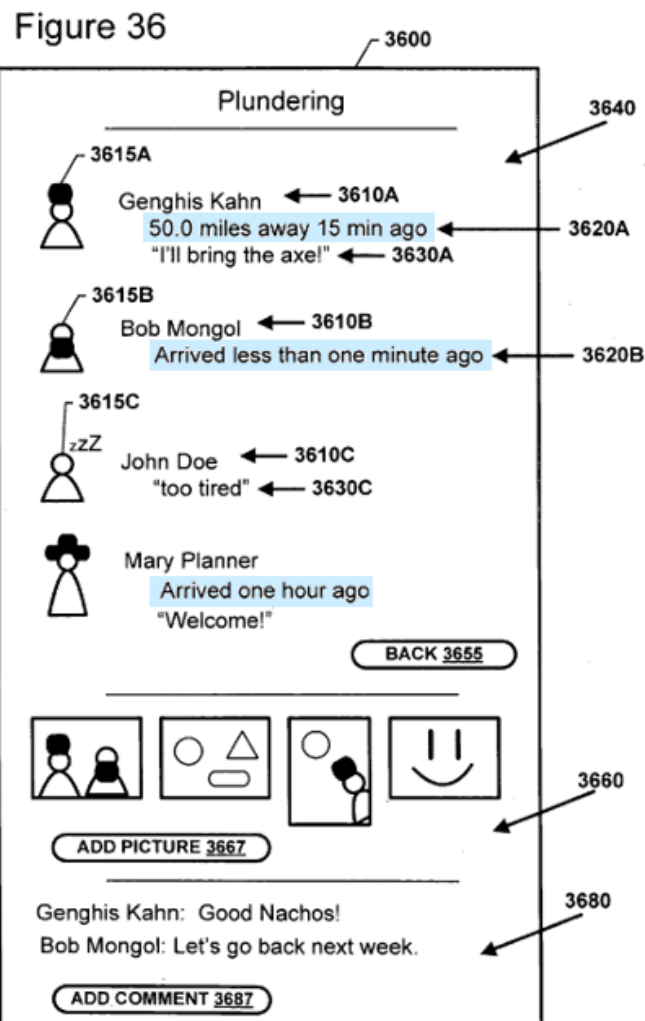
selects contacts listed in the address book or the dropdown menu. A POSA would have recognized that such manual entry would be time-consuming and inefficient, for instance, when the number of invited participants is large, and may be prone to error. In addition, such manual entry may cause the event organizer to inadvertently exclude one or more contacts that they intended to invite. For instance, Burfeind's manual participant selection technique would require the event organizer to search through his entire address book (or dropdown menu), and to individually select each individual (or group of individuals). In doing so, the event organizer may forget that one of his contacts lives nearby, or is in the area visiting, and forget to invite the contact to the event. Thus, a POSA would have further sought references for improving upon Burfeind's burdensome and imprecise manual participant selection process.

229. Crowley's system provides numerous advantages, such as enabling "spontaneous socializing" and "convenient communication among friends." EX1009, ¶6. Crowley also "help[s] avoid the problem of friends who were out near each other, but never realized it until later." EX1009, ¶6; *see also* ¶35. Crowley thus provides express motivation for implementing its location-based features in the Wong-Burfeind combination. A POSA would have thus been motivated to enable the Wong-Burfeind system to identify and invite all contacts that are geographically proximate to the event location, as taught by Crowley. EX1009,

¶¶45, 78. For instance, the combined system would implement an interface for creating new events that includes an option to enable the event organizer to select all contacts that are located within a threshold distance of the venue, without having to manually select each contact individually. Consistent with Crowley, this feature would save time and would also ensure that the event organizer does not inadvertently exclude a contact that is located within the area. EX1009, ¶¶4, 6, 35

230. A POSA would have had a reasonable expectation of success in implementing these features in the Wong-Burfeind combination. Like Crowley, Burfeind teaches that the location of the event can be the “current location of the portable device” of the event organizer. EX1008, ¶112, *also* ¶110. Thus, Burfeind already contemplates “location-specific event[s]” that are held at the event organizer’s current location. EX1008, ¶3. Burfeind also tracks its users’ GPS locations to determine the “arrival information” for the user. EX1008, ¶¶136, 143-145, 169-171, FIG. 36. For instance, the organization device “receives location information sent from one or more portable user devices” in the system and saves this location information “in a GPS database 360 stored on the organization device.” EX1008, ¶143. This information is then used to determine the users’ distance from the event venue, as shown in Figure 36 below. A POSA would have readily been able to adapt this location-tracking feature to identify user locations for the purpose of inviting individuals who are located near the event location.

That is, it would have been predictable and straightforward to determine and access user locations to determine which users to invite to the event. Indeed, Burfeind teaches that the organization device obtains location information from the portable devices in the system “at predetermined time intervals.” EX1008, ¶142. A POSA would have readily been able to utilize such location information at the invitation stage, as described.



EX1008, FIG. 36 (annotated).

231. Burfeind also teaches associating multiple contacts into different groups, such that the event organizer can “invite the members of the group without having to select and identify each individual member.” EX1008, ¶¶89-93. Thus, Burfeind contemplates techniques for grouping individuals to more conveniently select those individuals. A POSA also would have thus readily been able to modify the Wong-Burfeind combination to determine the event organizer’s contacts that are located proximate to the selected event venue, and to send invitations to that group of contacts, as taught by Burfeind and Crowley. These modifications would have been implemented by leveraging Burfeind’s existing teachings of location tracking and contact grouping.

232. Indeed, Burfeind and Crowley disclose similar systems for organizing meetings between individuals. EX1008, Abstract; EX1009, ¶5. As I explain above, Burfeind’s manual participant selection process was ready for improvement because it was inefficient and time consuming. Crowley expressly recognizes and provides a solution for Burfeind’s inefficiencies. EX1009, ¶¶4-5. Crowley’s solution could have readily been implemented in the Wong-Burfeind combination, as described above. Accordingly, a POSA would have understood that implementing Crowley’s techniques in the Wong-Burfeind combination would merely amount to the use of a known technique (Crowley’s location-based messaging) to improve similar systems (Wong-Burfeind’s social network based

invitation system) in the same way (enabling the system to automatically send messages/invitations to nearby individuals), as well as applying a known technique to a known system ready for improvement to yield predictable results.

B. Independent Claim 1

1. [1.P] A computer-implemented method comprising:

233. I understand that, in certain circumstances, the preamble of a claim may be limiting. To the extent the preamble is determined to be limiting, it is my opinion that the Wong-Burfeind-Crowley combination teaches this element.

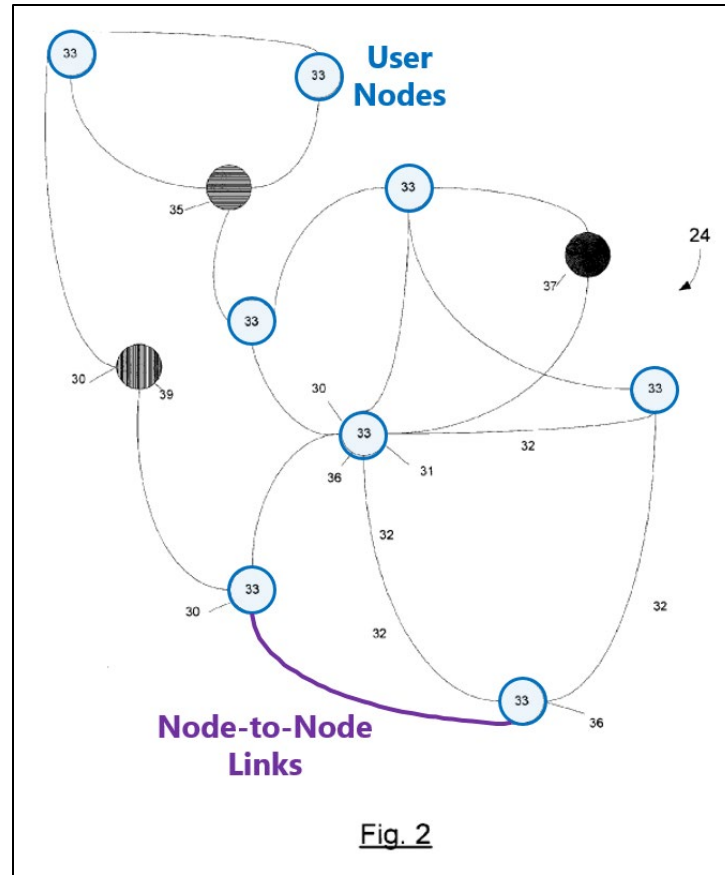
234. Wong-Burfeind-Crowley teaches a *computer-implemented method*, as recited in the preamble of claim 1. Each of Wong, Burfeind, and Crowley is implemented on a computer. EX1007, ¶6 (“interactive computerized network”); EX1008, ¶59 (“organizing device 310 is a computer server”); EX1009, ¶69 (“computer system 82” implements the functionality).

235. Thus, in my opinion, Wong-Burfeind-Crowley teaches claim element [1.P].

2. [1.A] maintaining, by a networking server configured to maintain data defining a multi-dimensional information network, a database of a plurality of user nodes and multi-dimensional node-to-node links characterizing relationships between the plurality of user nodes via dimensions in the multi-dimensional information network, wherein at least some of the user nodes of the plurality of user nodes are respectively associated with user data;

236. In my opinion, Wong teaches claim element [1.A].

237. Wong discloses a social network server 20 (*a networking server*) that *maintain[s] data defining a social network 24 (a multi-dimensional information network)*. EX1007, ¶17; *see also* EX1007, ¶17 (indicating that the social network server may include more than one server, i.e., “**server or servers** 20 *maintain[ing]* a system comprising an Internet website, database and associated data, which is accessible to users 10.”). As Wong explains, that data is stored in “the same database [*a database*] which forms part of the system.” EX1007, ¶36. The stored data includes “[n]odes, linkages, linkage types, and all data pertaining to the network” (*a plurality of user nodes and multi-dimensional node-to-node links characterizing relationships between the plurality of user nodes via dimensions in the multi-dimensional information network*). EX1007, ¶36, *also* ¶¶21, 24, 33. Wong’s network 24 (*multi-dimensional information network*) is illustrated in FIG. 2, reproduced below.



EX1007, FIG. 2 (annotated).

238. Wong also further describes how Wong's network 24 (a *multi-dimensional* network) *characteriz[es] relationships between the plurality of user nodes*, as recited in claim element [1.A]. For instance, Wong indicates that linkages 32 have a defined linkage type, “representing the actual type relationship which exists between the person, place, object or animal represented by the linked nodes.” EX1007, ¶24. “Nodes can be linked by *more than one* linkage type, representing the multiple types of relationships between the entities represented by the nodes.” EX1007, ¶24 (emphasis added), *also* ¶33 (“The relationship of a node to another node within the same network of living and non-living entities can also

be represented by more than one defined linkage type.”), FIG. 4. Indeed, this type of relationship characterization is congruent with the ’769 patent. The ’769 patent uses a “multi-dimensional personal information network” and “N-dimensional social network (NDSN)” interchangeably. See EX1001, 6:24-28, 8:4-8, 15:1-4. Specifically, the ’769 patent indicates the NDSN is “also referred to hereafter as a multi-dimensional personal information network.” EX1001, 8:4-8. The ’769 patent’s social network “uses multiple dimensions of association to characterize the relationship between users or members” such as friendships, as well as professional and healthcare relationships. *E.g.*, EX1001, 15:1-20; *see also* Section XII.B.2 (describing the ’769 patent’s NDSN with respect to Kraft and Ground 1).

239. Wong also teaches that *at least some of the user nodes of the plurality of user nodes are respectively associated with user data*, as recited in claim element [1.A]. According to Wong, each node in network 24 represents a living or non-living entity, such as “people 33 (living and deceased), places 35, objects 37 and animals 39.” EX1007, ¶21. In Wong, each of these nodes is associated with information pertaining to the person or entity that it represents (*user data*). EX1007, ¶¶18-19, 31-32.

240. Thus, in my opinion, Wong teaches claim element [1.A].

3. **[1.B] providing, by the networking server, [to]² respective user devices associated with respective user nodes of the plurality of user nodes, respective composite data feeds that are based on the database of the plurality of user nodes and multi-dimensional node-to-node links;**

241. In my opinion, the Wong-Burfeind combination teaches claim element [1.B].

242. Wong's users 10 access and interact with Wong's social network using computer terminals 14 (*respective user devices*) and are *associated with respective user nodes* 30. EX1007, ¶¶17-18, FIG. 1; *supra* Section VII.B, ¶53.

243. In Burfeind, each invitee can “view the status of each event to which the individual is a party,” e.g., to which the user is invited, via interface 2100 which includes “a listing 2110 of events” (*respective composite data feeds*). EX1008, ¶¶120-121, FIG. 21; *also* ¶¶163-165, FIG. 35. As the term is used in Burfeind, “a party to an event is either the event organizer 610 or one of the event invitees 620. In some embodiments, for example, the individual can access a calendar interface, such as interface 2100 of FIG. 21 (depicted below), to obtain information about pending and recent events.” EX1008, ¶¶120-121.

² As I discuss above, in my opinion, this claim element should be read as *providing ... [to] respective user devices* as opposed to providing user devices themselves. A server is not capable of providing a user device.

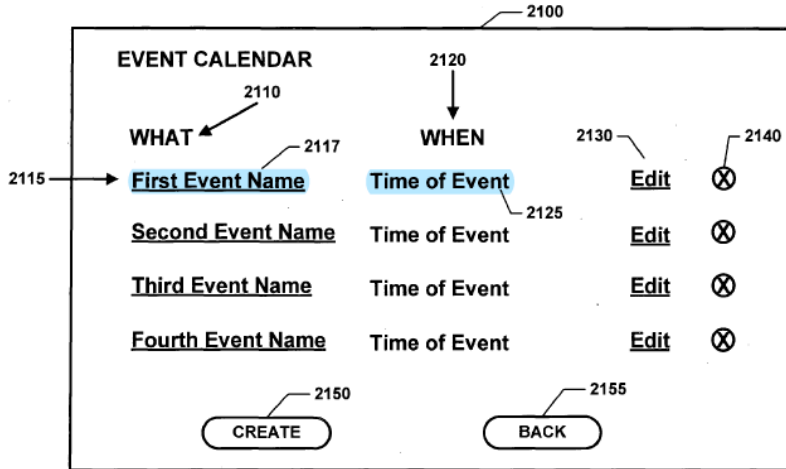


Figure 21

EX1008, FIG. 21. (annotated)

244. Burfeind’s event listings 2110 are *respective composite data feeds* because, consistent with the disclosure in the ’769 patent, they (upon a user request) provide the user with an updated listing of all of the events they are invited to. *See* EX1001, 8:50-9:3 (describing various types of data that can be included in a “data feed”). As I discuss above, the ’769 patent discusses data feeds broadly and abstractly—the patent does not specify or limit the form of a data feed. The ’769 patent describes embodiments where a “[u]ser 250 requests the PIA 400 to receive a data feed” by “sending a requestData message” to an entity, to which the entity responds by “provid[ing] the requested data feed to the PIA 400 by sending the provideData message to the PIA 400.” EX1001, 12:52-64. The ’769 patent also describes that “[t]he event node may be discovered” by “searching ... the network for information about the situation or event.” EX1001, 20:46-49.

Similarly, a user requests to view Burfeind's event listing 2110 by accessing interface 2100.

245. Moreover, a POSA would have understood that Burfeind's list 2110 would update when a user is invited to additional events. Burfeind's system stores invite information once events are created or modified. EX1008, ¶110, FIG. 13. The invitee information is used to populate a calendar interface, such as interface 2100 upon a display operation (e.g., operation 2215). EX1008, ¶124. A POSA would have understood that Burfeind's list 2100 is updated to include additional events, as invitee information is saved to Burfeind's system and is retrieved to populate a calendar interface 2100 upon request.

246. The Wong-Burfeind combination also teaches the event listings 2110 (*composite data feeds*) are based on the database of the plurality of user nodes and multi-dimensional node-to-node links. In the combined system, Burfeind's events are implemented as nodes (*event node*) in Wong's network. See *supra* Sections XIII.A, XIII.B.4. When a user is invited to an event, a link is created between that user's node and the corresponding event node and is stored in the *database* of the social network server (*networking server*). EX1007, ¶¶27-28, 36. When a new node is created, the new node is linked to existing nodes. See EX1007, ¶¶27, 41, FIG. 6. Two existing nodes may also be linked. EX1007, ¶28, FIG. 7. The information included in the event listing comes from this database. EX1007, ¶¶27-

28, 36.

247. Finally, Wong's social network server (*networking server*), *provide[s]* Burfeind's event listing (*composite data feeds*) to *the respective user devices*.

Wong's system includes "an Internet website, database and associated data, which is accessible to users." EX1007, ¶17. The website, database, and associated data is maintained by social network server 20. EX1007, ¶17. In the combined system, Burfeind's interface 2100 is accessed via this Internet website.

248. Thus, in my opinion, the Wong-Burfeind combination renders obvious claim element [1.B].

4. **[1.C.] establishing, by an event node server, an event node associated with an event in a particular geographical area, wherein the event node is discoverable to each respective user device of a first subset of a plurality of user devices by browsing a respective composite data feed;**

249. In my opinion, the combination of Wong and Burfeind teaches claim element [1.C].

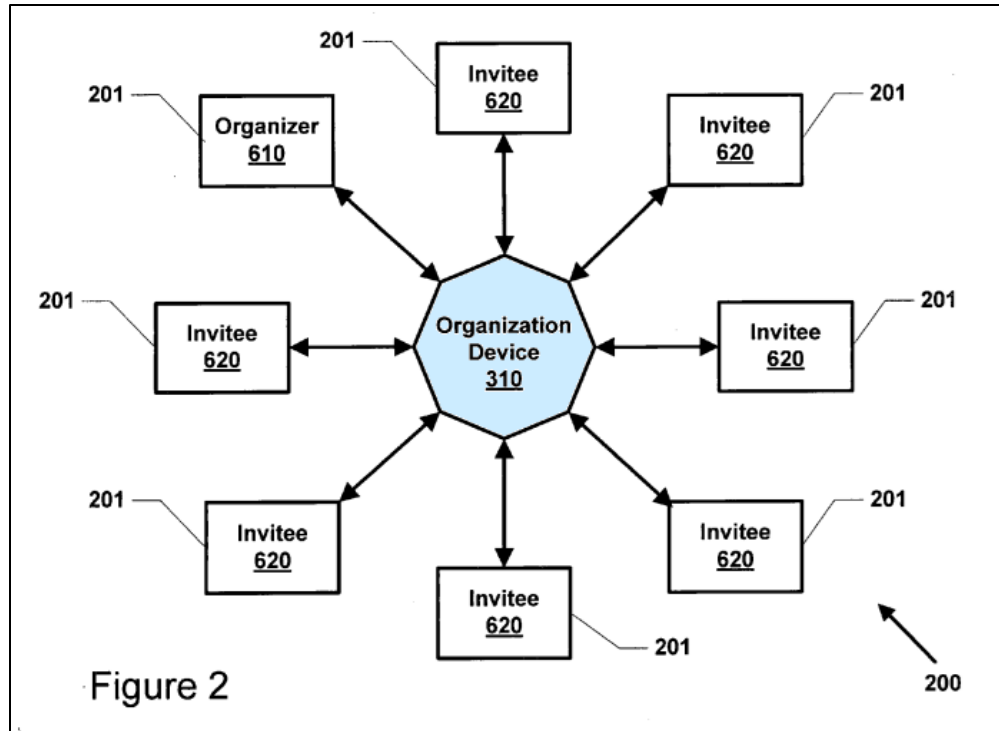
250. Burfeind's organization device 310 (*event node server*) is a "computer server" that "schedules a location-specific event" (*establish[es] an event in a particular geographical area*). EX1008, Abstract, ¶59. Burfeind discloses example events of "plundering," "apple picking," "bowling," "playoffs," and "lawn bowling." EX1008, ¶165, FIGs. 35, 44.

251. As I explain above, a POSA would have recognized that a new node

related to the event (i.e., *an event node associated with [the] event*) would be useful in Wong's social network to facilitate event-related communication in the social network. *Supra* Section XIII.A. A POSA would have understood that each node in Wong is created by and associated with a server to provide the home page, communication tools, data and files, storage space, network information, and/or editing tools associated therewith. EX1007, ¶¶17-19, 31-32.

252. For instance, Wong indicates server 20 “maintain[s] a system comprising an Internet website, database and associated data, which is accessible to users 10” and “has the hardware and software required to operate an internet-accessible social network, including web server, email server, databases, data storage and the like.” EX1007, ¶17. Wong also indicates that the creation of nodes is “carried out in a manner well known to web site programmers.” EX1007, ¶18. This is consistent with the '769 patent's teaching that “users may have their nodes hosted in a common location, e.g., on a local or remote server.” EX1001, 16:1-2.

253. Burfeind's organization device (*event node server*) “executes a number of processes at the request of the event organizer 610.” EX1008, ¶¶78, 107, 111, 114; *see also* EX1008, ¶¶146, 155, FIGs. 18, 33. Those processes may include creating and scheduling an event. EX1008, ¶¶78, 107, 111, 114. FIG. 2 of Burfeind illustrates how the organization device 310 interacts with various invitees 620.



EX1008, FIG. 2.

254. In doing so, the event organizer inputs information identifying the event—e.g., name, time, date, and location of the event, as well as individuals to be invited. EX1008, ¶¶111-114, *see also* EX1008, ¶¶147, 155-162, FIG. 18. As included below, FIG. 18 of Burfeind depicts this process:

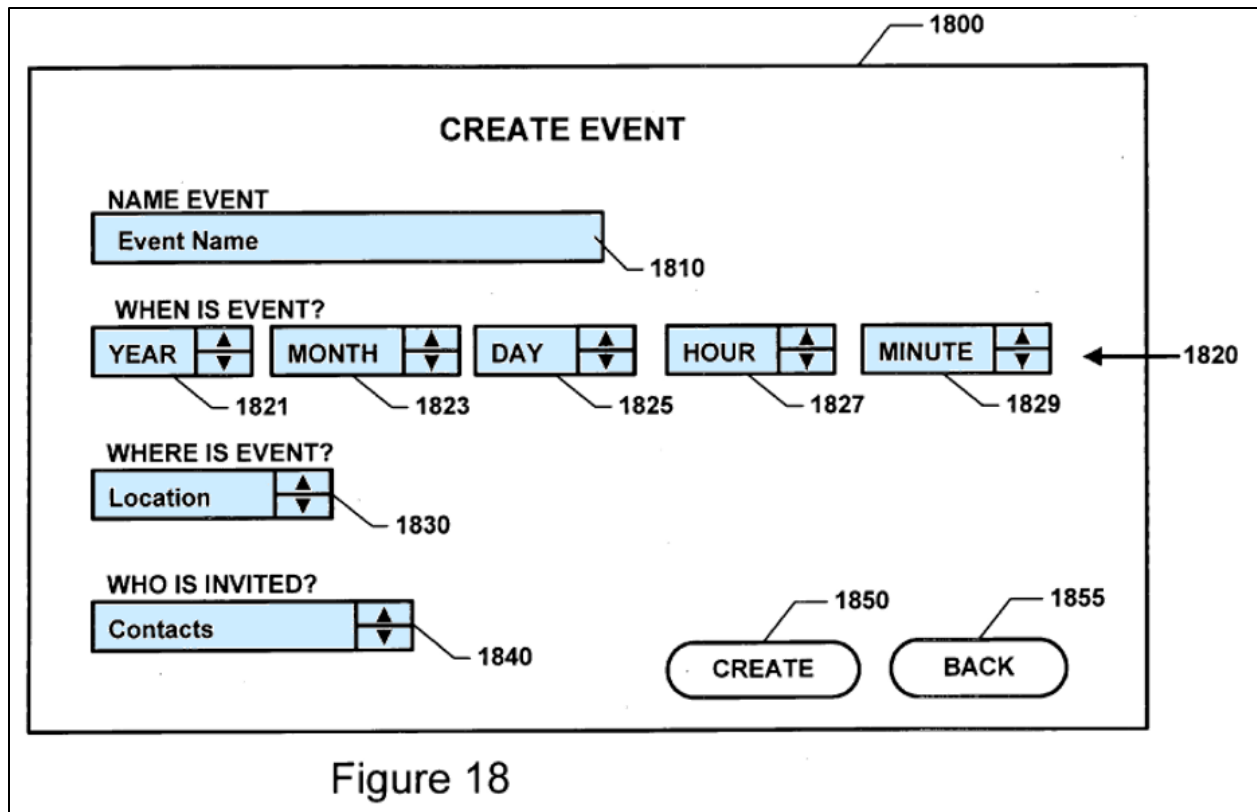


Figure 18

EX1008, FIG. 18.

255. Wong-Burfeind also teaches *the event node is discoverable to each respective user device of a first subset of a plurality of user devices by browsing a respective composite data feed*. Burfeind’s organization device transmits invitations to the user devices of the respective individuals invited to the event, for instance, as a “text message,” an “email or other type of message providing the event information to the invited contacts.” EX1008, ¶¶108, 115.

256. Invitations may be sent to “one or more groups” of the event organizer’s contacts. EX1008, ¶159, *see also* EX1008, ¶89, FIGs. 11-13. That is, Burfeind’s event organizer can associate “individual contacts” in the event organizer’s address book together “to form a group” of contacts. EX1008, ¶89,

FIGs. 11-13. “Thereafter, the event organizer can invite the members of the group without having to select and identify each individual member.” EX1008, ¶89.

257. The devices associated with these event invitees are *a first subset of a plurality of user devices*. Once a user has been invited to an event, that event is viewable in their event listing 2110 (*composite data feed*). EX1008, ¶¶120-121, FIG. 21.

258. In Burfeind, each event has a corresponding webpage, accessible via an interface tool 2117 (e.g., a hyperlink) in the event listing. EX1008, ¶121. Likewise, each of Wong’s nodes is accessible via a web page. EX1007, ¶22. Thus, in the combined system, a user (via their *user device*) can *brows[e]* their *respective* listing of events (*composite data feed*) and access (*discover[]*) the event webpage (associated with the *event node*). EX1007, ¶¶17, 28; EX1008, ¶121. Thus, each event node is *discoverable to each respective user device* as claimed.

259. Thus, in my opinion, the Wong-Burfeind combination teaches claim element [1.C].

5. **[1.D.1] joining the first subset of the plurality of user devices that have discovered the event node to the event node, wherein user devices of the first subset of the plurality of user devices are respectively associated with a first subset of user nodes of the multi-dimensional information network that are joined to a centralized architecture for the event node,**

260. In my opinion, the combination of Wong and Burfeind teaches claim element [1.D.1].

261. Wong-Burfeind teaches *joining the first subset of the plurality of user devices that have discovered the event node to the event node*. Once a user **device** ... *discover[s] the event node* (i.e., by viewing it in the user's list of events), it can access the corresponding interface tool 2117 (e.g., to a website providing the event information, EX1008, ¶108). Burfeind further teaches "an event participant can obtain additional information pertaining to an event" by "access[ing] an event database ... stored on organization device 310." EX1008, ¶132. In this way, the **user's device** is *join[ed] to the event node* because in order to access this event database, the computer terminal 14 (*user device*) must be connected (*join[ed]*) to the node. EX1007, ¶22. A POSA would have understood that this *joining* process—joining the *user device* to the *event node*—is repeated for each device of the *first subset of the plurality of user devices* (user devices associated with invitees) *that ha[s] discovered the event node*. Indeed, Burfeind indicates that these operations may be repeated for each user device 201 invited to a particular event. EX1008, ¶108.

262. Wong-Burfeind also teaches that *a first subset of user nodes of the multi-dimensional information network* [i.e., those associated with the first subset of user devices that have discovered the event node] ... *are joined ... to the event node*. As I discuss above, Wong-Burfeind teaches creating an event node and linking the event node to existing user nodes, such as "one or more contacts whom

the event organizer 610 desires to invite to the event.” EX1007, ¶¶27, 41; EX1008, ¶107. By sending/receiving an invitation, these **nodes**—i.e., the respective event/user nodes—are linked. This is evidenced by the fact that once an invitation has been sent by the organizing device and received at the user node, the event appears in the list of events viewable on the user’s device. EX1008, ¶¶120-121. The connection (being *joined*) to a *centralized architecture for the event node* is taught as I describe in the next section. *Infra* Section XIII.B.6.

263. Wong-Burfeind teaches that the *user devices of the first subset of the plurality of user devices are respectively associated with [the] first subset of user nodes* because each event invitee, which is associated with a respective node 30 (*user node*), accesses the social network via their respective computer terminal 14 (*user device*). EX1007, ¶¶17-18, FIG. 1. As I discuss above, a POSA would have understood that a user, a user device, and a user node are all interrelated *supra* Section VII.B, ¶53.

264. Thus, in my opinion, the Wong-Burfeind combination teaches claim element [1.D.1].

6. **[1.D.2] wherein the event node is configured as a central node in the centralized architecture for accessing information associated with the event from a location in the multi-dimensional information network;**

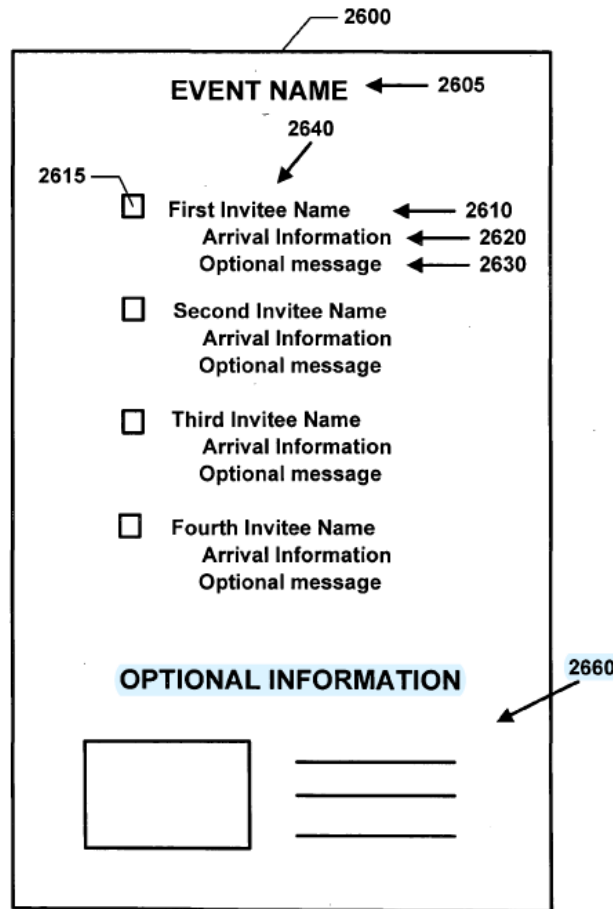
265. In my opinion, the combination of Wong and Burfeind teaches claim element [1.D.2].

266. The '769 patent describes that “in a centralized architecture embodiment, user devices 402 in the SitNet 3012 corresponding to users 250 are connected using centralized connections 3013 to a situation authority server 3011 associated with a situation authority 207.” EX1001, 6:61-65. Further, “[t]he situation authority 207 may distribute the information as received from the users 250 via the centralized connections 3013 between the situation authority server 3011 and the user devices 402 or perform a verification of the information before distributing the information to the users 250 of the SitNet 3012 through the centralized connections 3013.” EX1001, 6:66-7:9.

267. As I discuss above, Burfeind’s event organizer utilizes an organizing device to create an *event node* in Wong’s social network. *Supra* Sections XIII.A, XIII.B.4. In the combined system, *the event node is configured as a central node in the centralized architecture for accessing information associated with the event.* Like the “centralized architecture” disclosed in the '769 patent (*see* EX1001, 6:61-7:9, FIG. 43), Burfeind teaches users “communicate with one another through the organizing device.” EX1008, ¶56; *see also* EX1008, FIG. 2, Section XIII.B.5. Thus, in the combination, the user nodes (and therefore also the associated user devices through their link to the user nodes) are connected (*joined*) to a *centralized architecture for the event node*. Further, the organizing device “can also provide to event participants (*[is configured for accessing]*) ... information pertaining to the

event” (*information associated with the event*). EX1008, ¶131. For example, Burfeind’s “event status interface 2600 includes additional information 2660 pertaining to the event,” depicted below. EX1008, ¶139, FIG. 26.

Figure 26



EX1008, FIG. 26.

268. Further, the Wong-Burfeind combination teaches the *information associated with the event [is accessed] from a location in the multi-dimensional information network* because the *information* is stored in “one or more databases

on the organization device” (*event node server*). In the combined system, the *event node* (and therefore the *event node server*) is a part of Wong’s social network 24 (the claimed *multi-dimensional information network*). EX1008, ¶132.

269. Thus, in my opinion, the Wong-Burfeind combination teaches claim element [1.D.1].

7. **[1.E] creating, by the networking server, based on the database of the plurality of user nodes and multi-dimensional node-to-node links, a projection of the plurality of user nodes, wherein the projection represents a second subset of user devices, wherein the second subset of user devices is selected based on respective distances of devices of the second subset of user devices from the event;**

270. In my opinion, the combination of Wong, Burfeind, and Crowley teaches claim element [1.E].

271. The ’769 patent depicts an example of what is meant by “a geographic projection of nodes” in Figure 30. EX1001, 3:26-27, 23:8-18.

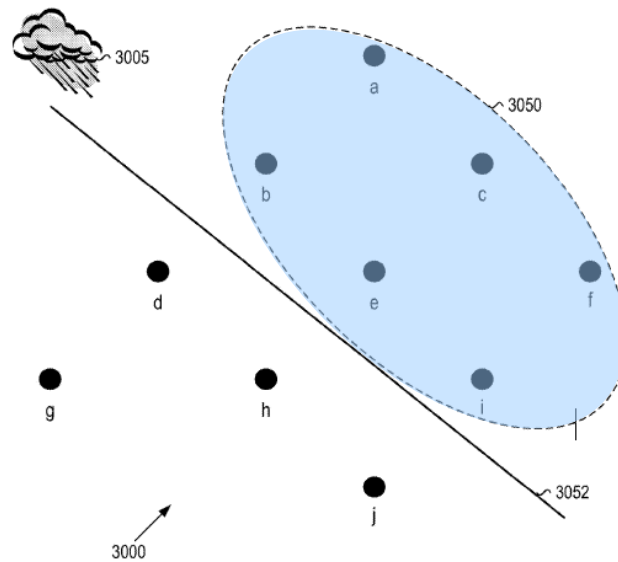


Fig. 30

EX1001, FIG. 30.

272. Consistent with this example, Wong teaches *creating, by the networking server, based on the database of the plurality of user nodes and multi-dimensional node-to-node links, a projection of the plurality of user nodes*. In Wong, the information defining Wong’s network is stored in the *database*. EX1007, ¶36; *see* [1.A]. Wong’s “network ... 24 can be viewed in many ways, such as graphically as a set of nodes 30 connected by their associated linkages 32, or as a list.” EX1007, ¶35. Wong also indicates that “[t]he network ... can be presented graphically by setting a single node as the root of the network ... and

displaying a set number of linkages 32 radiating from the root node.” EX1007,

¶35. In other words, Wong teaches that different parts of the network can be viewed by selecting different nodes as the root of the graphical view (*projection*). EX1007, ¶35. This is consistent with the ’769 patent’s description of “a ‘projected’ view” as “a subset of the nodes” of the NDSN. EX1001, 17:4-5; *see also* EX1001, 22:52-55 (indicating that “a ‘projected’ view” is “also referred to as a projection”).

273. Wong-Burfeind-Crowley also teaches *the projection represents a second subset of user devices that is selected based on respective distances of devices of the second subset of user devices from the event*, as recited in claim element [1.E]. Burfeind’s event organizer can “modify the event.” For example, Burfeind’s event organizer can “add ... invitees” (*a second subset of user devices*). EX1008, ¶¶123, 127-128, 166. And Crowley teaches inviting users to the event based both on their relationship to a first user (corresponding to Burfeind’s event organizer) and on their geographic proximity (*selected based on respective distances of devices of the second subset of user devices from the event*). EX1009, ¶¶45, 64.

274. For instance, Burfeind tracks user locations to determine “arrival information” for the users. EX1008, ¶¶136, 143-145, 169-171, FIG. 36. “Arrival information” includes “GPS coordinates and an estimated time of arrival,” as well as “distance the invitee [] is from the event location.” EX1008, ¶¶136, 138, *see*

also ¶131. Thus, Burfeind determines users' proximity to the event location, but does not explicitly teach that those users are invited to the event based on their proximity thereto. Crowley provides that missing teaching. For example, Crowley discloses an example where a user "TJ" is "located at a bar called the Luna Lounge," where the system "identif[ies] which of [TJ's] acquaintances is . . . near the Luna Lounge," and where the system then "send[s] each of the acquaintances messages" inviting them to meet TJ at the Luna Lounge. EX1009, ¶45, *see also* ¶78. Crowley's system also contemplates visual representation of various user devices by disclosing "graphical maps that show the location of a user relative to his or her friends" may be created. EX1009, ¶54.

275. As I discuss above, a POSA would have been motivated to implement Crowley's location-based invitations into the Wong-Burfeind combination. *See* Section XIII.A. Burfeind tracks user locations, such as a "distance the invitee [] is from the event location." EX1008, ¶¶136, 138, *see also* ¶131, 143-145, 169-171, FIG. 36. Thus, Burfeind determines users' proximity to the event location, but does not explicitly disclose that those users are invited to the event based on their proximity. Crowley provides that explicit disclosure and, as I discuss above, a POSA would have had a reasonable expectation of success in implementing Crowley's teachings into Wong-Burfeind.

276. Thus, in my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.D.2].

8. **[1.F] transmitting, by the networking server, respective requests to connect to the event node to the second subset of user devices, wherein the respective requests to connect are in forms of roll calls;**

277. In my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.F].

278. Crowley teaches automatically sending (*transmitting*) invitations (*respective requests to connect to the event node*) to a group of contacts (i.e., users associated with *the second subset of user devices*) that are geographically proximate to the event location. See EX1009, ¶45, *see also* ¶78. As I explain above, in the combination, once an invitation has been sent by the organizing device to the user node, the event appears in the user's list of events viewable to the user's device. EX1008, ¶¶120-121; *see supra* Section XIII.B.5. Once viewable in the list of events, the *second subset of user devices* is able to *connect to the event node*. See *supra* Section XIII.B.5 (discussing joining devices to the event node). A POSA would have understood that, in the Wong-Burfeind-Crowley combination, the communications between nodes, including *transmitting* the invitations, are implemented by the social network server (*by the networking server*) because the communications are facilitated by the social network features of Wong's system. For instance, Wong describes users may use devices "capable of communicating

over a network” through the social network server 20. EX1007, ¶17.

Communications between nodes corresponding to those particular devices can be “facilitated by the social networking features of the network of living and non-living entities, such as using certain communication tools.” EX1007, ¶44. Thus, Burfeind’s invitations are transmitted from an event node by the social network server 20 of Wong.

279. The combination further teaches *the respective requests to connect are in forms of roll calls*. Burfeind teaches that upon receiving an invitation from the organization device, invitees provide “a response to the invitation” by transmitting their respective participation statuses to the organization device. EX1008, ¶119, *see also* ¶¶52, 117, 133. For instance, the participants “transmit[] a ‘Y’ if the invitee [] plans to attend the event and an ‘N’ if the invitee [] plans to not attend.” EX1008, ¶117; *see also* ¶¶117-119, 138 (“the displayed information includes a participation status of the invitee”). The invitations (*respective requests to connect*), thus, prompt the users to respond with their participation statuses so that the system can “track[] the participation status of each invitee,” and are therefore *roll calls*. EX1008, ¶52. This is consistent with the disclosure of “roll calls” in the ’769 patent, in which a user is presented with an unsolicited message and an option to respond. EX1001, 27:20-46.

280. Thus, in my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.F].

9. [1.G] recording respective responses to the respective requests to connect;

281. In my opinion, Burfeind teaches claim element [1.G].

282. Burfeind teaches that, in response to the invitation (*respective requests to connect*), invitees transmit, e.g., a “Y” or “N” indicating their participation status. EX1008, ¶117. The participation status of each invitee (*respective responses*) is saved (*record[ed]*) “for future reference,” for example, in a database in the organization device. EX1008, ¶119. As I describe above, information representing the nodes is stored on the social network server. EX1007, ¶¶17-19. Thus, a respective response from an invitee may be stored on Wong’s social network server 20.

283. Thus, in my opinion, Burfeind teaches claim element [1.G].

10. [1.H.1] making a subset of the respective responses viewable, via the event node, to a first device, associated with a first node, that is connected to the event node,

284. In my opinion, the Wong-Burfeind combination teaches claim element [1.H.1].

285. The participation statuses (*subset of respective responses*) are then displayed in the event status interface 2600 (*making ... the[m] viewable*) to the event organizer’s user device (*first device*). EX1008, ¶¶54, 56-57, 131, 134, 137-

139. For example, the event status interface is accessible to event participants, including event organizer 610, and uninvited individuals. EX1008, ¶139. A *subset* of responses can include *all* responses. *See* EX1028 (describing a “subset” may be defined as “a set consisting of elements of a given set that can be the same as the given set or smaller.”). Because the participation statuses are stored in a database in the organization device (*event node server*), it is the *event node* that provides the information to the event status interface.

286. The event organizer’s user device (*a first device*) is *associated with* a user node corresponding to the event organizer (*first node*) in Wong’s social network. As I discuss above, a POSA would have understood that a user, a user device, and a user node are all interrelated. Section VII.B, ¶53. Thus, a POSA would have understood the event organizer’s device (*first device*) is *connected to the event node* because the event organizer creates and modifies the event via the device. EX1008, ¶54, FIG. 2.

287. Thus, in my opinion, the Wong-Burfeind combination teaches claim element [1.H.1].

11. **[1.H.2] wherein each response of the subset was received from a device associated with a node having a single degree of separation from the first node in the database of the plurality of user nodes and multi-dimensional node-to-node links;**

288. In my opinion, the Wong-Burfeind-Crowley combination teaches

claim element [1.H.2].

289. In the combination, each participation status (*each response of the subset*) is *received from* a corresponding user device (*device*) that is associated with a user that is in turn *associated with a node*. As I explain above, the *second subset of users* (to whom the *roll calls* are *transmit[ed]*, per element [1.F], and from whom *respective responses* are *record[ed]*, per element [1.G]), are selected from Burfeind's event organizer's contacts, further based on their proximity as taught by Crowley. *See* Section XIII.B.7.

290. Burfeind also teaches, or at least suggests, that the responses are *received from a device associated with a node having a single degree of separation from the first node in the database of the plurality of user nodes and multi-dimensional node-to-node links*. A POSA would have understood, or at least found it obvious, that the event organizer's contacts are users *having a single degree of separation* from the event organizer, as shown in Burfeind's Figure 2. This is further confirmed by Crowley, in which users to whom messages (or invitations) are sent are identified based on *both* their relationship to a first user (corresponding to Burfeind's event organizer) and geographic proximity to the first user. EX1009, ¶64. Crowley specifically identifies sending messages to "friends," which a POSA would have understood to mean a single degree of separation. EX1009, ¶¶11, 39.

291. This is consistent with the teachings of the '769 patent. For instance,

“[a] node of the NDSN 100 is connected to another node by one or more degrees of separation” and “[a] connection from one node directly to another node is considered to be of first-degree separation; a connection that goes indirectly through one other node is of second-degree separation; a connection that goes indirectly through two other nodes is of third-degree separation, and so on.”

EX1001, 16:55-61. Crowley teaches that “[e]ach of the members could have a variety of relationships to each other” such as “friends and friends-of-friends.”

EX1009, ¶¶32, 38. Additionally, Crowley’s system “may be extended using well-known social networking approaches to allow for communications, not only with direct friends, but with friends of friends and other further relations.” EX1009, ¶6.

Therefore, a POSA would have understood that Crowley’s system, which may be extended using well-known social networking approaches—such as node creation and utilization, *see generally* EX1019—would define a connection between friends as a single degree of separation and a connection between friends-of-friends as a multi-degree of separation.

292. Finally, even if users having more than a single degree of separation are invited to the event and all of the responses are displayed (i.e., even responses not included in the subset), in my opinion, nothing in the claim prevents that from

being the case.³ In other words, the claim does not require that *only* the subset of responses be made viewable and is met as long as at least one response satisfies the limitation.

293. Thus, in my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.H.2].

12. [1.I] analyzing (a) the database of the plurality of user nodes and multi-dimensional node-to-node links, and (b) data of user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event node to identify at least one second node included in the database of the plurality of user nodes and multi-dimensional node-to-node links that is: (a) not connected to the event node, and (b) connected via at least one dimension to at least one user node of the multi-dimensional information network that is joined to the centralized architecture for the event node; and

294. In my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.I].

295. Burfeind teaches forwarding invitations to uninvited friends. EX1008, ¶184 (indicating “an event forwarding feature that enables an invitee to invite additional people to an event.”). Crowley suggests “using well-known social networking approaches to allow for communications, not only with direct friends,

³ As I discuss above, I understand that the use of “comprising” in the claims is open-ended.

but with friends of friends and other further relations.” EX1009, ¶6. Based on these teachings, a POSA would have been motivated to use Wong’s social networking functionality to *identify* additional potential invitees (users associated with *at least one second node*), i.e., users in the social network that are friends with/connected to current invitees (*(b) connected via at least one dimension to at least one user node of the multi-dimensional information network that is joined to the centralized architecture for the event node*) but not already invited to the event (*(a) not connected to the event node*). For example, in the context of the Wong-Burfeind-Crowley combination, a potential invitee is not connected to the event node because they have not yet been invited by the organizer or another invitee and have not yet been logically linked to the event node (i.e., the event does not appear in the potential invitee’s event listing). Moreover, a potential invitee may be connected to at least one user connected to the event node (i.e., an invitee) because they are friends (or friends-of-friends) with the invitee that is already connected to the event node and who may want to forward the invitation to the potential invitee (i.e., their friend). This is congruent with the teachings of the ’769 patent. *E.g.*, EX1001, 16:55-65.

296. As I discuss above, Wong teaches the network can be viewed “graphically as a set of nodes 30 connected by their associated linkages 32.” EX1007, ¶35. A POSA would have understood that such a graphical view would

be created by *analyzing (a) the database of the plurality of user nodes and multi-dimensional node-to-node links, and (b) data of user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event node*. Indeed, Wong indicates that “[t]he network ... can be presented graphically by setting a single node as the root of the network ... and displaying a set number of linkages 32 radiating from the root node.” EX1007, ¶35. Wong also teaches that different parts of the network can be viewed by selecting different nodes as the root of the graphical view (*projection*). EX1007, ¶35. To create the graphical view, a POSA would leverage Wong’s social network server 20 as well as the “database and associated data” included therein as the basis of that analysis. A POSA naturally would have chosen the *event node* as a starting point from which to identify additional users to invite to the event. Indeed, Burfeind describes that search operations search indexes stored on the organization device 310 to discover information relating to the user devices 210 of the invitees. *See* EX1008, ¶¶182-183, FIGs. 2, 38. In this way, Wong’s graphical view could be used to identify the potential invitees.

297. Thus, in my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.I].

- 13. [1.J] delivering information to the at least one second node, wherein the information was received from an information node configured to store and provide supplemental information via the multi-dimensional information network.**

298. In my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.J].

299. In the combination, once the additional potential invitees (users associated with *the at least one second node*) are identified, it would have been obvious to send invitations to these invitees. EX1008, ¶¶184-185, FIG. 39; EX1009, ¶¶6, 46. Indeed, the sending invitations would facilitate the communicative goals of Wong, Burfeind, and Crowley. *E.g.*, EX1007, ¶44 (“The social networking features of the network of living and non-living entities facilitate many forms of communication, such as notification of updates, alerts, sharing of files and photos, blogs, instant messaging and comments.”); EX1008, ¶52 (“[T]he organization device can communicate with a portable, location-aware electronic device of one or more of the invitees.”); EX1009, ¶38 (describing “providing communication among acquaintances” which may include “friends and friends-of-friends”). Once invited to the event, the additional invitees have access to the event status interface, which provides (*deliver[s]*) additional information pertaining to the event (*supplemental information*)—including pictures, movies, maps—to the invitees (users associated with *the at least one second node*). EX1008, ¶¶139, 172, 196.

300. Wong teaches its network (*the multi-dimensional information network*) facilitates communication between nodes, including the “sharing of information, contributing information, and storage of information.” EX1007, claim 7; *also* ¶44 (describing, e.g., the sharing of data between nodes). A POSA would have been motivated to include an additional node (*information node*) in the network to store and provide the *supplemental information*. For instance, Burfeind describes providing such additional information to invitees invited to join an event. *See* EX1008, ¶¶58, 139.

301. Thus, in my opinion, the Wong-Burfeind-Crowley combination teaches claim element [1.J].

C. Independent Claim 11

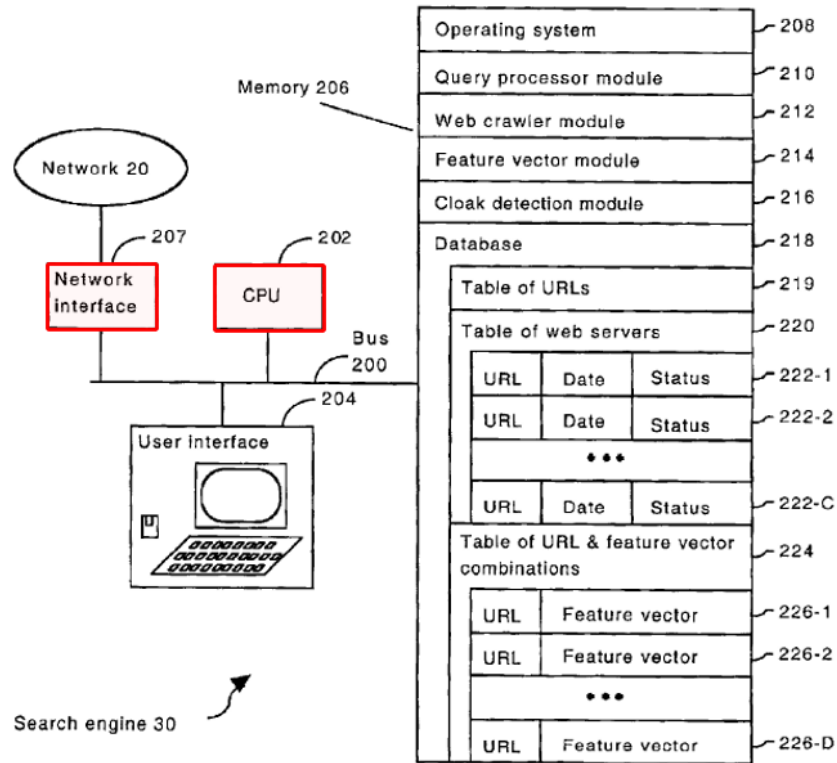
302. Claim 11 recites elements that are substantially the same as claim 1. Thus, in my opinion, claim 11 is rendered obvious by the Wong-Burfeind-Crowley combination for the same reasons as claim 1.

303. In my opinion, the Wong-Burfeind-Crowley combination renders obvious the additional generic server components (*memory, network controller, central processing unit*) recited in claim 11. For instance, Wong’s “[s]erver 20 has the hardware and software required to operate an internet-accessible social network, including web server, email server, databases, data storage and the like.” EX1007, ¶17, *also* ¶16 (“well known elements may not have been shown or

described in detail”). Burfeind also includes teachings of “example hardware and operating environments.” EX1008, ¶¶58-77, FIGs. 4-6. Crowley also includes descriptions of a network system for facilitating event communications. *E.g.*, EX1009, ¶¶19, 68. A POSA would have recognized that Wong’s database is stored in “data storage” (*memory*) of social network server 20 (the claimed *networking server*). EX1007, ¶17. Indeed, Wong describes that its server 20 “maintain[s] a system comprising ... [a] database and associated data.” EX1007, ¶17. A POSA would have further recognized *network controller(s)* of server 20 are *configured to* perform the *provide*, *transmit*, and *deliver* limitations because Wong’s server 20 communicates with user terminals 14 over via a network, such as the Internet. EX1007, ¶17, FIG. 1. Finally, a POSA would have recognized that *one or more central processing units* of server 20 are *coupled to the one or more networking controllers* (to send/receive communications) and *are configured to* perform the remaining limitations of claim 11 because a CPU is a conventional component that executes instructions to perform server functions. The ’769 patent only describes its particular server components generally. EX1001, 15:34-51, 15:59-67 (indicating that the NDSN “may be implemented using a wide variety of available hardware and technologies generally known in the art” and “the nodes of the NDSN 100 may be interconnected and may communicate with each other using a wide variety of available hardware and technologies generally known in the art.”); *supra* Section

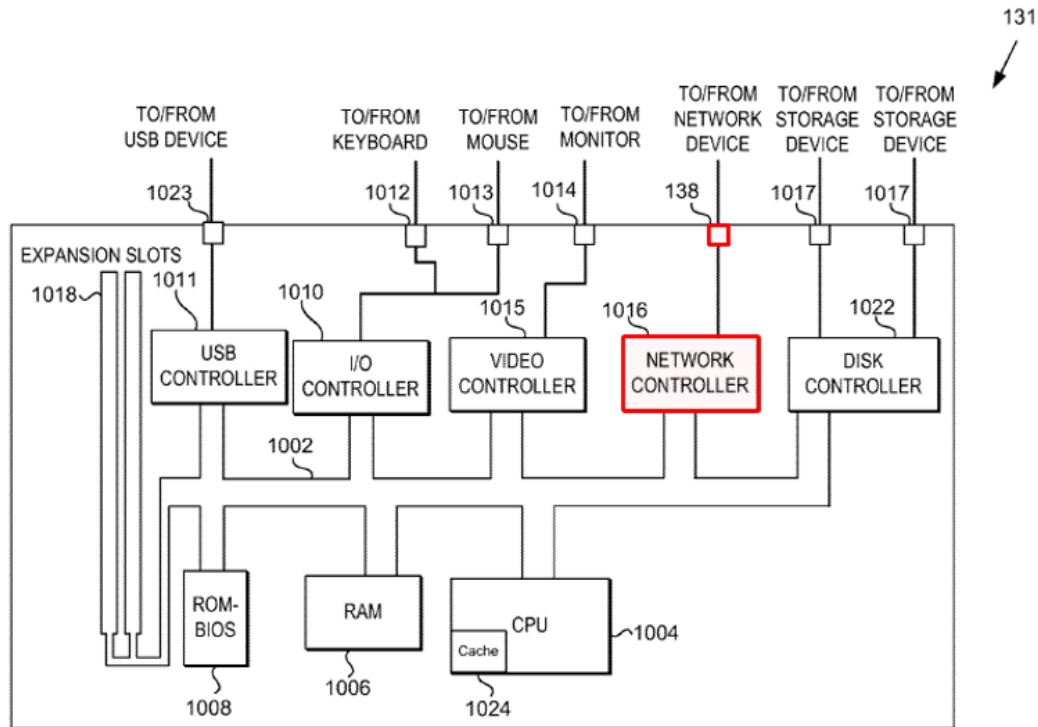
VI.

304. Indeed, it was well known at the time of the '769 patent that servers included processors and network interfaces. For example, in 2006, Wu described that a “server,” as it existed in the prior art, “can be a powerful personal computer (PC)” having “a central processing unit (CPU)” and “a memory unit” configured to “perform high-speed logic operation and signal processing.” EX1034, ¶4; *also* ¶11 (“The multifunction server includes a central processing unit (CPU) and a memory unit.”). Wu further described servers “connect[ed] to the Internet” and various host devices via a standard “network interface.” *Id.*, ¶¶11, 21. Similarly, in 2005, Najork described “a search engine 30 includ[ing] **standard server components** such as **one or more processing units 202**, an optional user interface 204 (e.g., keyboard, mouse, and a display), memory 206, [and] **a network interface 207 for coupling the search engine 30 to clients 40 and web servers 50 via communications network 20.**” EX1035, 3:59-64 (emphasis added).



EX1035, FIG. 2 (annotated).

305. A POSA would have understood that Kraft's world server 160 would similarly include "standard server components" such as a central processing unit and network interface to operate and receive/transmit data over the network. EX1035, 3:59-64. Moreover, a POSA would have understood that the '769 patent's description of a "network controller" (only mentioned once in the specification) aligns with the general understanding of a network interface that would be present on an Internet-connected server. For example, the '769 patent describes "network controller 116" as residing within the "server," as illustrated in Figure 23, which is connected "to the network port 138."



EX1001, FIG. 23 (annotated).

306. A POSA would, therefore, have understood the “*network controller*” to function similar to a standard network interface present on standard servers at the time of the ’769 patent. Accordingly, it is my opinion that the additional elements of independent claim 11 would have been obvious in view of Wong, Burfeind, and Crowley’s teachings.

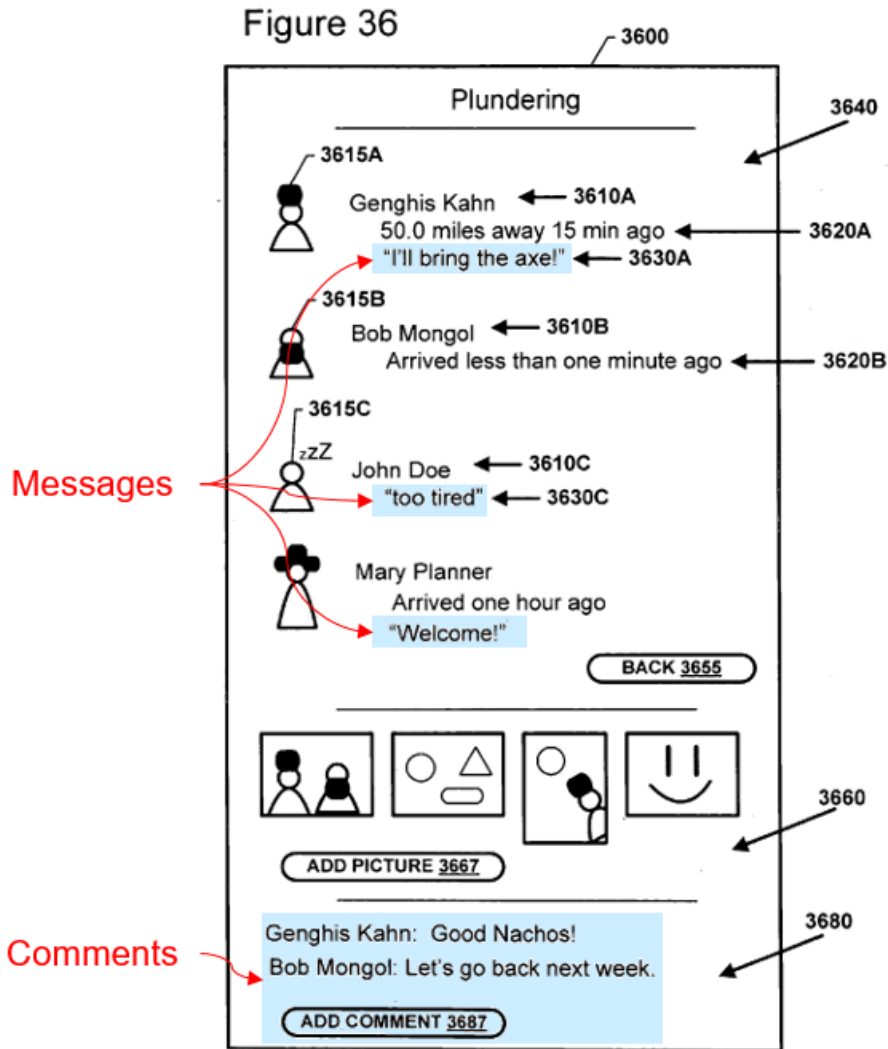
307. Thus, in my opinion, the Wong-Burfeind-Crowley combination renders obvious claim 11.

D. Claims 2 and 12.

308. In my opinion, the Wong-Burfeind combination teaches *[t]he method of claim 1, wherein user devices connected to the event node are enabled to*

communicate via a message board available by way of the event node, as recited in claim 2, and similarly recited in claim 12.

309. Burfeind's organization device (*event node server* hosting the *event node*) provides an "event status interface" (*a message board*) available to event participants (*user devices connected to the event node*) and uninvited individuals. EX1008, ¶¶131, 137, 139. As seen in Figure 36, event status interface 3600 *enable[s] ... communicat[ion]* by facilitating "an optional message for each invitee[]." EX1008, ¶¶139, 169-170, 174. The event status interface also includes a section in which "participants can post a comment [] pertaining to the event." EX1008, ¶¶139, 169-170, 174. Figure 36 of Burfeind is depicted below:



EX1008, FIG. 36 (annotated).

310. This is consistent with the '769 patent, which similarly describes users "can access certain information made available by the situation authority via the message board, and post comments viewable by the participants of the situational network." EX1001, 27:56-59.

311. Thus, in my opinion, the Wong-Burfeind combination teaches claims 2 and 12.

E. Claims 3 and 13.

312. In my opinion, the Wong-Burfeind-Crowley combination teaches *[t]he method of claim 1, wherein identifying the at least one second node comprises identifying nodes associated with user data that indicate an association with the particular geographical area of the event, as recited in claim 3, and similarly recited in claim 13.*

313. As I discuss in [1.I], the *at least one second node* corresponds to additional potential invitees that, in Wong’s social network, are friends with/connected to current invitees. Wong’s *user data* includes “address” information (*user data that indicate[s] an association with [a] particular geographical area*). EX1007, ¶18, also ¶24 (describing linkages with places). Crowley teaches inviting users to the event based on *both* their relationship to other users and their proximity to the event. EX1009, ¶¶45, 64; Section XIII.B.7. Crowley also describes “graphical maps that show the location of a user relative to his or her friends.” EX1009, ¶54. Based on these teachings, it would have been obvious to identify additional potential invitees as users whose address information *indicate[s]* they live near an event (*the particular geographical area of the event*). Doing so would allow Wong’s system to better “identify individual persons or organizations of persons with potentially-active nodes within the same network of living and non-living entities and send an invitation to the individual person or

organization of persons.” EX1007, ¶42. Because the combination also teaches the generic networking components used by the ’769 patent for implementation, it also teaches that the *central processing units are configured* to perform these features, as recited in claim 13.

314. Accordingly, Wong-Burfeind-Crowley teaches claims 3 and 13.

F. Claims 4 and 14.

315. In my opinion, the Wong-Burfeind combination renders obvious *[t]he method of claim 1, further comprising updating user data associated with user nodes of the multi-dimensional information network that are joined to the centralized architecture for the event node based on joining the centralized architecture for the event node*, as recited in claim 4, and similarly recited in claim 14.

316. As I discuss above, Wong-Burfeind teaches joining user nodes to the centralized architecture for the event node by sending invitations to one or more contacts of the event organizer. Sections XIII.B.5-6. Wong also discloses “adding or modifying a series of linkages [] between the existing nodes in the network.” EX1007, ¶¶36, 40. The linkage data pertaining to the network is stored in a database. EX1007, ¶¶36, 40. This linkage data is *user data associated with user nodes*, because it represents the relationship(s) between the user node and other nodes to which it linked (e.g., “mother/daughter”, “owner/pet”). EX1007, ¶¶19, 23-

24, FIG. 4. A POSA would have understood that when the user node is joined to the event node (*based on joining the centralized architecture for the event node*), the linkage data between the user node and the event node is updated (*updating user data associated with user nodes of the multi-dimensional information network that are joined*). In particular, in the combination, the data is updated to reflect the event/invitee relationship between the event node and the user nodes joined thereto. Indeed, Wong indicates that “there are many other types of relationships which can be documented between individuals, and ... between individuals and objects and other entities around them,” which would contemplate this functionality. *See, e.g.,* EX1007, ¶2. Because the combination also teaches the generic networking components used by the ’769 patent for implementation, it also teaches the *central processing units are further configured* to perform these features, as recited in claim 14.

317. Accordingly, Wong-Burfeind renders obvious claims 4 and 14.

G. Claims 5 and 15.

318. In my opinion, Wong-Burfeind renders obvious *[t]he method of claim 4, further comprising delivering additional information to at least one device based on the updated user data*, as recited in claim 5, and similarly recited in claim 15.

319. As I discuss in Section XIII.F, when a user node joins the event node,

the user data is updated to reflect the user's relationship as an invitee to the event.

Burfeind's organizing device "provide[s] to event participants (*[deliver[s] ... based on the updated user data]*) ... information pertaining to the event;" and event status interface 3660 includes a "second section 3660 in which pictures, movies, and other such media files can be displayed." EX1008, ¶¶131, 172. This "second section" includes, e.g., a picture of the building where the event will be held or a map of the location (*additional information*). EX1008, ¶¶131, 172. For instance, Burfeind describes providing such additional information to invitees upon being invited to join an event. *See* EX1008, ¶¶58, 139. Because the combination also teaches the generic networking components used by the '769 patent for implementation, it also teaches the *network controllers are configured* to perform these features, as recited in claim 15.

320. Accordingly, Wong-Burfeind renders obvious claims 5 and 15.

H. Claims 6 and 16.

321. In my opinion, Wong-Burfeind-Crowley renders obvious *[t]he method of claim 1, wherein the projection represents the second subset of user devices determined to be geographically proximate to the event*, as recited in claim 6, and similarly recited in claim 16.

322. For the same reasons I discuss for [1.E], Wong-Burfeind-Crowley teaches *the projection represents the second subset of user devices determined to*

be geographically proximate to the event. See XIV.E.7. In particular, Crowley teaches identifying user devices that “are nearby” (geographically proximate to the event). See EX1009, ¶64, see also ¶¶45, 78 (selecting “all other users in a particular proximity (whether geographic and/or time frame)”). Crowley also describes “graphical maps that show the location of a user relative to his or her friends.” EX1009, ¶54.

323. Accordingly, Wong-Burfeind-Crowley renders obvious claims 6 and 16.

I. Claims 7 and 17.

324. In my opinion, Wong-Burfeind-Crowley teaches, or at least renders obvious, *[t]he method of claim 6, wherein a particular user device is determined to be geographically proximate to the event based on the user device and the event occurring in the same town*, as recited in claim 7, and similarly recited in claim 17.

325. Crowley’s system can determine a user’s location using “a GPS feature associated with the device.” EX1009, ¶59. Crowley teaches identifying groups of users “according to geographic location” (*a particular device is determined to be geographically proximate*) such as “bounded by a downtown area” (*in the same town as the event*). EX1009, ¶¶99-100. Indeed, Crowley indicates that distances between devices can be computed “by known methods to identify which users are proximate to each other” and use parameters that define a

distance between parameters. EX1009, ¶74. “[T]he distance may be a predetermined distance (e.g., ten blocks) or may vary based on location (e.g., closer for areas, like a downtown, where people can expect to walk from venue to venue).” EX1009, ¶74. Thus, a POSA would have understood that the specific location functionality described in Crowley would include *the same town as the event*. Because the combination also teaches the generic networking components used by the ’769 patent for implementation, it also teaches the *central processing units are further configured* to perform these features, as recited in claim 17.

326. Accordingly, Wong-Burfeind-Crowley teaches, or at least renders obvious, claims 7 and 17.

J. Claims 8 and 18.

327. In my opinion, *[t]he method of claim 6, wherein a particular user device is determined to be geographically proximate to the event based on GPS data of the particular user device*, as recited in claim 8, and similarly recited in claim 18.

328. Crowley teaches determining a user’s location using “a GPS feature associated with the device.” EX1009, ¶59. A POSA would have understood the GPS data of a particular device can be used to determine a “geographic location” such as one “bounded by a downtown area,” as described with respect to claims 7 and 17. EX1009, ¶100; Section XIII.I. Because the combination also teaches the

generic networking components used by the '769 patent for implementation, it also teaches the *central processing units are further configured* to perform these features, as recited in claim 18.

329. Accordingly, Wong-Burfeind-Crowley renders obvious claims 8 and 18.

K. Claims 9 and 19.

330. In my opinion, Wong teaches *[t]he method of claim 1, wherein the single degree of separation is indicative of a friend relationship*, as recited in claim 9, and similarly recited in claim 19.

331. As described above, the '769 patent describes degrees of separation as “[a] connection from one node directly to another node is considered to be of first-degree separation; a connection that goes indirectly through one other node is of second-degree separation; a connection that goes indirectly through two other nodes is of third-degree separation, and so on.” EX1001, 16:56-61. Wong teaches that the linkage (*relationship*) of a person node to another person node can be “best friend.” EX1007, ¶24. Additionally, Wong indicates that “two person nodes can be linked with the linkage types ... friend/friend.” EX1007, ¶25. Crowley also teaches this element, indicating that “labels applied for certain relationships—e.g., acquaintance, friend, friend-of-a-friend, and crush—are not intended to require any sort of societal relationship.” EX1009, ¶39. For instance, Crowley describes

“member TJ 42 may choose to have a **direct relationship** with member Tony 44, and thereby make himself a friend of member Tony 44, even though the two might simply be called ‘colleagues’ in a social setting.” EX1009, ¶39 (emphasis added). Crowley also describes “[f]riends may be identified by a simple table look-up, while friends-of-friends can be identified with a database query.” EX1009, ¶61

332. Thus, in my opinion, Wong teaches claims 9 and 19.

L. Claims 10 and 20.

333. In my opinion, Wong teaches *[t]he method of claim 1, wherein the single degree of separation is indicative of a family relationship*, as recited in claim 10, and similarly recited in claim 20.

334. As described above, the ’769 patent describes degrees of separation as “[a] connection from one node directly to another node is considered to be of first-degree separation; a connection that goes indirectly through one other node is of second-degree separation; a connection that goes indirectly through two other nodes is of third-degree separation, and so on.” EX1001, 16:56-61. Wong teaches that the linkage (*relationship*) of a person node to another person node can be “mother/daughter” (*family*). EX1007, ¶24.

335. Thus, in my opinion, Wong teaches claims 10 and 20.

M. Independent Claims 21 and 26

336. In my opinion, the Wong-Burfeind-Crowley combination renders

obvious claims 21 and 26. With the exception of differences noted below, these claims set forth elements substantially the same as claims 1 and 11, which are rendered obvious for the reasons I discuss in Sections XIII.B-C.

337. In my opinion, claim elements [21.I] and [26.I] are substantially the same as [1.I], other than reciting the claimed *analyzing ... to identify at least one second node is based at [sic] on user data associated with the at least one second node and the second node is connected via at least one dimension of the multi-dimensional information network to the event node*. Wong-Burfeind-Crowley teaches this. As I explain above, event invitees (*at least one second node*) are *connected ... to the event node*. See Section XIII.B.5. A POSA would have understood this connection to be *via at least one dimension*, because that is how connections in *multi-dimensional information network* work. See, e.g., EX1019. Thus, the Wong-Burfeind-Crowley combination teaches the interplay between a user, user device, and node claimed in the '769 patent.

338. Further, the Wong-Burfeind-Crowley combination teaches the *at least one second node is identif[ied] ... based at [sic] on user data associated with the at least one second node*. Burfeind teaches “provid[ing] targeted advertisements to event participants,” which includes event invitees. EX1008, ¶¶54, 181-183. Crowley teaches tailoring “advertising targeted to the particular users.” EX1009, ¶98. For example, advertisers *identify* relevant users (users associated with the *at*

least one second node) by “select[ing] criteria ... that match” (*based on*) a “demographic/ psychographic profile” (*user data associated with the at least one second node*). EX1009, ¶111. For example, Crowley describes “users may identify themselves with a particular (e.g., favorite) brand ... and thereby receive advertising and messages from the brand.” EX1009, ¶101. Thus, the Wong-Burfeind-Crowley combination teaches this element of claims 21 and 26.

339. In my opinion, claim elements [21.J] and [26.J] are substantially the same as [1.J], other than specifying the information is *event information relevant to the event*. As I explain above in Section XII.J, the specific content of the “*event*” information is not functionally related to the claim and should not be given patentable weight. Regardless, in my opinion, Wong-Burfeind-Crowley teaches delivering the claimed *event information* to the second node. Crowley teaches that one form of advertising may be “[e]xclusive memberships” where “special ‘inside’ information” about events (*event information relevant to the event*) is *deliver[ed]* to members. EX1009, ¶111. Thus, the targeted advertisements constitute *event information* that is *deliver[ed]* to an event invitee (*the at least one second node*). In the combined system, the targeted advertisements (*event information*) would come from advertisers, which would be associated with a corresponding node (*information node*) in the social network in order to communicate with the event invitees. This is because, as described in Wong, “communications are made

between nodes.” EX1007, ¶30.

340. Thus, in my opinion, the Wong-Burfeind-Crowley combination also teaches claims 21 and 26.

N. Claims 22 and 27.

341. In my opinion, the Wong-Burfeind combination teaches *wherein user devices connected to the event node are enabled to communicate via a message board available by way of the event node*, as recited in claims 22 and 27.

342. The Wong-Burfeind combination teaches claims 22 and 27 for the same reasons I discuss for claims 2 and 12. *See* Section XIII.D.

343. Thus, in my opinion, the Wong-Burfeind combination teaches claims 22 and 27.

O. Claims 23 and 28.

344. In my opinion, the Wong-Burfeind-Crowley combination renders obvious *[t]he method of claim 21, wherein identifying that the at least one second node is connected via the at least one dimension of the multi-dimensional information network to the event node comprises: identifying user data associated with the at least one second node indicating an interest in at least one particular topic relevant to the event*, as recited in claim 23 and similarly recited in claim 28.

345. As I explain for claims 21 and 26, Crowley teaches that the relevant users (*at least one second node*) are identified based on a

“demographic/psychographic profile” (*user data ... indicating an interest in at least one particular topic*). EX1009, ¶111. Indeed, a demographic/psychographic profile is commonly known as a study of personality, values, **interests**, and lifestyle. *See* EX1029, 33. Moreover, Crowley also teaches that the “[a]dvertising ... may be customized ... according to ... the topic that the users have in common” or may be “targeted to ... the type of event.” EX1009, ¶¶98, 109. A POSA would have understood that, when selecting particular users (*at least one second node*) to receive an advertisement regarding the event, the interest (*particular topic*) based upon which those users are selected should be *relevant to the event*. Indeed, a core functionality of social network communications—in the context of Wong, communication between nodes—includes facilitating connections between individuals with common interests. *See supra* Section VII.A, ¶50.

346. Thus, in my opinion, the Wong-Burfeind-Crowley combination renders obvious claims 23 and 28.

P. Claims 24 and 29.

347. In my opinion, the Wong-Burfeind-Crowley combination renders obvious *[t]he method of claim 21, wherein identifying that the at least one second node is connected via the at least one dimension of the multi-dimensional information network to the event node comprises: identifying a user data associated with the at least one second node indicating participation in at least one*

particular activity relevant to the event, as recited in claim 24 and similarly recited in claim 29.

348. As I explain for claims 21 and 26, Crowley teaches that the relevant users (*at least one second node*) are identified based on a “demographic/psychographic profile.” EX1009, ¶111. A user’s profile (*user data*) may include “hobbies” or “viewing a particular movie” (*indicating participation in at least one particular activity*). EX1009, ¶¶97, 101. Crowley also teaches that the advertising may be “targeted to ... the type of event.” EX1009, ¶¶98, 109. A POSA would have understood that, when selecting particular users (*at least one second node*) to receive an advertisement regarding the event, the *particular activity* based upon which those users are selected should be *relevant to the event*. Indeed, a core functionality of social network communications—in the context of Wong, communication between nodes—includes facilitating connections between individuals with common interests. *See supra* Section VII.A, ¶50.

349. Thus, in my opinion, the Wong-Burfeind-Crowley combination renders obvious claims 24 and 29.

XIV. GROUND 3: CLAIMS 25 AND 30 WOULD HAVE BEEN OBVIOUS OVER WONG-BURFEIND-CROWLEY IN FURTHER VIEW OF ALTMAN

350. In my opinion, the combination of Wong, Burfeind, Crowley, and Altman renders obvious claims 25 and 30.

A. Claims 25 and 30.

351. In my opinion, the Wong-Burfeind-Crowley-Altman combination renders obvious *[t]he method of claim 21, wherein identifying that the at least one second node is connected via the at least one dimension of the multi-dimensional information network to the event node comprises: identifying a user data associated with the at least one second node indicating participation travel history to a particular region relevant to the event, as recited in claim 25, and similarly recited in claim 30.*

352. As I explain for claims 21 and 26, the Wong-Burfeind-Crowley combination teaches identifying relevant users (associated with *at least one second node*) based on user data, to send targeted advertising to those users. Wong-Burfeind-Crowley does not describe how this user data includes *travel history*.

353. Altman does, for the reasons I describe above. *See* Section XII.Q; EX1010, ¶¶37, 71; FIGs. 1, 13. A POSA would have been motivated to incorporate Altman’s teachings of user location history (*participation travel history*) in Wong-Burfeind-Crowley (e.g., by storing location history as part of the user data) in order to identify invitees that may be particularly interested in the event, based on their prior participation in events in the area. For instance, Crowley tracks “history (e.g., recently-visited venues)” in a private profile screen that may be made available to a user’s friends. EX1009, ¶ 91. A user’s profile may be used to find and

subsequently invite users to an event. *See* EX1009, ¶¶96-101.

354. In my opinion, a POSA would have readily made the combination. Similar to Wong, Altman discloses a virtual network that connects users to people, places, and events. EX1010, ¶39. Similar to Burfeind and Crowley, Altman discloses that its social network manager includes “an event manager module” that allows a user to create and manage events and send invitations regarding the events. EX1010, ¶53. A POSA would have had a reasonable expectation of success in implementing Altman’s location history in Wong-Burfeind-Crowley, and been further motivated to make the combination, because it is simply a predictable combination of known elements (Wong-Burfeind-Crowley’s database that stores user information including location information, with Altman’s database that obtains and stores location history) according to known methods to yield predictable results (Wong-Burfeind-Crowley’s interactive network additionally storing location history of user nodes). Indeed, Crowley already describes profile pages that contain a “history (e.g., recently-visited venues)” of a particular user, which could be stored in a user node of Wong. *See e.g.*, EX1009, ¶91; EX1007, ¶30.

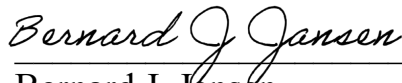
355. Thus, in my opinion, the Wong-Burfeind-Crowley-Altman combination renders obvious claims 25 and 30.

XV. CONCLUSION

356. In signing this declaration, I recognize that the declaration will be filed as evidence in an *inter partes* review 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 case and that cross-examination will take place within the United States. If cross-examination is required, I will appear for cross-examination within the United States during the time allotted.

357. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed on this 11th day of November, 2025, in Doha, Qatar.



Bernard J. Jansen