

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner

v.

SITNET, LLC,
Patent Owner

Case IPR2026-00112
U.S. Patent No. 12,256,463

**DECLARATION OF DR. JEREMY COOPERSTOCK
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 12,256,463**

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Meta EX1003
Meta v. SitNet
IPR2026-00112

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I, Jeremy Cooperstock, hereby declare as follows.

I. INTRODUCTION

1. I have been retained as an expert witness on behalf of Petitioner 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 involving U.S. Patent No. 12,256,463 (“the ’463 patent”) (EX1001), which resulted from U.S. Patent Application No. 18/883,820 (“the ’820 application”), filed on September 12, 2024. I understand that the ’463 patent alleges a priority date of February 2, 2007. I refer to this date throughout this declaration.

3. In preparing this declaration, I have reviewed the ’463 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 § V.C) prior to February 2, 2007.

II. MY BACKGROUND AND QUALIFICATIONS

4. I am a professor in the Department of Electrical and Computer

Engineering at McGill University. My *Curriculum Vitae* is attached as Exhibit 1004.

5. I received my B.Sc. in Electrical Engineering (with Honors) from the University of British Columbia in 1990, my M.Sc. in Computer Science from the University of Toronto in 1992, and my Ph.D. in Electrical and Computer Engineering from the University of Toronto in 1996.

6. I have been employed at McGill University since November 2017, where I am currently a Full Professor and Werner Graupe Distinguished Chair in Automation Engineering in the Department of Electrical and Computer Engineering. In this capacity, I conduct and supervise research activities, and teach courses at the upper undergraduate and graduate level on human-computer interaction, artificial intelligence, embedded systems, and haptic interaction design.

7. I am a member of the Centre for Intelligent Machines, a founding member of the Centre for Interdisciplinary Research in Music Media and Technology, a member of the International Laboratory on Learning System, a member of the McGill Institute for Aerospace Engineering, and an associate member of Biomedical Engineering at McGill University. I presently direct a group of approximately 50 researchers at the Shared Reality Lab at McGill, which focuses on computer mediation to facilitate high-fidelity human communication and the synthesis of perceptually engaging, multimodal, immersive environments.

Among other projects, I led the development of the Intelligent Classroom, a high-fidelity orchestra rehearsal simulator, a simulation environment that renders graphic, audio, and vibrotactile effects in response to footsteps, and a mobile game treatment for amblyopia.

8. I have been developing and working with network media distribution technologies since 1990, and I led the world's first demonstrations of high-fidelity multichannel audio streaming over the Internet in 1999 and 2000, followed by multiple simultaneous streams of uncompressed high-definition video in 2005. My work on the Ultra-Videoconferencing system was recognized by an award for Most Innovative Use of New Technology from ACM/IEEE Supercomputing and a Distinction Award from the Audio Engineering Society. The research I supervised on the Autour project earned the Hochhausen Research Award from the Canadian National Institute for the Blind and an Impact Award from the Canadian Internet Registry Association, and my Real-Time Emergency Response project won the Gold Prize (brainstorm round) of the Mozilla Ignite Challenge. I am also a recipient of several "best paper" awards from scholarly societies for my research.

9. I have carried out significant research involving network communication protocols, including wireless communication employing IEEE 802.11 (WiFi) and IEEE 802.15 (Bluetooth). My experience in these areas includes development of the Adaptive File Distribution Protocol (AFDP, 1995), analysis of

the tradeoffs between bandwidth, power demands, and latency for audio streaming over WiFi, Bluetooth, and ultra-wideband protocols (2007), and assessment of the performance and scalability of wireless audio streaming for applications requiring latency-optimized multimedia streaming (2008).

10. I have led all aspects of development and experimentation in the Autour project (2009-2016), which employs a combination of wireless communication protocols, and manages authentication for communication between clients and server, in addition to third-party information services. I have supervised a variety of projects that require sharing of WiFi network access credentials across multiple devices. I led a research project (MIMIC), which communicates sensor data between two coupled smartwatches using Bluetooth for local communication between the smartwatches and their peered smartphones, and the public Internet between the smartphones. I also led a project that uses both Bluetooth and WiFi communication between smartphones, a GPU-based physics engine, and a microelectronics architecture that renders vibrotactile effects on mobile footwear.

11. I have worked with IBM at the Haifa Research Center, Israel, and the Watson Research Center in Yorktown Heights, New York, the Sony Computer Science Laboratory in Tokyo, Japan, and was a visiting professor at Bang & Olufsen, Denmark, where I conducted research on telepresence technologies as part of the World Opera Project. I led the theme of Enabling Technologies for a

Networks of Centres of Excellence on Graphics, Animation, and New Media (GRAND), served as an associate editor of the Institute of Electrical and Electronics Engineers (IEEE) Transactions on Haptics, and the Journal of the Audio Engineering Society. I am presently an associate editor of the Frontiers Journal in Virtual Reality, Associate Editor-in-Chief of IEEE Transactions on Haptic.

12. I understand that a copy of my complete curriculum vitae has been submitted as Exhibit 1004, which provides further details regarding my expertise and qualifications.

III. SUMMARY OF OPINIONS

In forming my opinions about the '463 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 1-12 of the '463 patent would have been obvious to a POSA prior to February 2, 2007.

Ground	Basis	Claims	References
1	§103	1-12	Kraft and Altman
2	§103	1-12	Wong, Gogic, and Gage
3	§103	1-12	Wong, Gogic, Gage, and Kraft

I have been asked to consider how a POSA would have understood the challenged claims in light of the disclosures of the '463 patent. I have also been

asked to consider how a POSA would have understood the prior art references that form the basis of the above-listed grounds.

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 1-12 of the '463 patent.

IV. LIST OF DOCUMENTS CONSIDERED

13. In formulating my opinions, I have relied upon my training, knowledge, and experience that are relevant to the '463 patent. I have also reviewed and am familiar with the following documents and materials in addition to any other documents cited in this declaration. To the best of my knowledge, the documents listed in the table below 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. 12,256,463 to Cona <i>et al.</i> (“the '463 patent”)
1002	Prosecution History of U.S. Patent No. 12,256,463 (“'463 File History”)
1005	U.S. Patent No. 7,747,648 to Kraft <i>et al.</i> (“Kraft”)
1006	U.S. Publication No. 2007/0281690 to Altman <i>et al.</i> (“Altman”)
1007	U.S. Publication No. 2008/0103784 to Wong <i>et al.</i> (“Wong”)
1008	U.S. Patent No. 8,103,300 to Gogic (“Gogic”)
1009	U.S. Publication No. 2008/0139165 to Gage <i>et al.</i> (“Gage”)

Exhibit No.	Description
1010	<i>Meta Platforms, Inc. v. SitNet LLC</i> , IPR2024-00529, Paper 33 (Final Written Decision) (P.T.A.B. Sept. 8, 2025)
1011	Palen <i>et al.</i> , <i>Online Forums Supporting Grassroots Participation in Emergency Preparedness and Response</i> , Communications of the ACM, Vol. 50, No. 3 (March 2007)
1012	U.S. Patent No. 7,730,216 to Issa <i>et al.</i> (“Issa”)
1013	Boyd & Ellison, <i>Social Network Sites: Definition, History, and Scholarship</i> , Journal of Computer-Mediated Communication, 13 (2008) pp. 210-230.
1014	U.S. Patent No. 8,024,330 to Franco <i>et al.</i> (“Franco”)
1015	November 26, 2006 Wikipedia page “Social network” (from web.archive.org) (accessed January 24, 2024)
1016	<i>Meta Platforms, Inc. v. SitNet, LLC</i> , IPR2024-00530, Final Written Decision, Paper 30 (P.T.A.B. Sept. 8, 2025)
1017	U.S. Patent No. 8,346,864 to Amidon <i>et al.</i> (“Amidon”)
1018	U.S. Publication No. 2006/0272012 to Wu (“Wu”)
1019	U.S. Patent No. 6,910,077 to Najork (“Najork”)
1020	Claim Construction Order in <i>SitNet LLC v. Meta Platforms, Inc.</i> , Case No. 1:23-cv06389-AS (SDNY) (Dkt. 79) filed July 26, 2024

V. LEGAL UNDERSTANDING

14. 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

15. 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

16. 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.

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

22. 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.

23. 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.

24. 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

25. 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.

26. 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.

27. 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 '463 Patent. However, my opinions herein would not be affected if the '463 patent is found to only be entitled to a later effective filing date.

28. 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. THE '463 PATENT

A. Overview of the '463 Patent

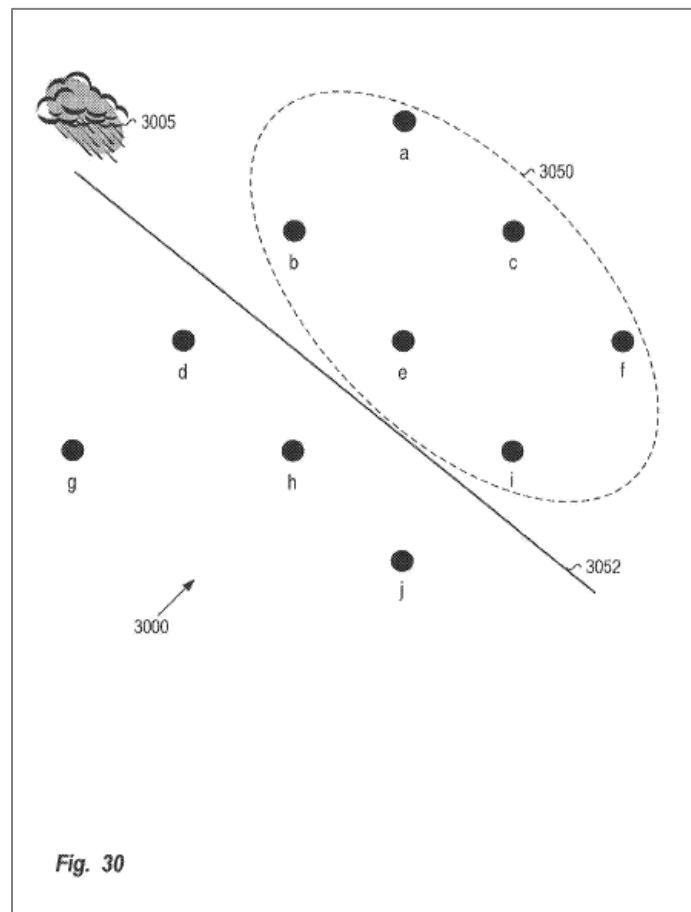
29. From my review, the '463 patent is directed to “forming [a] situational

network as a subset of the multi-dimensional information network.” EX1001, Claim 1. The claims of the ’463 patent broadly recite general concepts, such as “*obtaining an indication of an occurrence of a situation,*” “*establishing an event node corresponding to the situation,*” “*creating a first subset of the plurality of user nodes based on ... geographic proximity to the situation,*” presenting “*information pertinent to the situation to devices associated with the first subset of the plurality of user nodes,*” and then providing “*supplemental information*” to “*a second node*” interested in the event. *See* EX1001, Claim 1. Dependent claims are directed to identifying the “*second node*” based on existing network relationships. These concepts were well known before the ’463 patent’s earliest possible priority date.

30. According to the ’463 patent, a “situational network allows the participants ... to interact and exchange information over connections to or through a computer network ... regarding the event or situation.” EX1001, 4:24-27. The ’463 patent describes a “situation” as broadly including events such as social events, emergency events, weather phenomena, natural disasters, etc. *See* EX1001, 5:10-20, 31:64-65. A “situation” may also include “weather related activities, such as skiing or surfing.” EX1001, 5:10-20. 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 '463 patent claims. EX1001, 17:4-5, 22:52-23:39. In sum, the '463 patent relates to methods and systems that allow a set of participants in a social network to receive information about situations (e.g., events) and exchange information about them using standard, well-known networking technology.

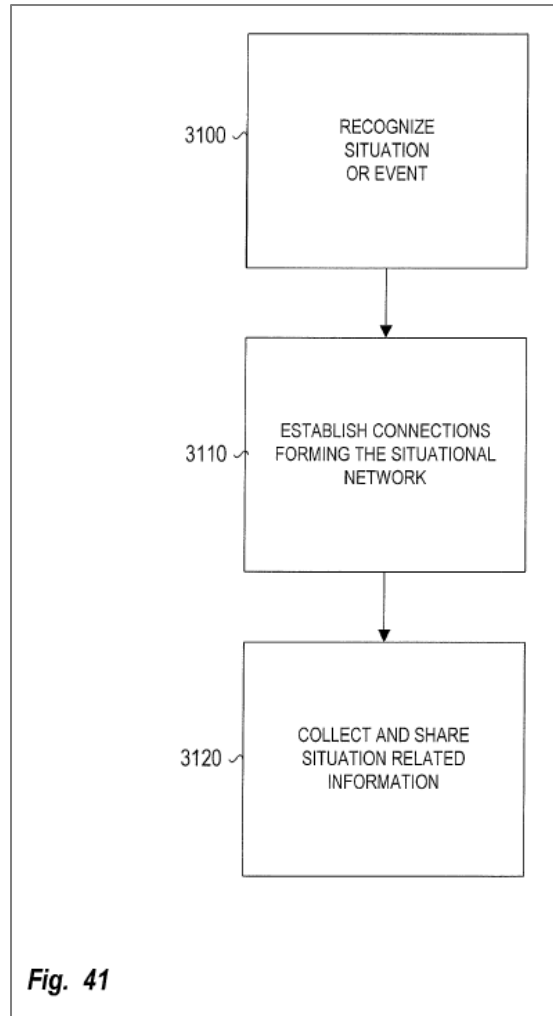
31. I have reproduced Figure 30 below, which shows an example of a geographic projection 3050 of nodes of a situational network 3000. EX1001, 23:8-9.



EX1001, FIG. 30.

32. As seen from 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 rain storm 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.

33. The '463 patent emphasizes that the implementation of its methods is architecture agnostic. For example, the '463 patent explains that “[a] variety of different architectures may be used to connect the devices of participants in the situational network.” EX1001, 6:59-60. Regardless of the architecture used, the same generic process is used to form the situational network. EX1001, 7:48-53. This process is shown in Figure 41, which simply “includes a recognition or identification of a situation 3100, a connection of participants 3110, and a sharing of information related to the situation 3120.” EX1001, 7:48-53.



EX1001, FIG. 41.

34. The '463 patent also explains 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, 4:53-58. 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 ’463 patent also explains, 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. Therefore, from my review, the ’463 patent does not provide any technical solutions. Instead, it merely connects a subset of users of a larger network using off-the-shelf technology.

B. Prosecution History

35. I understand that during prosecution, the application leading to the ’463 patent was rejected on the ground of nonstatutory double patenting as being obvious over claims of U.S. Patent Nos. 12,120,769, 8,069,202, 8,332,454, and 7,711,475. EX1002, 159-161. In response, the applicant filed a terminal disclaimer over these patents. EX1002, 146, 154-156. The claims were allowed following the filing of a terminal disclaimer, although the Examiner provided no reasons for allowance. EX1002, 22. Of note, I understand that all claims of the ’454 patent have been either cancelled or found unpatentable by the Board. EX1010, 42.

C. Level of Ordinary Skill in the Art

36. In my opinion, a POSA at the time of the ’463 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. Additional education could substitute for professional experience, and significant work experience could substitute for formal education.

37. I am well qualified to determine the level of ordinary skill in the art. I am very familiar with the technology of the '463 patent during the February 2007 timeframe. As mentioned above, by 2007, I had obtained both a Masters (in Computer Science) and a Ph.D. (in Electrical and Computer Engineering) from the University of Toronto and had acquired extensive experience relating to computer networking and telecommunications.

D. Claim Construction

38. I have been informed that the challenged claims of the '463 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.

39. 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. EX1010, 8-12. I agree with this assessment, and it is my opinion that the same understanding should apply to the claims of the '463 patent.

40. I also understand that the Board construed the term “situational network” in IPR2024-00530. EX1016, 12-18. Specifically, the Board indicated that “situational network” should be construed as “a network created in response to an event or situation” but “a created ‘situational network’ does not exclude pre-established networks and does not require new connections to be established incorporating new elements.” EX1016, 18. I further understand that the district court previously construed the term “web browser application” to mean “an application that enables users to browse webpages.” EX1020, 10.

41. It is my opinion that no 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 ’463 patent under the prior constructions.

VII. TECHNOLOGY OVERVIEW

42. Social networks and techniques for sharing information related to events were well known before the ’463 patent’s earliest priority date.

A. Social Networks

43. The earliest social network sites were launched in the late 1990s, with such sites growing in popularity through the 2007 priority date of the ’325 patent. EX1013, 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.” EX1015, 1. The Wikipedia page confirms the popularity of Internet based social networks in this timeframe. EX1015, 3-4.

44. Further, as described in the Background section of Amidon, “a ‘social network’ refers to a group of persons or other entities ... linked to one another through one or more types of social connections.” EX1017, 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.” EX1017, 1:38-40. Amidon also describes that communication among users of social networking web sites was known. *See, e.g.*, EX1017, 1:41-49.

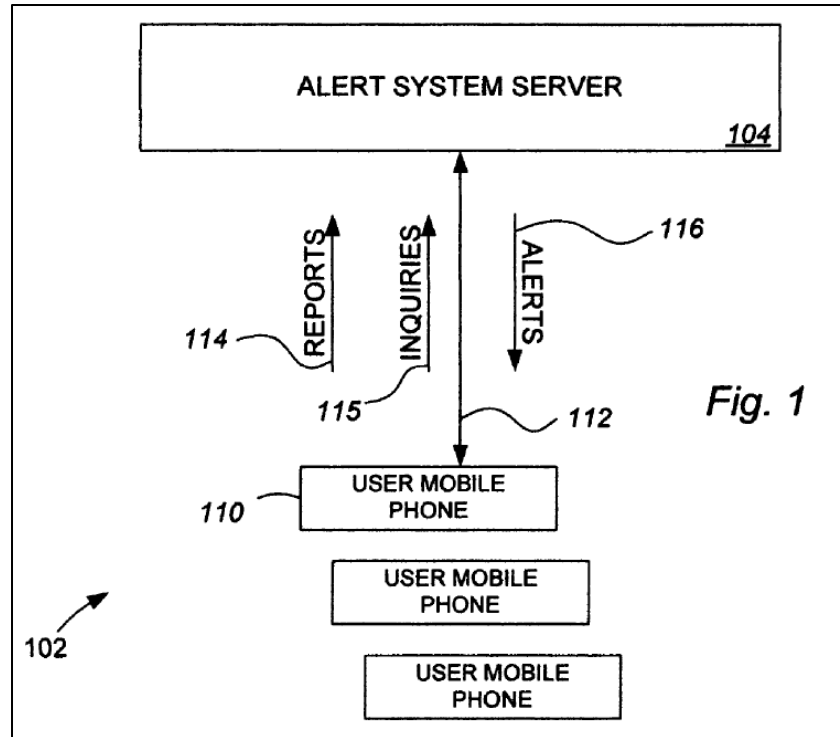
45. The Background section of Wong also confirms that online social networking systems were known, and were “popular” for connecting with and sharing information with other users via the Internet. EX1007, ¶3.

46. Similarly, the Background section of Issa also confirms that “a ‘social network’ refers to a group of persons or other entities (‘members’) linked to one another through one or more types of social connections.” EX1012, 1:30-33. Issa also describes that “social networking web sites” such as “<http://www.myspace.com>, <http://www.facebook.com>, and <http://www.friendster.com>,” were used to “provide users with web space to create a profile and link to various other users designated as ‘friends.’” EX1012, 1:44-53.

47. Therefore, the concept of communication via online social networks was well known and would have been readily appreciable by a POSA in the relevant timeframe.

B. Sharing Information Related to Situations or Events

48. The broad concept of sharing information related to situations or events was also known prior to the '325 patent. For instance, it was known for emergency warning systems to receive information 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.” EX1014, Abstract. “Reports of incidents are transmitted to the server accompanied by the current position of the user/mobile phone.” EX1014, Abstract. The server then reports the information related to the incident to certain users within a “zone of interest” near the incident. EX1014, 2:17-25, 3:7-28. Franco’s Figure 1, below, illustrates “an alert system 102 includes a server 104 that receives reports 114 from and responds to inquiries 115 from a plurality of users’ networked mobile phones 110.” EX1014, 4:7-9.



EX1014, FIG. 1.

49. 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.” EX1014, 1:53-58. Therefore, the concept of sharing information related to situations was well known and would have been readily appreciable by a POSA in the relevant timeframe.

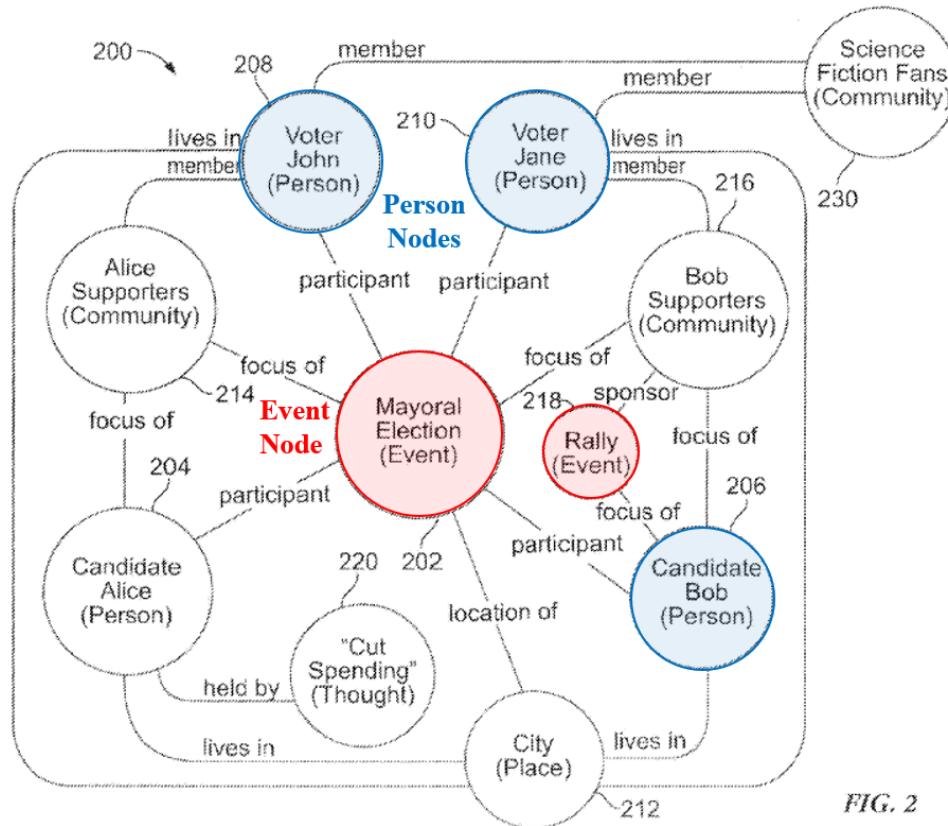
VIII. OVERVIEW OF THE PRIOR ART

A. Kraft

50. U.S. Patent No. 7,747,648 to Kraft *et al.* (“Kraft”) is directed to

“systems and methods for information retrieval and communication using a world model.” EX1005, 2:35-37. “The 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, 8:28-31.¹ 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.” EX1005, 10:25-30. Kraft depicts an example of a “world model” in Figure 2. EX1005, 8:35-38.

¹ All bolding in this declaration is added unless I note otherwise. Throughout this declaration, I generally use italics to note claim language.



EX1005, FIG. 2 (annotated).

51. As seen from Figure 2, “[n]ode 202 represents the event, in this example a mayoral election,” and “[o]ther participants in the election include voter Joe (node 208) and voter Jane (node 210).” EX1005, 8:39-44. Kraft explains that event nodes or event models can represent “occurrences such as elections, **natural disasters**, sports events.” EX1005, 9:65-66. “Each entity model,” Kraft says, “is advantageously implemented as a data structure that provides access to information about a real-world entity that the node represents.” EX1005, 8:26-28. And the “types of information that may be contained in an entity model include ... text or media content related to the corresponding entity.” EX1005, 3:18-24.

52. Kraft also explains that a “user request may include a search query specifying a property for the information contained in the entity models.” EX1005, 2:66-3:2, 9:33-36 (a “user can also send a message to a non-person entity; for example, the user might send a message to the election (node 202)”). “A world server receives a request from a querying user for an entity model,” and “[t]he world server returns the information contained in the requested entity model.” EX1005, 3:52-57. Because Kraft’s framework “enables authorized users to update the world model,” for example, by “modifying entity models,” the information contained in an event node can remain up-to-date. EX1005, 6:54-57.

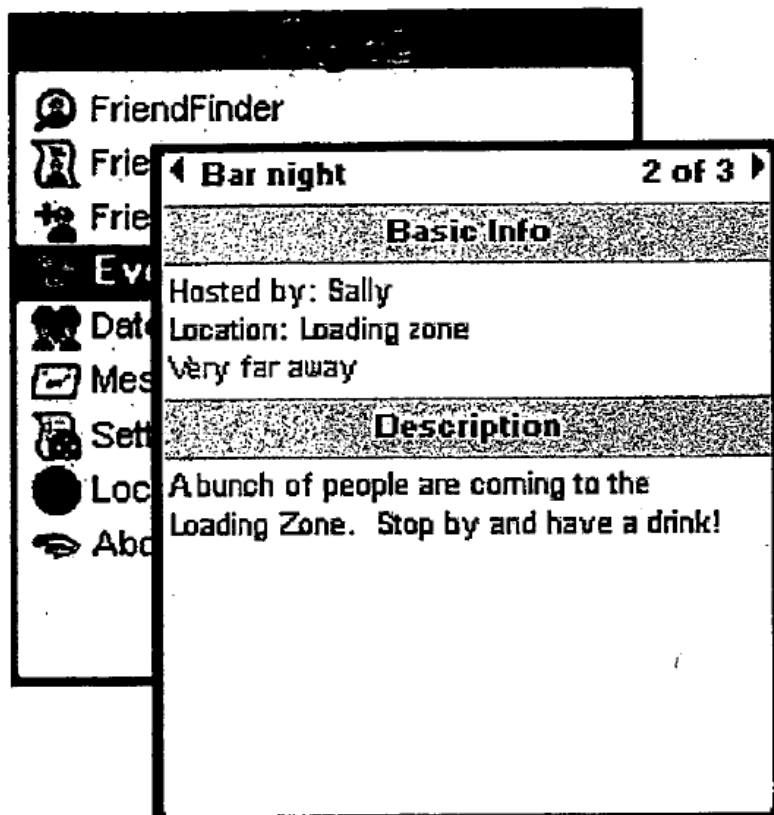
B. Altman

53. U.S. Publication No. 2007/0281690 to Altman *et al.* (“Altman”) is directed to “a social networking system that helps initiate communication and messaging among users based on the relative location of the users with respect to each other or a place of interest.” EX1006, ¶6. Altman’s “process determines the geographic location of a mobile communication device operated by a user within an area,” and then “[m]essaging and alert functions using the communications capability of the mobile device can incorporate the location information resulting in interaction among users.” EX1006, ¶8.

54. Altman’s “social network manager” includes an “event manager [that] allows the user to create and manage various events using date and location

information and send invitations or messages regarding the events to friends.”

EX1006, ¶53. Figure 8A illustrates an example that includes “a description of the event including the time and place of the event, as well as any other relevant information.” EX1006, ¶54.



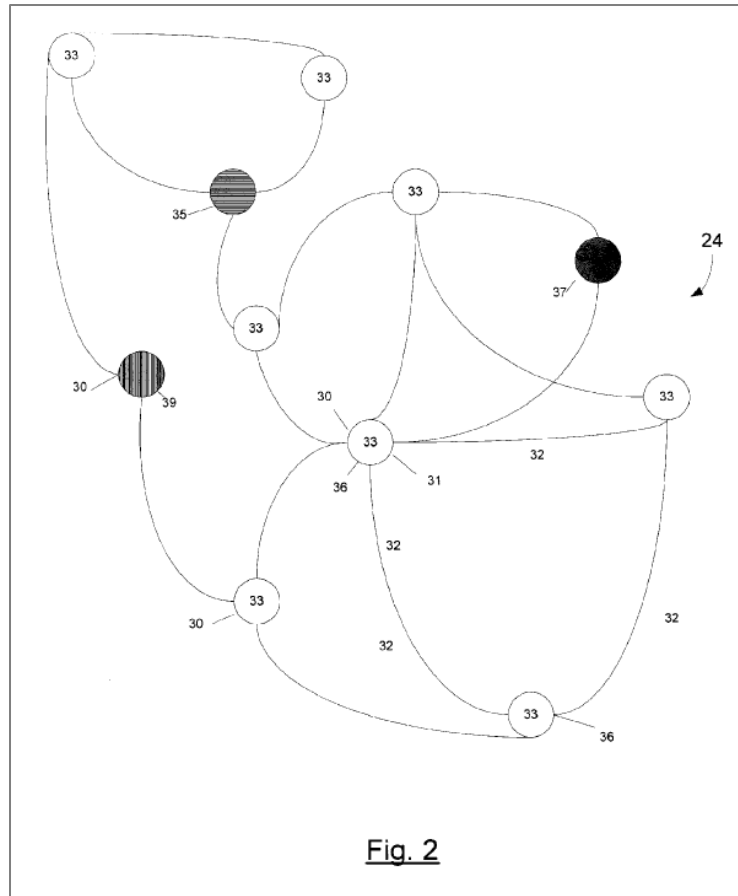
EX1006, FIG. 8A.

55. Altman’s system provides “[a] database specifying places and/or events,” and information “can be provided to [a] user in a ‘push’ model in which the server sends relevant POI information to a user based on a user condition, such as if the user goes near a particular POI,” for example, the location of an event. EX1006, ¶55. For instance, Altman discloses “alerting the user to the ... location

of events of interest when the user enters a particular area.” EX1006, ¶61. In other words, Altman’s techniques enable identification of users within a particular geographic proximity to an event and providing information to that subset of users.

C. Wong

56. U.S. Publication No. 2008/0103784 to Wong *et al.* (“Wong”) is directed 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, ¶¶2, 3, 17-19. I have provided Figure 2 of Wong below, which depicts an example of Wong’s social network.



EX1007, FIG. 2.

57. In Wong, the “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. 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. As described in Wong, each node of the network represents a living or non-living entity, such as people,

places, objects, or animals. EX1007, ¶21. People or organizations, as Wong describes, “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. The sender of communications can select which nodes in the network can receive a particular communication. EX1007, ¶44.

58. Each of the main node types as explained by Wong above can also have sub-types. EX1007, ¶22, FIG. 3. For example, “[o]bject sub-types can be groups, organizations, products, businesses, books, songs, etc,” and “animal” sub-types include “pet or wild animal.” EX1007, ¶22, FIG. 3.

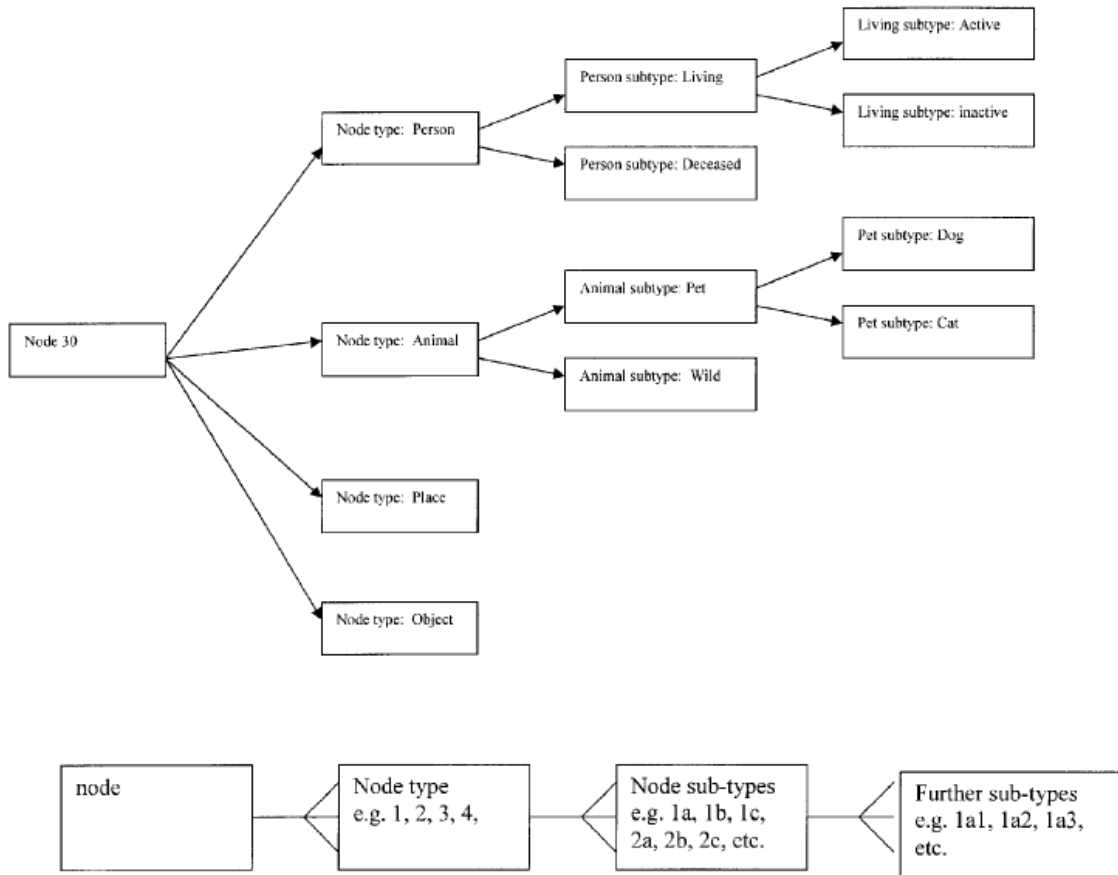


FIG. 3

EX1007, FIG. 3 (showing example node types in Wong’s social network).

D. Gogic

59. U.S. Patent No. 8,103,300 to Gogic (“Gogic”) is directed to “a system and method for providing group communication services to an ad-hoc group formed according to vicinity with other users of communication device(s) (CD), or according to proximity of a given locality, in an existing communication system.” EX1008, 4:16-20, Abstract. Gogic teaches that “[i]n group communication system 200, a group of communication device users, individually known as group or net

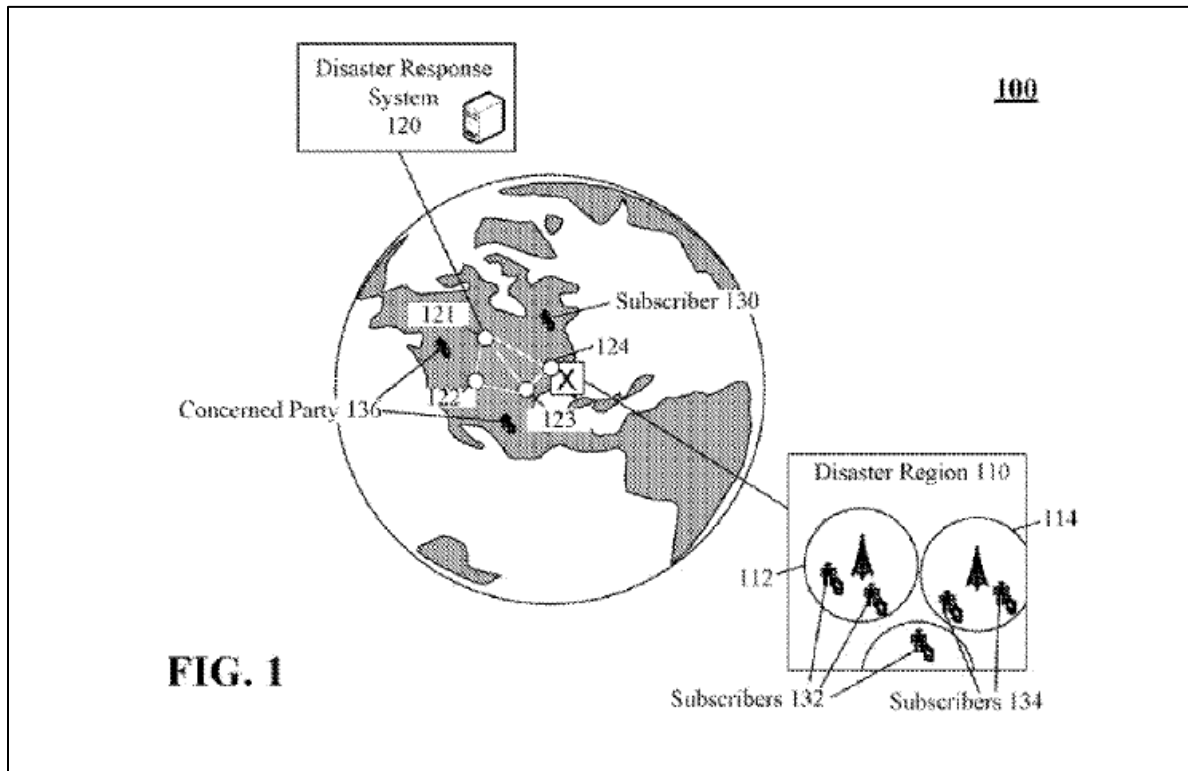
members, communicate with one another using a wireless communication device (CD) assigned to each group or net member.” EX1008, 5:65-6:2.

60. Gogic describes “the formation of an ad-hoc group in response to an emergency notification, wherein the group is formed on the basis of proximity to a designated location.” EX1008, 10:16-18, FIG. 4. Within this ad-hoc group, “a dispatcher 400 identifies the occurrence or presence of an event or condition wherein communications between proximately located users could be beneficial.” EX1008, 10:18-21. Users are invited to join the communication group, and if they meet the designated criteria, may accept the invitation. EX1008, 10:45-11:9. Gogic also teaches using various dimensions within the “group membership location criteria” that defines the “inclusive boundary of users that are invited to join the group.” EX1008, 10:26-29.

E. Gage

61. U.S. Publication No. 2008/0139165 to Gage *et al.* (“Gage”) is directed to “emergency communications and, more particularly, to emergency notification systems for mobile telephone users within a disaster region to quickly and efficiently convey situational status indicators to concerned parties.” EX1009, ¶2. Gage provides “a disaster response system 100,” as illustrated in Figure 1, “for informing concerned parties 136 of a situation status of subscribers 130-134, who may have been [a]ffected by a disaster,” such as “a hurricane, flood, fire, tsunami,

and the like.” EX1009, ¶19.



EX1009, FIG. 1.

62. Gage describes that when a disaster occurs, “a server can request location information from mobile devices,” and “a determination can be made as to whether any subscribers have been affected by the disaster ... based on the location information.” EX1009, ¶36; *see also* EX1009, ¶8. Gage explains that “[c]oncerned parties, such as family members,” can then “be contacted and informed of the status indicator and the location” of an affected subscriber, and “can be granted access to the Web site, through which they can look-up the last known location and situational status of the subscriber.” EX1009, ¶37.

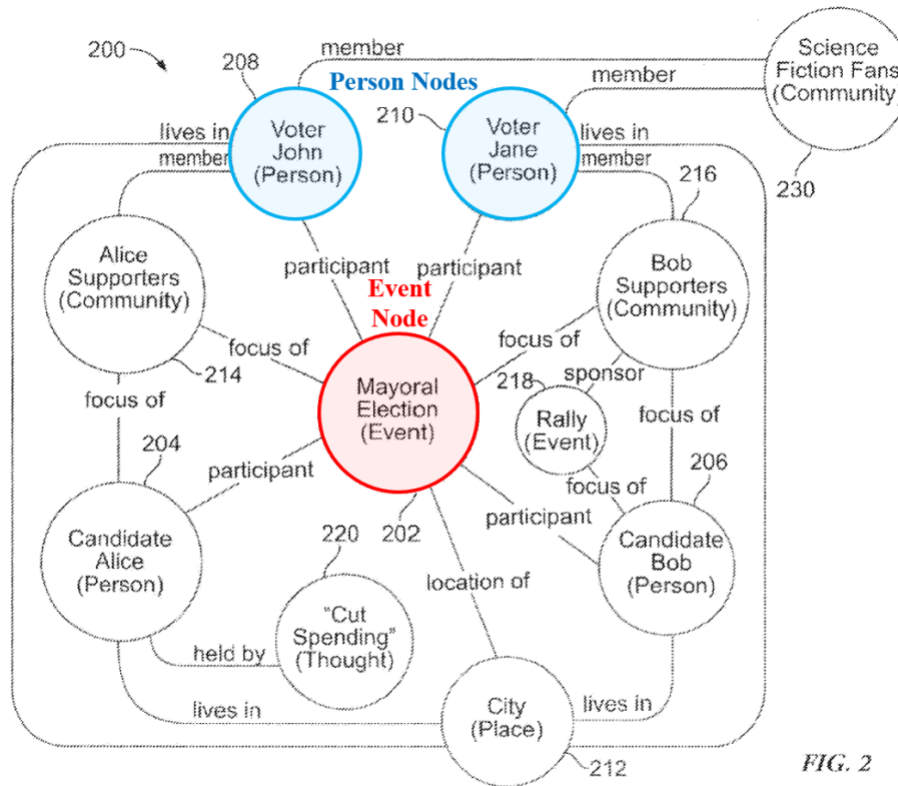
**IX. GROUND 1: THE COMBINATION OF KRAFT AND ALTMAN
RENDERS OBVIOUS CLAIMS 1-12.**

63. In my opinion, the combination of Kraft and Altman renders obvious claims 1-12.

A. Overview of the Motivation to Combine Kraft and Altman

64. As I discuss above, Kraft is directed to “systems and methods for information retrieval and communication using a world model.” EX1005, 2:35-37. A “[w]orld server 160 maintains a world model data store 162.” EX1005, 6:33-35. Kraft describes that “[t]he 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. The entity models 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.” EX1005, 10:25-30.

65. Kraft explains that its world server 160 includes a query response module 166 that interacts with client systems 120 to retrieve information from the world model or to add or modify entity models 164. EX1005, 6:52-65. An example “world model” is shown in Figure 2 of Kraft, which I have reproduced below with annotations for clarity. EX1005, 8:35-38.



EX1005, FIG. 2 (annotated).

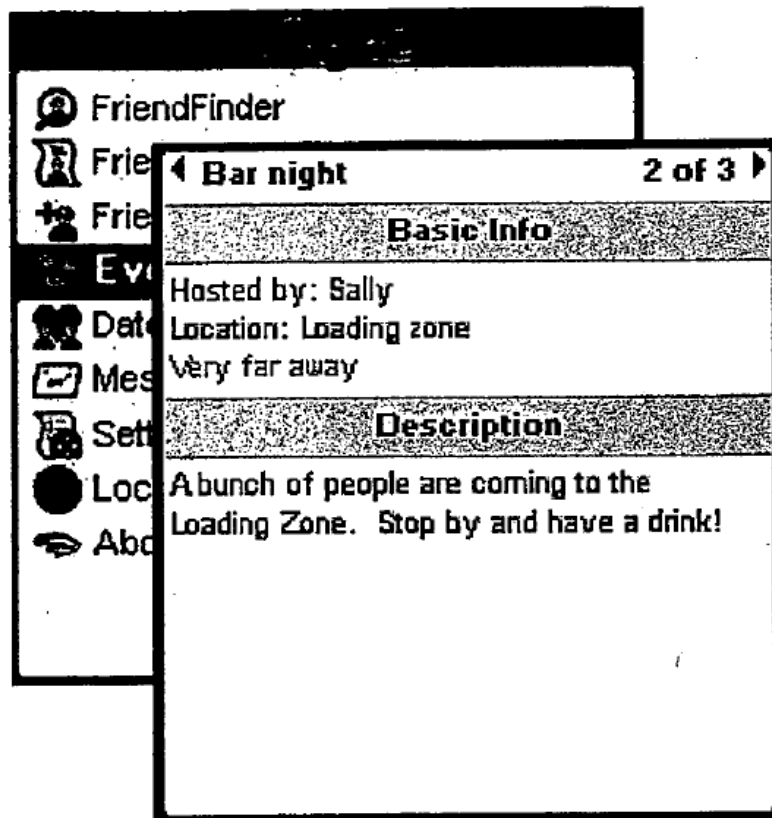
66. As shown above, “[n]ode 202 represents the event, in this example a mayoral election,” and “[o]ther participants in the election include voter Joe (node 208) and voter Jane (node 210).” EX1005, 8:39-44. Kraft explains that “[e]ach entity model is advantageously implemented as a data structure that provides access to information about a real-world entity that the node represents.” EX1005, 8:26-28. And the “types of information that may be contained in an entity model include feedback information relating to the corresponding entity, the feedback information being provided by users of the computer system; references to content related to the corresponding entity; text or media content related to the

corresponding entity; and so on.” EX1005, 3:18-24.

67. Kraft defines “relationships that may exist among entity models belonging to the same or different categories,” for example, connecting a “Person” to a created “Event” as a “participant,” or a “Person” to a “Place” where they live. EX1005, 10:10-21, FIG. 3. Kraft’s system can define relationships “based on structured metadata fields,” such as a “Location” field. EX1005, 16:30-34. Kraft’s system, however, focuses on a static location entered by the user, such as an “address”—not the current location of the user. EX1005, 11:39-41. Kraft, therefore, does not explicitly disclose techniques for connecting users to events based on their current location. This, in my opinions, would have led a POSA to a reference like Altman to inform users of events and facilitate participation in events near a user’s present location.

68. As I discuss above, Altman is directed to “a social networking system that helps initiate communication and messaging among users based on the relative location of the users with respect to each other or a place of interest.” EX1006, ¶6. Altman’s “process determines the geographic location of a mobile communication device operated by a user within an area,” and then “[m]essaging and alert functions using the communications capability of the mobile device can incorporate the location information resulting in interaction among users.” EX1006, ¶8.

69. Altman's "social network manager" includes an "event manager [that] allows the user to create and manage various events using date and location information and send invitations or messages regarding the events to friends." EX1006, ¶53. Figure 8A of Altman illustrates an example that includes "a description of the event including the time and place of the event, as well as any other relevant information." EX1006, ¶54.



EX1006, FIG. 8A.

70. Altman's system provides "[a] database specifying places and/or events," and information "can be provided to [a] user in a 'push' model in which the server sends relevant POI information to a user based on a user condition, such

as if the user goes near a particular POI,” for example, if the user goes near the location of an event. EX1006, ¶55. For instance, Altman discloses “alerting the user to the ... location of events of interest when the user enters a particular area.” EX1006, ¶61. Altman enables these alerts by using, for example, a standard “GPS module or assisted GPS (A-GPS) that provides the location of the mobile communication devices in terms of latitude/longitude coordinates.” EX1006, ¶40. In other words, Altman’s techniques enable identification of users within a particular geographic proximity to an event and providing information to that subset of users.

71. Based on my review of Kraft and Altman, both references are in the same general field of connecting subsets users and other entities within a larger social network. *See, e.g.*, EX1005, 10:10-26, 12:64-66 (“facilitate[ing] multi-user discussion”); EX1006, ¶6 (describing “a social networking system that helps initiate communication and messaging among users based on the relative location of the users with respect to each other or a place of interest.”). In my opinion, a POSA would have been motivated to employ Altman’s geolocation-based user-identification techniques in Kraft’s system to identify and connect users to events nearby.

72. Kraft supports a wide range of events, including “occurrences such as elections, natural disasters, sports events, and so on.” EX1005, 9:65-66. A POSA

would have understood that, for location-based events, such as sports events or other social activities, or natural disasters, Altman's geolocation-based user identification techniques would, in response to the event, allow users in close proximity to be identified and notified of the event—for example, by “alerting the user to the ... location of events of interest when the user enters a particular area.” EX1006, ¶61. These techniques would further Kraft's objectives—for example, Kraft's system seeks to “facilitate multi-user discussion of the real-world entity to which the model pertains,” that is, to facilitate user discussion regarding an event. EX1005, 12:64-66.

73. A POSA would have had a reasonable expectation of success incorporating Altman's geolocation-based user identification techniques into Kraft's known system for connecting real-world entities. Kraft already discloses a framework for creating, storing, and presenting information to users regarding real-world entities, such as people and events, as I discuss above. EX1005, 2:37-62, 8:28-31. And, like Altman, Kraft's users operate well-known devices such as “cell phone[s]” that are “capable of interfacing directly or indirectly to the Internet.” EX1005, 5:13-19; EX1006, ¶31 (“[A] plurality of mobile communication devices, such as cell phones or similar devices 102 are coupled to a communication network.”). Therefore, a POSA would have understood that user locations could be determined using standard techniques in Kraft's system (e.g., using GPS), and no

modifications to Kraft's network structure or user devices would be needed to incorporate Altman's techniques.

74. Therefore, it is my opinion that a POSA would have been motivated to combine Kraft and Altman.

B. Independent Claim 1

1. [1.P] "A method for forming a situational network and providing supplemental information comprising:"

75. 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 in view of Altman teaches this element.

76. As an initial matter, the '463 patent broadly describes that a "situational network 3000 is created when an occurrence or expected occurrence of an event or situation 3005 causes connections, also referred to as links, to be established between, within or among a set of participants." EX1001, 4:20-24, FIG. 1. The '463 patent provides several examples of "situations," including "a social event, such as a concert or festival." EX1001, 31:64-65; *see also* EX1001, 5:9-24 ("Examples of events or situations 3005 that might initiate the formation of a situational network include weather phenomenon, such as hurricanes, tornadoes, severe thunderstorms, or winter storms; emergency situations, such as building fires, aircraft crashes, or toxic substance releases; natural disasters, such as earthquakes, tsunamis, or floods; weather related activities, such as skiing or

surfing; navigation and/or travel incidents, such as road closures or construction, vehicle accidents, traffic congestion, roadway debris, or air turbulence; and public health crises, such as disease outbreak”). Claim 1 broadly recites “*a situation*” without any further limitation as to what events constitute “*a situation*.” EX1001, Claim 1.

77. Kraft discloses “systems and methods for information retrieval and communication using a world model.” EX1005, 2:35-37. Kraft explains that “[t]he 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.

78. Kraft discloses an entity model may be assigned an “event” category for “entity models representing occurrences such as elections, natural disasters, sports events, and so on.” EX1005, 9:50-66. Kraft’s events align with the types of situations disclosed in the ’463 patent, which, as noted above, describes a “situation” as broadly including social events (e.g., a sports event as described in Kraft), emergency events, weather phenomena, natural disasters, etc. *See* EX1001, 5:9-24, 31:64-65. Therefore, it is my opinion that Kraft’s “event” entity models each correspond to “*a situation*,” as recited in claim 1 of the ’463 patent. And, in Kraft, “world-model participants can create and update entity models,” such as

event entities, “via client application 125 (FIG. 1), which interacts with world-builder module 165 of world server 160.” EX1005, 15:21-28, FIG. 1.

79. Kraft also discloses that “the world model advantageously defines types of relationships that may exist among entity models belonging to the same or different categories.” EX1005, 10:10-13. For example, as I have highlighted in Kraft’s Figure 3 below, a “Person” can be directly linked to a created “Event” as a “participant.” EX1005, 10:13-21, FIG. 3.

	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

EX1005, FIG. 3 (annotated).

80. 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” in an event, as shown in Figure 3 above. EX1005, FIG. 3. Each entity model can be “implemented as a data structure that can reference other entity model data structures, e.g., using

labels, pointers or other suitably persistent references, thereby allowing relationships among entity models to be defined.” EX1005, 9:42-47. Additionally, Kraft discloses that relationships between entities may be defined when the event is created. EX1005, 15:41-52, 16:28-30 (when creating a “new entity model 400,” “relationships of the new entity model 400 to existing entity models 400 in world model data store 162 are defined.”). Therefore, Kraft teaches “[a] *method for forming a situational network*,” defining connections between Event entities and Person entities in response to occurrence of an event.

81. Altman also teaches techniques for automatically identifying individuals based on proximity to an event. Similar to Kraft, Altman discloses an “event manager [that] allows the user to create and manage various events using date and location information and send invitations or messages regarding the events to friends...” EX1006, ¶53; *see also* EX1006, ¶55 (disclosing that “events can be stored in data store 120”). Altman further discloses that information “can be provided to [a] user in a ‘push’ model in which the server sends relevant POI information to a user based on a user condition, such as if the user goes near a particular POI,” e.g., the location of an event. EX1006, ¶55.

82. In this manner, Altman teaches identifying a subset of users within a given proximity to an event and providing information about the event to those users. EX1006, ¶55. For instance, Altman discloses “alerting the user to the ...

location of events of interest when the user enters a particular area.” EX1006, ¶61.

As I discuss above, a POSA would have been motivated to employ Altman’s geolocation-based user identification techniques in Kraft’s system to identify and connect users to events in close proximity, creating “*a situational network*” corresponding to an event. *See* Section IX.A.

83. Additionally, as I discuss below for element [1.F], it is my opinion that Kraft in view of Altman teaches “*providing supplemental information*” to users, including updates to entity information (for example, the location of an event). Therefore, it is my opinion that Kraft in view of Altman teaches the preamble of claim 1.

2. [1.A] “maintaining 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 a multi-dimensional information network”

84. In my opinion, Kraft teaches this element. The ’463 patent uses “multi-dimensional personal information network” and “N-dimensional social network (NDSN)” interchangeably. *See* EX1001, 6:24-28, 8:4-8 (“[T]he situational network may be established using the framework of an **N-dimensional social network (NDSN), also referred to hereafter as a multi-dimensional personal information network...**”), 15:1-4. The ’463 patent describes that a “multi-dimensional personal information network[] captures and manages multi-dimensional relationships between persons and other entities that are users of the

network,” such as “family, professional connection,” or shared “preferences.”

EX1001, 15:1-20.

85. For the reasons I discuss for [1.P], Kraft’s “world model” provides such “*a multi-dimensional information network*.” In particular, Kraft discloses that its world server 160 “*maintain[s] a database*,” for example, “world model data store 162,” which contains “a searchable set of interrelated entity models 164,” which Kraft also refers to as “node[s].” EX1005, 6:33-37, 8:23-28, FIG. 1. Each of these interrelated entity models 164 corresponds “to some entity existing in the real world, such as **a person...**” EX1005, 6:37-42. 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. “Person” entity models, therefore, are “*a plurality of user nodes*” stored in database 162.

86. Kraft’s entity models are also “linked to each other by navigable relationships,” which are “*dimensions in a multi-dimensional information network*.” EX1005, 8:1-3. In particular, Kraft discloses that world model 162 “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 “can have trust (or friendship) relationships with each other” and world model “can include features of a

conventional social network.” EX1005, 10:22-26.

87. Kraft discloses that world model 200 can model “the full complexity and scope of interrelationships that exist in the real world.” EX1005, 9:3-5. As an example, another type of relationship disclosed by Kraft is “employer to employee.” EX1005, 16:45-48. Users may also be linked by common interests and other community involvement. For example, two users can be linked by an interest in “science fiction.” EX1005, 9:5-14; FIG. 2. Indeed, Kraft’s network follows the well-known social network paradigm that existed at the time of the ’463 patent, as I discuss in Section 42.

88. Therefore, it is my opinion that Kraft’s world model captures and stores relationships between user nodes along multiple dimensions—for example, trust/friendship relationships and common interests. Kraft’s world model thus provides “*multi-dimensional node-to-node links characterizing relationships between the plurality of user nodes via dimensions in a multi-dimensional information network.*”

3. [1.B] “obtaining an indication of an occurrence of a situation”

89. In my opinion, Kraft in view of Altman teaches this element. As I discuss above, Kraft discloses “Event” entity models that “represent[] **occurrences such as elections, natural disasters, sports events**, and so on,” EX1005, 9:65-66—that is, “*an occurrence of a situation.*” Kraft’s “world-model participants can

create and update entity models,” such as event 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.

90. As part of this node creation process, “the participant selects a category for the new entity model,” for example, “Event.” EX1005, 9:65-66, 15:47-52. The user then populates information such as a “name” and “content section” associated with the event. EX1005, 15:53-16:14. Kraft’s system “*obtain[s] an indication of an occurrence of a situation*” by receiving the data pertaining to the new entity. As Kraft describes, “after all information has been entered, the participant commits the new entity model to world model data store 162,” and “it becomes accessible to other users via various search and navigation interfaces and tools.” EX1005, 16:52-57; *see also* EX1005, 6:52-57 (“World-builder module 165 enables authorized users to update the world model in data store 162, e.g., by creating, deleting, or modifying entity models 164 stored therein.”).

91. Additionally, I note that Altman also discloses “*obtaining an indication of an occurrence of a situation*.” Altman discloses an “event manager [that] allows the user to create and manage various events using date and location information and send invitations or messages regarding the events to friends...” EX1006, ¶53. Events can include information such as “the time and place of the

event,” “[t]he location of the event,” and “other relevant information.” EX1006,

¶54. Similar to Kraft, Altman’s system “*obtain[s] an indication of an occurrence of a situation*” by receiving the data pertaining to the new event, and created “events can be stored in [Altman’s] data store 120.” EX1006, ¶55.

92. Therefore, it is my opinion that Kraft in view of Altman teaches this element.

4. [1.C] “forming the situational network as a subset of the multi-dimensional information network based at least in part on the situation by:”

93. In my opinion, Kraft in view of Altman teaches this element for the reasons I discuss for elements [1.P] and [1.A] above, and for elements [1.C.1]-[1.C.5] below.

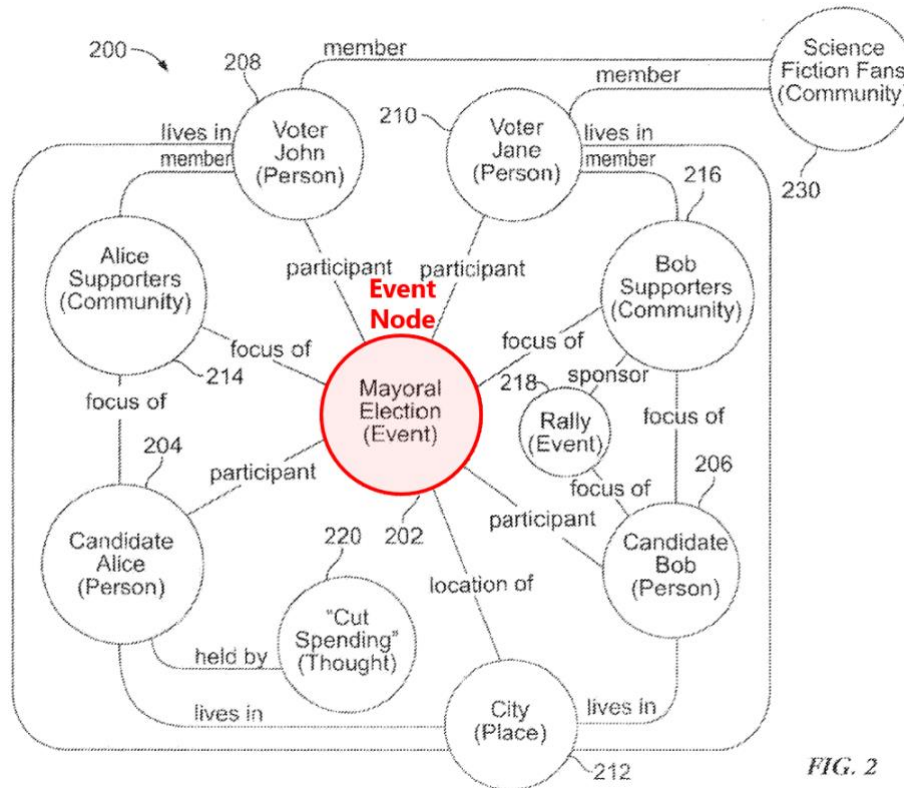
5. [1.C.1] “establishing an event node corresponding to the situation”

94. In my opinion, Kraft teaches this element. As noted above, Kraft discloses “Event” entity models that “represent[] occurrences such as elections, natural disasters, sports events, and so on,” EX1005, 9:65-66—that is, “*the situation*.” Kraft’s “world-model participants can create and update entity models,” such as event entity models (“*event node[s]*”), “via client application 125 (FIG. 1), which interacts with world-builder module 165 of world server 160.” EX1005, 15:21-28, FIG. 1.

95. As part of this process, “the participant selects a category for the new

entity model,” e.g., “Event.” EX1005, 15:47-52. The user then populates information such as a “name” and “content section” associated with the event. EX1005, 15:53-16:14. As Kraft describes, “after all information has been entered, **the participant commits the new entity model to world model data store 162**”—i.e., “*establishing an event node corresponding to the situation*”—and “it becomes accessible to other users via various search and navigation interfaces and tools.” EX1005, 16:52-57; *see also* EX1005, 6:52-57 (“World-builder module 165 enables authorized users to update the world model in data store 162, e.g., by creating, deleting, or modifying entity models 164 stored therein.”).

96. Figure 2 of Kraft illustrates an example event node 202 established within Kraft’s world model that “represents the event, in this example a mayoral election.” EX1005, 8:40-45, FIG. 2.



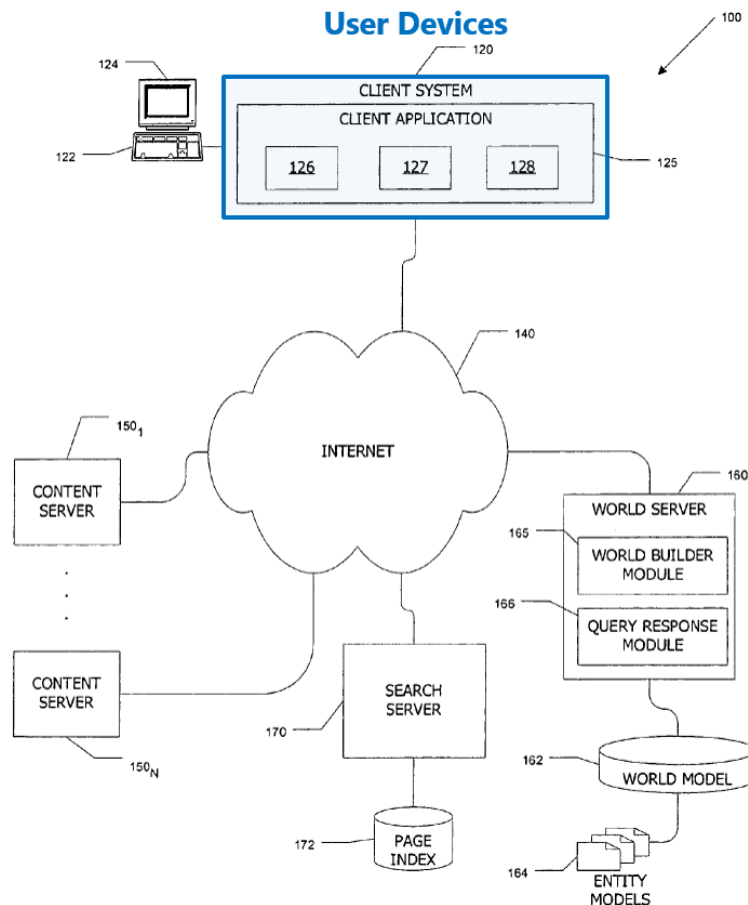
EX1005, FIG. 2 (annotated).

97. Therefore, it is my opinion that Kraft teaches this element.

6. [1.C.2] “wherein the event node is discoverable to each respective user device of a plurality of user devices associated with the plurality of user nodes by browsing a data feed provided based on the database and wherein the event node contains information pertinent to the situation”

98. In my opinion, Kraft teaches this element. Kraft discloses “a plurality of user devices associated with the plurality of user nodes.” In particular, Kraft teaches that users interact with its system via a “client system 120,” which is “configured to communicate with a world server system 160 and a search server system 170, e.g., to perform searches, to interact with a world model as described

below, and to communicate with other users of world server 160 and/or search server 170.” EX1005, 4:64-5:12. Kraft’s client system 120, representing one of “a plurality of user devices” in Kraft’s system, is illustrated in Figure 1 below.



EX1005, FIG. 1 (annotated).

99. Kraft discloses that Figure 1 illustrates several “conventional, well-known elements,” such as “client system 120.” EX1005, 5:13-19. “[C]lient system 120 could include a **desktop personal computer, workstation, laptop, personal digital assistant (PDA), cell phone, or any WAP-enabled device or any other computing device** capable of interfacing directly or indirectly to the Internet.”

EX1005, 5:15-19. “A client application 125 executing on client system 120 advantageously includes instructions for controlling client system 120 and its components to communicate with server systems 150₁ to 150_N, 160 and 170 and to process and display data content received therefrom.” EX1005, 5:44-49. Kraft also discloses that a “real-world person who is a world-model participant may choose to create” one or more “**Person entity model[s]**” (“*user nodes*”) via client application 125 “to represent himself or herself in the world model.” EX1005, 14:1-15, 15:25-28. Therefore, it is my opinion that Kraft teaches “*a plurality of user devices associated with the plurality of user nodes.*”

100. Kraft also teaches that “*the event node is discoverable to each respective user device ... by browsing a data feed provided based on the database.*” For example, Kraft discloses that after a participant commits a new entity model to world model data store 162, “**it becomes accessible to other users via various search and navigation interfaces and tools.**” EX1005, 16:53-59. Kraft discloses that client system 120 (“*user device*”) can “communicate with a world server system 160” (e.g., through “world search module 126”) “to search world model data store 162 for entity models that match user-specified criteria.” EX1005, 5:8-10, 6:51-59, 18:31-54. For instance, users may search for “entities located near a specified geographic location.” EX1005, 18:47-50.

101. 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, 18:61-19:9. Kraft also describes that “[i]n some embodiments, the matched entity models might be returned in a format other than a list,” such as “by reference to locations on a map.” EX1005, 19:17-23. Each of these embodiments—a list or graphical display of search results—provides “*a data feed provided based on the database*” because the data feeding the search results is based on search and retrieval of matching entity models from Kraft’s world model data store 162.

102. Kraft’s search result listing is consistent with the ’463 patent’s use of the term “data feed.” The ’463 patent discusses data feeds broadly and abstractly—the patent does not specify or 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. Kraft’s search results are similarly requested by a user and provided to the user’s device in list or graphical form. Additionally, the ’463 patent describes that “[t]he event node may be discovered by a user’s PIA 404 corresponding to the user 250 **based on the PIA 404 searching or crawling the network** for information about the situation or event.”

EX1001, 20:46-49. Kraft's user performs a similar operation, searching the network for entity models (including events) via the user's device. EX1005, 5:8-10, 6:51-59, 18:31-54, 18:61-19:9. Therefore, Kraft teaches "*the event node*" (the event entity model) "*is discoverable to each respective user device ... by browsing a data feed provided based on the database.*"

103. Additionally, Kraft teaches that "*the event node contains information pertinent to the situation.*" Kraft teaches that the user may select a matched entity model from the search results and be shown an "entity view" that "displays **information from the entity model** in a user-readable form." EX1005, 19:37-41. As Kraft describes, "[e]ach entity model is advantageously implemented as a data structure that provides access to **information about a real-world entity that the node represents.**" EX1005, 8:26-28. And the "types of information that may be contained in an entity model include," for example, "text or media content related to the corresponding entity." EX1005, 3:18-24. For instance, entity models may contain a "name" and "Location" metadata that, for event entities, specify a location of the event. EX1005, 15:53-56, 16:32-34. Put simply, Kraft teaches that a user may select an event node, which returns information (e.g., "text or media content," EX1005, 3:18-24) pertinent to the event (that is, "*information pertinent to the situation*").

104. Therefore, it is my opinion that Kraft teaches this element.

7. **[1.C.3] “creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation”**

105. In my opinion, Kraft in view of Altman teaches this element. Altman discloses use of “mobile devices are location-aware mobile communication devices.” EX1006, ¶8. Altman’s “process **determines the geographic location of a mobile communication device** operated by a user within an area,” and then “[m]essaging and alert functions using the communications capability of the mobile device can incorporate the location information resulting in interaction among users.” EX1006, ¶8. Altman discloses that its “location determination component can be,” for example, “a GPS module or assisted GPS (A-GPS) that provides the location of the mobile communication devices in terms of latitude/longitude coordinates.” EX1006, ¶40.

106. Altman also employs “[a] database specifying places and/or events,” and information “can be provided to [a] user in a ‘push’ model in which the server sends relevant POI information to a user based on a user condition, such as if the user goes near a particular POI,” for example, the location of an event. EX1006, ¶55. For instance, Altman discloses “alerting the user to the ... location of events of interest when the user enters a particular area.” EX1006, ¶61. Based on this disclosure, a POSA would have understood that Altman’s techniques allow for identification of users within a particular geographic proximity to an event and

providing information to that subset of users.

107. As I discuss in Section IX.A, it is my opinion that a POSA would have been motivated to employ Altman’s geolocation-based user identification techniques in Kraft’s system to identify and connect users to events nearby. In this manner, Kraft in view of Altman teaches “*creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation.*” In my opinion, these techniques would enable users in Kraft-Altman’s combined system to be alerted to such events, and to “facilitate multi-user discussion of the real-world entity [(i.e., the event)] to which the model pertains”—an objective expressly outlined in Kraft. EX1005, 12:64-66.

108. Therefore, it is my opinion that Kraft in view of Altman teaches this element.

8. [1.C.4] “presenting the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes”

109. In my opinion, Kraft in view of Altman teaches this element. As I discuss for [1.C.2], Kraft discloses that its event entity models contain “*information pertinent to the situation,*” such as “Location” metadata that specifies a location of the event and other “text or media content” pertinent to the event. EX1005, 3:18-24, 16:32-34. Additionally, as I discuss for [1.C.3], Altman

discloses “alerting the user to the ... location of events of interest when the user enters a particular area.” EX1006, ¶61. Based on these disclosures, a POSA would have recognized that in the combined system of Kraft-Altman, “*devices associated with the first subset of the plurality of user nodes*” (the user devices in geographic proximity to the event) would beneficially be alerted with “*the information pertinent to the situation,*” for example, the location of and other information pertinent to the event. Presentation of this information would automate discovery of the event, and information about the event, by users in geographic proximity to the event, rather than needing to separately search for it. Indeed, as I discuss in Section VII.B, sharing information related to an event to users within geographic proximity of the event was well known and would have been readily appreciable by a POSA in the timeframe of the ’463 patent.

110. Therefore, it is my opinion that Kraft in view of Altman teaches this element.

9. [1.C.5] “joining at least a first node of the first subset of the plurality of user nodes to the event node based on interaction with the presented information pertinent to the situation”

111. In my opinion, Kraft in view of Altman teaches this element in multiple ways. First, Kraft discloses that once an event is created, “Person” entities (“*user nodes*”) can be directly joined to the “Event” entity (“*event node*”) as a “participant.” EX1005, 10:13-21, FIG. 3. Kraft does not explicitly disclose how a

person becomes a participant in an event from my review of the reference. Altman, however, discloses the use of invitations for this purpose. In particular, Altman discloses that its “event manager allows the user to create and manage various events using date and location information and **send invitations** or messages **regarding the events.**” EX1006, ¶53.

112. In my opinion, a POSA would have been motivated to incorporate Altman’s event invitations as part of “*the presented information pertinent to the situation*” to facilitate participation in the event. By accepting the invitation (“*interaction with the presented information*”), Kraft’s system can create a “participant” relationship between the “Person” and “Event” entities. EX1005, 10:13-21, FIG. 3. Therefore, Altman’s event invitations provide a simple mechanism to inform Kraft’s system of a new “participant” relationship. EX1005, 10:13-21, FIG. 3. In this manner, Kraft in view of Altman teaches “*joining at least a first node of the first subset of the plurality of user nodes to the event node based on interaction with the presented information pertinent to the situation.*”

113. Second, Kraft discloses that “channels can be defined” for entity models “to facilitate multi-user discussion of the real-world entity [(i.e., the event)] to which the model pertains.” EX1005, 12:64-66. “For example, a chat room channel 426 may be defined, and a user who has retrieved entity model 400 from world model data store 162 can use channel 426 to enter a chat room and discuss

the entity in real time with other users.” EX1005, 12:66-13:3.

114. Once the user is alerted to an event in the combined system of Kraft-Altman, a POSA would have recognized the benefits of allowing the user to enter the chat room by “*interact[ing] with the presented information pertinent to the situation,*” for example, by directing the user to the chat room (or, alternatively, to the entity model containing a link to the chat room) via selection of a link within the “*presented information.*” Indeed, Kraft already discloses the use of “clickable hyperlinks” that direct a user to an entity model. EX1005, 19:27-32. Including similar hyperlinks (to the chat room or entity model) within the “*presented information*” would simply reuse the same technique. This operation would beneficially “facilitate multi-user discussion” of the event—an objective described in Kraft—without the user needing to separately search for the event entity model. EX1005, 12:64-66. In this manner, Kraft-Altman renders obvious “*joining at least a first node of the first subset of the plurality of user nodes*” (via its associated device) “*to the event node*” through a chat room channel corresponding to the event node. EX1005, 19:37-48.

115. Therefore, it is my opinion that Kraft in view of Altman teaches this element.

10. [1.D] “receiving an indication of the supplemental information”

116. In my opinion, Kraft teaches this element. Kraft discloses that its

“[w]orld builder module 165 advantageously also supports modification of an entity model 400 that is already in world model data store 162.” EX1005, 17:9-11. For example, “modification to content section 404 and communication channels section 420 for an existing entity model,” such as an event entity, can be made “by the entity manager of that entity model.” EX1005, 17:18-21. Similarly, modification to other “existing information,” such as the “[l]ocation” of an event, can be made in Kraft’s system. EX1005, 15:64-16:2, 17:11-17. When information related to an entity model is updated, such as information related to an event, that “*supplemental information*” is received by Kraft’s system and “committed to world model data store 162.” EX1005, 17:30-34.

117. Moreover, Kraft discloses that entity models may “be automatically updated to reflect changes in real-world relationships that can be ... reported to world server 160”—for example, if a user were to join a community group, that transaction can be reported to world server 160, which can modify the Person entity model to reflect the user’s membership in the corresponding Community entity model. EX1005, 18:18-26. This reporting of “real-world relationships” is also “*supplemental information*” received by Kraft’s system. EX1005, 18:18-26.

118. Therefore, it is my opinion that Kraft teaches “*receiving an indication of the supplemental information*,” for example, through updates to entity model information and reporting of real-world relationships.

11. [1.E] **“analyzing the database that comprises the multi-dimensional node-to-node links to identify a second node included in the database that is connected via at least one dimension in the multi-dimensional information network to a third node of the database, wherein the at least one dimension is indicative of potential interest in the situation”**

119. In my opinion, Kraft in view of Altman teaches this element. As I discuss for element [1.C.5], Kraft discloses that once an event is created, “Person” entities (i.e., “*user nodes*”) can be directly joined to the “Event” entity (“*event node*”) as a “participant.” EX1005, 10:13-21, FIG. 3. In the combined system of Kraft-Altman, a POSA would have understood that more than one “*node of the first subset of the plurality nodes*” may be joined to the event node as a participant. In other words, more than one person in geographic proximity to the event can participate in the event—that is part of the purpose of alerting users in proximity to an event. *See, e.g.*, EX1006, ¶53 (“The event manager allows the user to create and manage various events using date and location information and **send invitations** or messages **regarding the events.**”). Therefore, in addition to a “*first node*” that is joined to the event node, Kraft-Altman teaches “*a third node of the database*” that is joined to the “*event node.*”

120. Kraft also discloses that its “world model provides a searchable set of interrelated entity models.” EX1005, 6:35-40. For example, a “participant might access a search-and-navigation interface ... to identify entity models that should be related.” EX1005, 16:36-42, 18:31-19:32 (discussing Kraft’s search process).

When the “*third node*,” for instance, initiates a search “to view related entity models,” “all related entity models up to some maximum degree of separation (e.g., 2) from the current entity may be shown.” EX1005, 20:59-67. A POSA would have understood that to identify the entity models related to the event, Kraft’s system “*analyz[es] the database that comprises the multi-dimensional node-to-node links to identify a second node included in the database,*” for example, one of the nodes connected to the event within two degrees of separation from the event.

121. Additionally, Kraft teaches that the “*second node ... is connected via at least one dimension in the multi-dimensional information network to [the] third node of the database, wherein the at least one dimension is indicative of potential interest in the situation.*” In particular, a POSA would have understood that by searching for entities within two “degree[s] of separation” from an event node, EX1005, 20:59-67, Kraft’s system would identify both user nodes connected to the event node (for example, as a “participant,” EX1005, 10:13-21, FIG. 3) and user nodes (i.e., “*a second node*”) indirectly connected to the event node through another node (for example, through the “*third node*”).

122. For example, as Kraft discloses, the “*second node*” and “*third node*” may be “Person” nodes “hav[ing] trust (or friendship) relationships with each other.” EX1005, 10:22-25; FIG. 3. Or, as another example, the “*second node*” and

“*third node*” may both be “members of” a “Community” node that is a “sponsor of” or “participates in” the event. EX1005, FIG. 3; *see also* EX1005, 8:53-62 (discussing user nodes linked to an event node via membership in a community node).

123. Each of these examples illustrates the “*second node*” and “*third node*” connected via at least one “*dimension [that] is indicative of potential interest in the situation.*” For example, in the case that each node is a member of a community that sponsors an event, as Kraft discloses, that relationship would be “*indicative of potential interest in the situation.*” EX1005, 8:49-62 (providing an example of a user’s potential interest in a “rally” (“event node”) based on membership in a community sponsoring the rally). Similarly, when the “*third node*” is a participant in an event, a “trust (or friendship)” relationship between the “*second node*” and “*third node*” would indicate that the “*second node*” may also be interested in the event. Indeed, Altman itself suggests that friends may have a “*potential interest*” in an event, allowing users “to create and manage various events using date and location information and **send invitations or messages regarding the events to friends.**” EX1006, ¶53. For instance, when the “*third node*” is a participant in an event, that user may logically choose to send an event invitation or event information to a friend (the “*second node*”) to inform the user of the event—even when the user is not in close proximity to the event—knowing that the friend may

have an interest in the event.

124. Therefore, it is my opinion that Kraft in view of Altman teaches this element.

12. [1.F] “providing to a device associated with the second node the supplemental information”

125. In my opinion, Kraft in view of Altman teaches this element. As I discuss for elements [1.C.3] and [1.C.4], Altman discloses “alerting the user to the ... location of events of interest when the user enters a particular area.” EX1006, ¶61. A POSA would have recognized that users not yet connected to an event, but having a potential interest in the event, would benefit from being alerted when they enter an area in close proximity to the event. For example, if a user in Kraft-Altman’s system is a friend of a participant in the event, or a member of community sponsoring the event, as I discuss for element [1.E], the user may have an interest in attending the event. Altman’s techniques beneficially allow the user to be alerted with information related to the event, including the latest updates to the location of or content associated with the event (“*supplemental information*”), when the user is in proximity to the event. EX1006, ¶61. As I explain for element [1.C.4], presentation of this information would automate discovery of the event, and information about the event, by users in geographic proximity to the event, rather than needing to separately search for it.

126. Altman also teaches that a user may send “messages regarding []

events to friends.” EX1006, ¶53. A POSA would have been motivated to enable a user to send information regarding an event (including the latest “*supplemental information*”) to friends within Kraft-Altman’s combined system to inform the user of an event of interest, even when the user is not in close proximity to the event. For instance, as noted for element [1.E], when the “*third node*” is a participant in an event, that user may logically choose to send event information to a friend (the “*second node*”) to inform the user of the event, knowing that the friend may be interested in the event. A POSA also would have had a reasonable expectation of success including Altman’s messages regarding events because Kraft’s “world model” already “enables a user to send a message to any entity represented therein.” EX1005, 9:29-39.

127. Therefore, it is my opinion that Kraft in view of Altman teaches this element.

13. [1.G] “in response to interacting with the supplemental information, causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation”

128. In my opinion, Kraft in view of Altman teaches this element. Kraft discloses that each of its user devices, i.e., “Client system 120,” “typically runs a browsing program, such as Microsoft's Internet Explorer™ browser, Netscape Navigator™ browser, Mozilla™ browser, Opera™ browser, or a WAP-enabled

browser in the case of a cell phone,” which was common at the time of the ’463 patent to allow users to browse Web pages. EX1005, 5:19-26. And, as I discuss for element [1.C.2], each person node in Kraft’s network is associated with a device. Therefore, Kraft teaches “*a web browser application operating on the device associated with the second node.*”

129. Kraft also discloses that a user may access an “entity view” of an entity model “by clicking on the link to that entity model.” EX1005, 19:37-38. As Kraft explains, “[t]he entity view advantageously displays information from the entity model in a user-readable form,” and “the user can interact with the displayed information to explore the world model.” EX1005, 19:39-42. The “entity view” may be “implemented as a Web page” accessible on the user’s device. EX1005, 19:46-48; FIG. 8. In the case of an event entity, the “entity view” would, therefore, provide “*a webpage containing information related to the situation.*”

130. As I discuss for element [1.F], Kraft in view of Altman teaches alerting “*a device associated with the second node*” in proximity to an event with information about the event, including “*the supplemental information.*” A POSA would have been further motivated to allow a user to access the “entity view” of the event entity model by “*interacting with the supplemental information*” in the alert. For example, by selecting the event in the alert, the user would beneficially be able to access “a Web page” providing more detailed information regarding the

event. EX1005, 19:46-48. Indeed, Kraft already discloses that users may access an “entity view” by “clicking on the link to that entity model.” EX1005, 19:37-38; *see also* EX1005, 19:27-32 (disclosing the use of “clickable hyperlinks” that direct a user to an entity model). Including a similar hyperlink to the entity model within the “*supplemental information*” would simply reuse the same technique.

131. In this manner, Kraft in view of Altman teaches “*causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation*” by “*interacting with the supplemental information*” in the alert transmitted to the user’s device. EX1005, 19:37-45.

C. Independent Claim 7

132. In my opinion, Kraft in view of Altman renders obvious independent claim 7. Claim 7 sets forth elements substantially the same as claim 1, as illustrated in the following table.

Independent Claim 1	Independent Claim 7
[1.P] A method for forming a situational network and providing supplemental information comprising:	[7,P] A system for forming a situational network and providing supplemental information comprising:
	[7.A] one or more central processing units of an event node server configured to:
[1.A] maintaining a database of a plurality of user nodes and multi-dimensional node-to-node links characterizing relationships between	[7.A.1] maintain a database of a plurality of user nodes and multi-dimensional node-to-node links characterizing relationships between

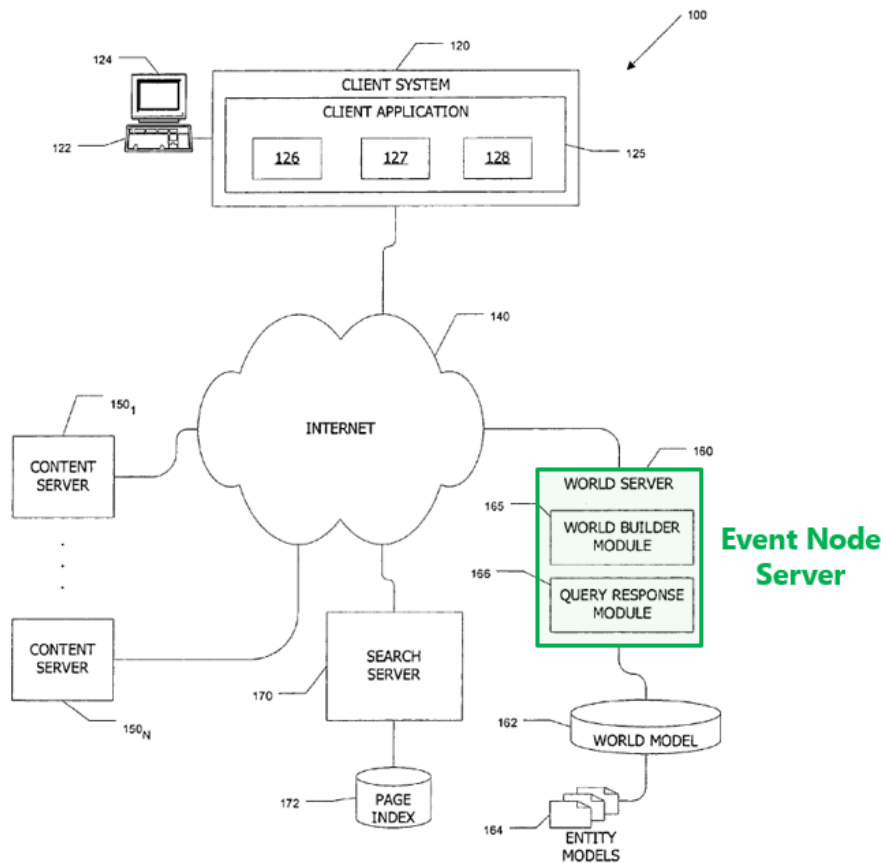
the plurality of user nodes via dimensions in a multi-dimensional information network;	the plurality of user nodes via dimensions in a multi-dimensional information network;
[1.B] obtaining an indication of an occurrence of a situation;	[7.A.2] obtain an indication of an occurrence of a situation; and
[1.C] forming the situational network as a subset of the multi-dimensional information network based at least in part on the situation by:	[7.A.3] form the situational network as a subset of the multi-dimensional information network based at least in part on the situation by:
[1.C.1] establishing an event node corresponding to the situation,	[7.A.4] establishing an event node corresponding to the situation,
[1.C.2] wherein the event node is discoverable to each respective user device of a plurality of user devices associated with the plurality of user nodes by browsing a data feed provided based on the database and wherein the event node contains information pertinent to the situation;	[7.A.5] wherein the event node is discoverable to each respective user device of a plurality of user devices associated with the plurality of user nodes by browsing a data feed provided based on the database and wherein the event node contains information pertinent to the situation;
[1.C.3] creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation;	[7.A.6] creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation; and
[1.C.4] presenting the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes;	[7.B] one or more network controllers of the event node server configured to: present the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes;
	[7.C] wherein the one or more central processing units are configured to:
[1.C.5] joining at least a first node of the first subset of the plurality of user nodes to the event node based on	[7.C.1] join at least a first node of the first subset of the plurality of user nodes to the event node based on

interaction with the presented information pertinent to the situation;	interaction with the presented information pertinent to the situation;
[1.D] receiving an indication of the supplemental information;	[7.C.2] receive an indication of the supplemental information; and
[1.E] analyzing the database that comprises the multi-dimensional node-to-node links to identify a second node included in the database that is connected via at least one dimension in the multi-dimensional information network to a third node of the database, wherein the at least one dimension is indicative of potential interest in the situation;	[7.C.3] analyze the database that comprises the multi-dimensional node-to-node links to identify a second node included in the database that is connected via at least one dimension in the multi-dimensional information network to a third node of the database, wherein the at least one dimension is indicative of potential interest in the situation;
[1.F] providing to a device associated with the second node the supplemental information; and	[7.D] wherein the one or more network controllers are configured to: provide to a device associated with the second node the supplemental information; and
[1.G] in response to interacting with the supplemental information, causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation.	[7.E] wherein the one or more central processing units are configured to: in response to interacting with the supplemental information, cause a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation.

133. In my opinion, the elements of claim 7 are rendered obvious for the same reasons that I discuss for claim 1 above.

134. Claim 7 further recites “*an event node server*” that includes “*one or more central processing units*” and “*one or more network controllers*” configured

to perform the functions recited in claim 7. Kraft's "world server," which I have annotated in Figure 1 below, provides the recited "*event node server*."



EX1005, FIG. 1 (annotated)

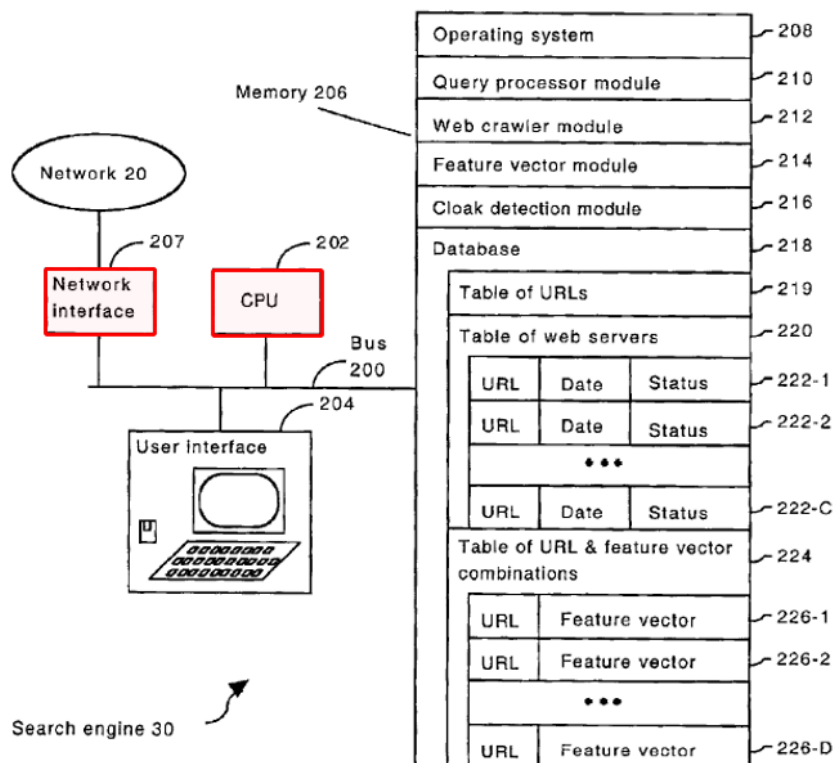
135. In particular, Kraft describes that "[w]orld server 160 maintains [the] world model data store 162 that stores a 'world model'" and "includes a world-builder module 165 and a query response module 166 that interact with client system 120." EX1005, 6:33-35, 6:52-60. "[W]orld-model participants can create and update entity models," such as event nodes, "via client application 125 (FIG. 1), which interacts with **world-builder module 165 of world server 160.**"

EX1005, 15:21-28.

136. Kraft further discloses that its “client system 120 and all of its components” include “a central processing unit such as an Intel Pentium™ processor, AMD Athlon™ processor, or the like or multiple processors” to “communicate with server systems 150₁ to 150_N, 160 and 170 and to process and display data content received therefrom.” EX1005, 5:40-49. A POSA would have understand that Kraft’s servers, including world server 160, would similarly include “*one or more central processing units*” and “*one or more network controllers*” to operate the “world-builder module 165 and a query response module 166,” and to communicate information with client systems 120 through Internet 140. EX1005, 6:33-35, 6:52-60, 15:21-28, FIG. 1.

137. Indeed, it was well known at the time of the ’463 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.” EX1018, ¶4; *see also* EX1018, ¶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.” EX1018, ¶¶11, 21. Similarly, in 2005, Najork described “a search engine 30 includ[ing] **standard**

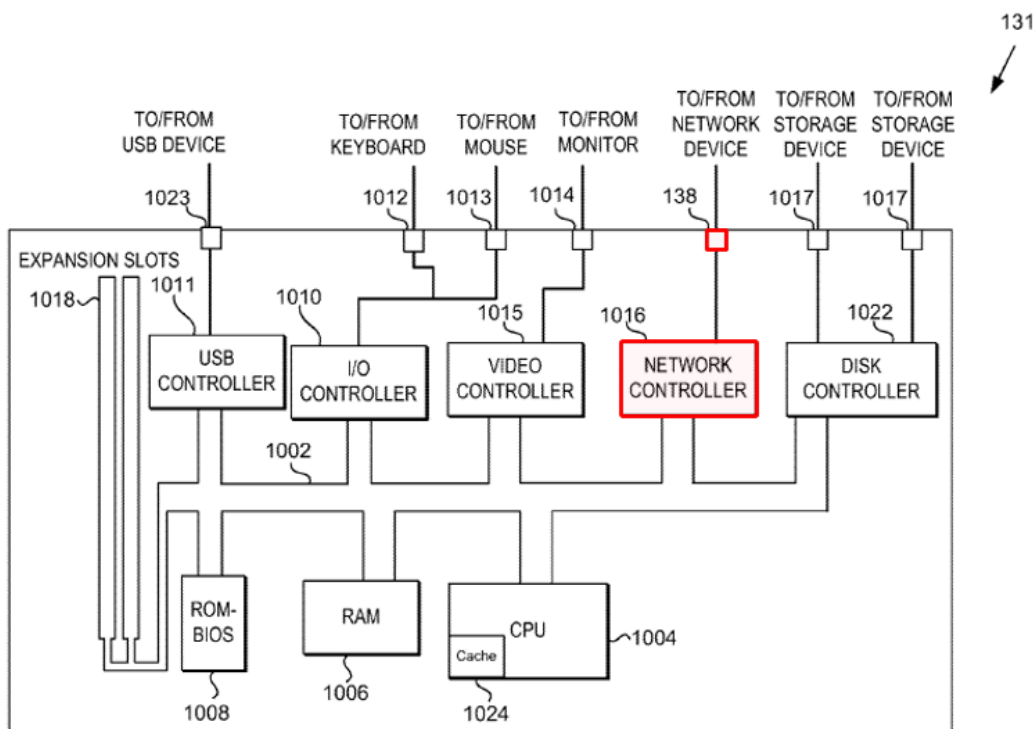
server components such as one or more processing units 202, an optional user interface 204 (e.g., keyboard, mouse, and a display), memory 206, [and] a network interface 207 for coupling the search engine 30 to clients 40 and web servers 50 via communications network 20.” EX1019, 3:60-64.



EX1019, FIG. 2 (annotated).

138. 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. EX1019, 3:60-64. Moreover, a POSA would have understood that the ’463 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 '463 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).

139. 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 '463 patent. Accordingly, it is my opinion that the additional elements of independent claim 7 would have been obvious in view of Kraft’s and Altman’s teachings.

D. Claim 2

140. Claim 2 recites, “*in response to interacting with the supplemental*

information, joining the second node to the event node.”

141. In my opinion, Kraft in view of Altman teaches the additional elements of claim 2 for the reasons I discuss for element [1.C.5]. In particular, Kraft-Altman renders obvious this claim in multiple ways.

142. First, Kraft discloses that once an event is created, “Person” entities (“*user nodes*”) can be directly joined to the “Event” entity (“*event node*”) as a “participant.” EX1005, 10:13-21, FIG. 3. Although Kraft does not explicitly disclose how a person becomes a participant in an event, based on my review of the reference, Altman discloses the use of invitations for this purpose. In particular, Altman discloses that its “event manager allows the user to create and manage various events using date and location information and **send invitations** or messages **regarding the events.**” EX1006, ¶53.

143. In my opinion, A POSA would have been motivated to incorporate Altman’s event invitations as part of “*the supplemental information*” to facilitate participation in the event. By accepting the invitation, Kraft’s system can create a “participant” relationship between the “Person” and “Event” entities. EX1005, 10:13-21, FIG. 3. Therefore, Altman’s event invitations provide a simple mechanism to inform Kraft’s system of a new “participant” relationship. EX1005, 10:13-21, FIG. 3. In this manner, Kraft in view of Altman teaches “*in response to interacting with the supplemental information, joining the second node to the event*

node.” EX1005, 10:13-21, FIG. 3.

144. Second, Kraft discloses that “channels can be defined” for entity models “to facilitate multi-user discussion of the real-world entity [(i.e., the event)] to which the model pertains.” EX1005, 12:64-66. “For example, a chat room channel 426 may be defined, and a user who has retrieved entity model 400 from world model data store 162 can use channel 426 to enter a chat room and discuss the entity in real time with other users.” EX1005, 12:66-13:3.

145. Once the user of the “*second node*” is alerted to an event in the system of Kraft-Altman, a POSA would have recognized the benefits of allowing the user to enter the chat room by “*interacting with the supplemental information*,” for example, by directing the user to the chat room (or the entity model containing a link to the chat room) via selection of a link within the “*supplemental information*.” Indeed, Kraft already discloses the use of “clickable hyperlinks” that direct a user to an entity model. EX1005, 19:27-32. Including similar hyperlinks (to the chat room or entity model) within the “*supplemental information*” would simply reuse the same technique. This operation would, for example, “facilitate multi-user discussion” of the event without the user needing to separately search for the event entity model. EX1005, 12:64-66. In this manner, Kraft-Altman teaches “*joining the second node*” (via its associated device) “*to the event node*” through a chat room channel corresponding to the event node. EX1005, 19:37-48.

E. Claim 3

146. Claim 3 recites, “*wherein the identifying the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database comprises: identifying a direct link between the second node and the third node, wherein the third node is one of the first subset of the plurality of user nodes.*”

147. In my opinion, Kraft in view of Altman teaches the additional elements of claim 3 for the reasons I discuss for element [1.E]. In particular, as I explain for element [1.E], Kraft in view of Altman teaches that “*the third node is one of the first subset of the plurality of nodes.*” And a POSA would have understood that by searching for entities within two “degree[s] of separation” from an event node, EX1005, 20:59-67, Kraft’s system would identify both user nodes connected to the event node (e.g., “*the third node*”) and user nodes (e.g., “*the second node*”) indirectly connected to the event node through another node. For instance, as I discuss for element [1.E], Kraft teaches that the “*second node*” and “*third node*” may be “Person” nodes “hav[ing] trust (or friendship) relationships with each other” (i.e., “*a direct link*”). EX1005, 10:22-25; FIG. 3. Therefore, it is my opinion that Kraft in view of Altman teaches “*identifying a direct link between the second node and the third node, wherein the third node is one of the first subset of the plurality of user nodes.*”

F. Claim 4

148. Claim 4 recites, “*wherein the identifying the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database comprises: identifying a direct link between the second node and the third node, wherein the third node is joined to the event node.*”

149. In my opinion, Kraft in view of Altman teaches the additional elements of claim 4 for the reasons I discuss for element [1.E] and claim 3.

G. Claim 5

150. Claim 5 recites, “*wherein the identifying the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database comprises: identifying an indirect link between the second node and the third node, wherein the third node is joined to the event node and wherein both the second node and the third node are connected by a preference dimension to an additional node.*”

151. In my opinion, Kraft in view of Altman teaches the additional elements of claim 5 for the reasons I discuss for element [1.E]. For example, Kraft in view of Altman teaches that the “*second node*” and “*third node*” may both be “members of” a “Community” node that is a “sponsor of” or “participates in” the event. EX1005, FIG. 3; *see also* EX1005, 8:53-62. In this case, the “Community”

node provides “*an indirect link between the second node and the third node,*” each of “*the second node and the third node*” having a membership relationship with the “Community” node. EX1005, FIG. 3.

152. A POSA would have also understood that the “Community” node connects “*the second node and the third node ... by a preference dimension to an additional node.*” For example, Kraft explains that “Community” “entity models represent[] groups of people united by a common interest or characteristic,” such as “science fiction fans.” EX1005, 9:5-7, 9:61-63. Therefore, being members of a community indicates a common preference, for example, a preference for the science fiction genre. EX1005, 9:5-7, 9:61-63.

H. Claim 6

153. Claim 6 recites, “*wherein the identifying the second node comprises identifying the second node based on a dimension in the multi-dimensional information network other than a dimension indicative of interaction with the event node.*”

154. In my opinion, Kraft in view of Altman teaches the additional elements of claim 6 for the reasons I discuss for element [1.E]. Specifically, as I discuss for element [1.E], Kraft in view of Altman teaches “*identifying the second node*” based on a potential interest in the situation, rather than based on “*interaction with the event node.*”

I. Claim 8

155. Claim 8 recites, “*wherein the one or more network controllers are configured to: in response to interacting with the supplemental information, join the second node to the event node.*”

156. In my opinion, Kraft in view of Altman teaches the additional elements of claim 8 for the reasons discussed for claim 2.

J. Claim 9

157. Claim 9 recites, “*wherein the one or more network controllers are configured to identify the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database nu: identifying a direct link between the second node and the third node, wherein the third node is one of the first subset of the plurality of user nodes.*”

158. In my opinion, Kraft in view of Altman teaches the additional elements of claim 9 for the reasons discussed for claim 3.

K. Claim 10

159. Claim 10 recites, “*wherein the one or more network controllers are configured to identify the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database by: identifying a direct link between the second node and the third node, wherein the third node is joined to the event node.*”

160. In my opinion, Kraft in view of Altman teaches the additional elements of claim 10 for the reasons discussed for claim 4.

L. Claim 11

161. Claim 11 recites, “*wherein the one or more network controllers are configured to identify the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database by: identifying an indirect link between the second node and the third node, wherein the third node is joined to the event node and wherein both the second node and the third node are connected by a preference dimension to an additional node.*”

162. In my opinion, Kraft in view of Altman teaches the additional elements of claim 11 for the reasons discussed for claim 5.

M. Claim 12

163. Claim 12 recites, “*wherein the one or more network controllers are configured to identify the second node by identifying the second node based on a dimension in the multi-dimensional information network other than a dimension indicative of interaction with the event node.*”

164. In my opinion, Kraft in view of Altman teaches the additional elements of claim 12 for the reasons discussed for claim 6.

X. GROUND 2: THE COMBINATION OF WONG, GOGIC, AND GAGE RENDERS OBVIOUS CLAIMS 1-12.

165. In my opinion, the combination of Wong, Gogic, and Gage renders obvious claims 1-12.

A. Overview of the Motivation to Combine Wong, Gogic, and Gage

166. I understand that the Board has previously determined in IPR2024-00529 that POSA would have been motivated to combine Wong and Gogic. EX1010, 34-37. I agree with this assessment. In my opinion, a POSA would have been motivated to modify Wong's social network communication system to incorporate Gogic's teachings of an ad-hoc location-based communication group.

167. Prior to 2007, it was known that online forums could be used to aid in emergency planning and response. EX1011, 56. For example, in 2005 during Hurricane Katrina, the website www.katrina.com served as a popular online resource for hurricane information, including pointers to other websites and a message board to help locate missing people. EX1011, 56. Other websites were created to collect and share location-specific information about the storm and the damage in its aftermath. EX1011, 56. Wong teaches that "notification of updates" or "alerts" may be communicated via its social network. EX1007, ¶44.

168. A POSA would have recognized that it would be useful in Wong's social network system to send such updates or alerts to users located in an emergency-affected area, similar to the known use of online forums to provide this

information. This would have been a natural extension of using online forums.

Around the time of the invention, a transition from topic-focused online communities, such as forums, to person-focused networks, such as social network sites, was occurring. *See, e.g.*, EX1013, 219 (“Early public online communities such as Usenet and public discussion forums were structured by topics or according to topical hierarchies, but social network sites are structured as personal (or ‘egocentric’) networks, with the individual at the center of their own community.”).

169. This would have led a POSA to Gogic. Like Wong, Gogic is directed to group communication over a network. Gogic teaches that “[d]uring emergency situations, the formation of a communication group based on proximity of other users, or based on user’s location being confined to a given area,” facilitates the deployment of emergency services. EX1008, 4:20-24.

170. In my opinion, a POSA would have had a reasonable expectation of success in implementing Gogic’s ad-hoc location-based communication group in Wong’s social-network communication system. Gogic expressly recognizes that its invention is not limited to the wireless CDMA communication system described in the exemplary embodiments, and that it can be used in “any wireless communication system including GSM systems, AMPS systems, TDMA systems, satellite communication systems, as well as other communications systems.”

EX1008, 4:40-57. Gogic further discloses that its invention is not limited to wireless communication systems, but can also be used with, for example, “wireline telephones, paging devices, [and] portable or desktop computers,” and that it applies to “all of the various forms of media including, but not limited to, voice, speech, data, [and] video.” EX1008, 4:46-57. In Wong, users communicate with other users via the social network and may access the social network over any device capable of communicating over a network, such as, for example, “laptops, desktops, handheld, personal digital assistants, [or] mobile telephones.” EX1007, ¶17. Therefore, both Gogic and Wong envision communication using similar technologies.

171. A POSA would have recognized that Gogic’s teachings of an ad-hoc location-based communication group could be implemented in the communication system of Wong’s social network. In my opinion, a POSA would have been motivated to do so, at least in an emergency situation, to facilitate communications in an emergency and for appropriate deployment of emergency services. EX1008, 1:22-26. Gogic expressly recognizes this motivation, noting that “[d]uring emergency situations, the formation of a communication group based on proximity of other users, or based on user’s location being confined to a given area,” may facilitate the deployment of emergency services. EX1008, 4:20-24.

172. Further, it is my opinion that a POSA would have had a reasonable

expectation of success in implementing the combination. The proposed combination simply combines prior-art elements (*e.g.*, combines Wong's social network communication system with Gogic's ad-hoc location-based communication group) according to known methods to yield predictable results, and is also the use of a known technique (implementing Gogic's ad-hoc location-based communication group) to improve similar devices (Wong's social network communication system) in the same way.

173. Additionally, it is my opinion that a POSA would have been motivated to combine the system of Wong-Gogic with Gage's "concerned party" notification techniques to ensure that concerned third parties are notified of pertinent information related to the event. In particular, Gage discloses "a solution for providing a situational status and a location of a subscriber potentially affected by a disaster to concerned parties," such as "family members." EX1009, ¶¶8, 37, Abstract. For example, in the event of an emergency such as a "hurricane," Gage teaches techniques for allowing family members ("a mother," "an aunt," "an out of state brother," etc.) to "be contacted and informed of the status indicator and the location information of the mobile device." EX1009, ¶¶37, 44, 46. A POSA would have logically recognized the benefits of providing status and location information to concerned friends and family in an automated fashion. This would enable concerned parties to obtain the information without needing to establish direct

contact with the individual affected by the situation.

174. In my opinion, a POSA also would have had a reasonable expectation of success incorporating Gage's techniques into Wong-Gogic's system. As I discuss above, Wong already discloses storing relationships between individuals, including "familial relationships" such as "mother/daughter." EX1007, ¶¶2, 23. Additionally, Wong discloses that "notification of updates" or "alerts" may be communicated via its social network. EX1007, ¶44. Therefore, incorporation of Gage's techniques for notifying concerned parties into Wong-Gogic's social network communication system would require nothing more than using well-known notification and communication techniques, as disclosed by both Wong and Gage, which would yield predictable results. Incorporation of Gage's notification techniques would also improve Wong-Gogic's system in the same way, for example, communicating status/location information to family members in an emergency situation.

175. Therefore, it is my opinion that a POSA would have been motivated to combine Wong, Gogic, and Gage.

B. Independent Claim 1

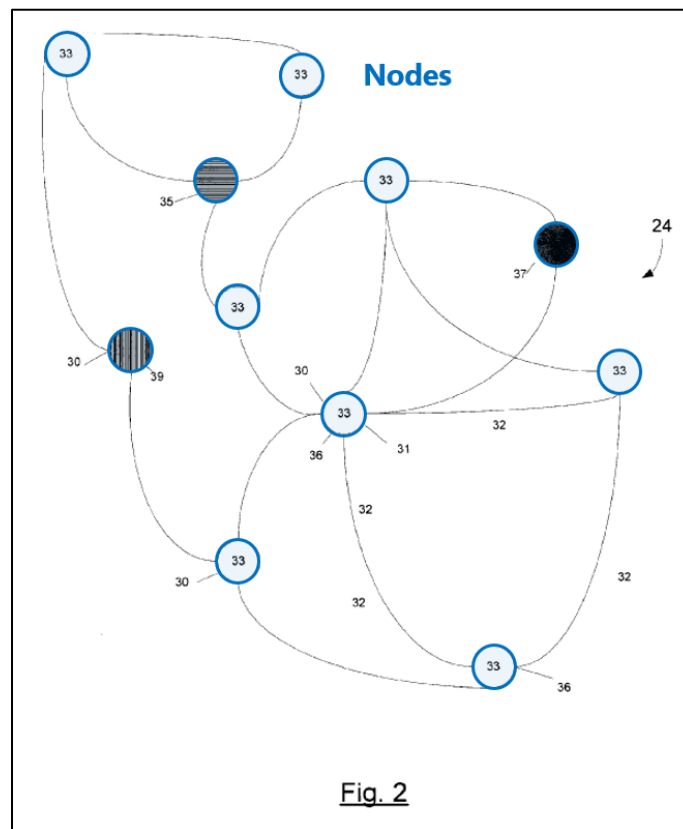
1. [1.P] "A method for forming a situational network and providing supplemental information comprising:"

176. 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 Wong in view of Gogic and Gage teaches this element. Wong

discloses a “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. As Wong explains, “nodes 30 represent people 33 (living and deceased), places 35, objects 37 and animals 39,” and Wong discloses that more “main node types” and “sub-types” may be included. EX1007, ¶¶21-22. Figure 2 of Wong, reproduced below, illustrates an example of a “network of living and non-living entities as constructed according to the invention.” EX1007, ¶10.



EX1007, FIG. 2 (annotated).

177. Wong explains that “[n]odes can be linked by more than one linkage type, representing the multiple types of relationships between the entities represented by the nodes.” EX1007, ¶24. For example, “[a] linkage of a person node to another person node can be, for example: mother/daughter, best friend, biological, social, or genetic.” EX1007, ¶24. In this manner, Wong teaches a network of people, places, objects, animals, and other nodes linked by multiple relationships.

178. Gogic teaches “providing group communication services to an ad-hoc group formed according to vicinity with other users of communication device(s) (CD), or according to proximity of a given locality, in an existing communication system.” EX1008, 4:16-20. For example, “[d]uring emergency situations, the formation of a communication group based on proximity of other users, or based on user’s location being confined to a given area, may allow emergency services to be more efficiently or more appropriately deployed.” EX1008, 4:20-24.

179. In particular, Gogic’s system “identifies the occurrence or presence of an event or condition [(that is, “*a situation*”)] wherein communications between proximately located users could be beneficial” and transmits an “invitation to join a group to all recipient CDs with their invitation acceptance being conditional upon the CD qualifying according to the location criteria” transmitted with the invitation. EX1008, 10:18-50. Users within the specified geographic proximity to

the event may accept the invitation, in which case they are joined “as a confirmed member of the group,” allowing members “to transmit to others of the plurality of wireless communication devices of the communication group.” EX1008, 10:62-11:9, 4:30-35, Abstract. Gogic, therefore, teaches “*forming a situational network*” of users within proximity to the event, allowing the users to communicate with other members of the group. EX1008, 10:62-11:9, 4:30-35, Abstract.

180. As I discuss above in Section X.A, it is my opinion that a POSA would have been motivated to incorporate Gogic’s teachings of an ad-hoc location-based communication group into Wong’s social network communication system to be able to, for example, send updates or alerts to users located in an affected area during an emergency, and to allow those users to communicate among one another. Therefore, in the combined system of Wong-Gogic, a POSA would have been motivated to “*form[] a situational network*” including the subset of nodes in Wong’s social network accepting invitations to participate in the ad-hoc location-based communication group.

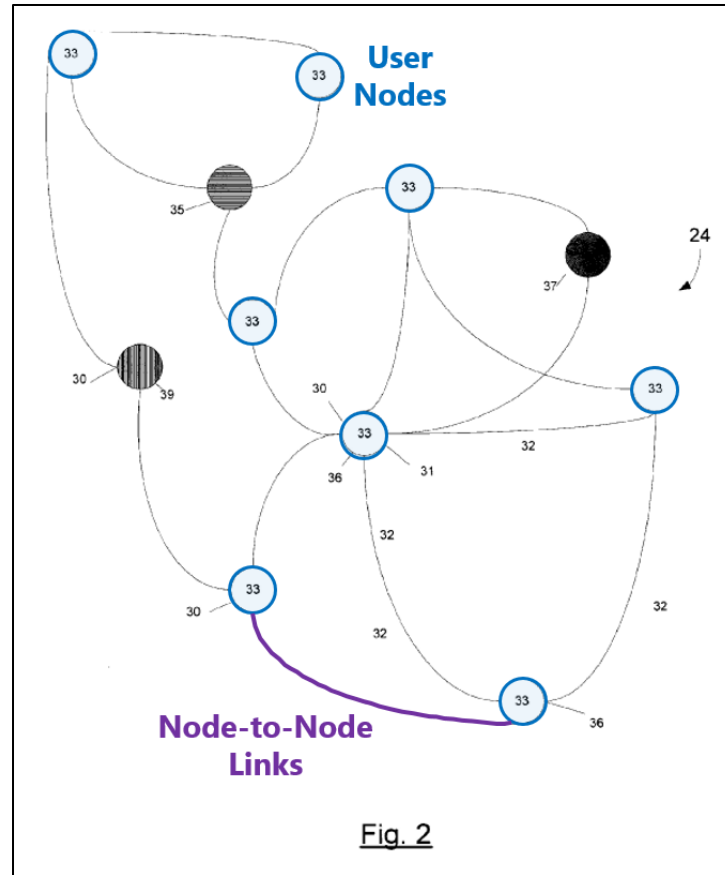
181. Wong in view of Gogic and Gage also teaches “*providing supplemental information,*” as I discuss further for element [1.F] below. For example, Gage teaches “subscriber status reporting” techniques for use “during disasters.” EX1009, ¶26. Subscribers affected by a situation “can select a status indicator [], such as OK, NEED HELP, and IN CRITICAL NEED,” and

“[c]oncerned parties, such as family members,” can “be contacted and informed of the status indicator and the location” of an affected subscriber. EX1009, ¶¶27, 37. In this manner, Gage teaches “*providing supplemental information*,” for example, the status of an individual in proximity to the event, to concerned parties. And, as explained in Section X.A above, it is my opinion that a POSA would have been motivated to incorporate these notification techniques into Wong-Gogic’s system to ensure that concerned parties are notified of pertinent information related to the event.

182. Therefore, it is my opinion that Wong in view of Gogic and Gage teaches the preamble of claim 1.

2. [1.A] “maintaining 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 a multi-dimensional information network”

183. In my opinion, Wong teaches this element. Wong’s network provides a “*multi-dimensional personal information network*.” Figure 2 of Wong, reproduced below, illustrates an example of a “network of living and non-living entities as constructed according to the invention.” EX1007, ¶10.



EX1007, FIG. 2 (annotated).

184. As I discuss for element [1.P], network 24 includes nodes 30 (“*a plurality of user nodes*”) joined by connections 32, also called “linkages” (“*node-to-node links*”). EX1007, ¶21. Each node represents a living or non-living entity, such as “people 33 (living and deceased), places 35, objects 37 and animals 39.” EX1007, ¶21. Therefore, Wong’s “nodes 30” include “*a plurality of user nodes*,” for example, “people 33.” EX1007, ¶21; *see also* EX1007, ¶20 (explaining that “[t]he user can edit the user’s own node...”).

185. In Wong’s network, linkages 32 have a defined linkage type,

“representing the actual type [of] relationship which exists between the person, place, object or animal represented by the linked nodes.” EX1007, ¶24. And Wong teaches “*multi-dimensional node-to-node links characterizing relationships between the plurality of user nodes via dimensions in [the] multi-dimensional information network.*” For example, Wong teaches that “[n]odes can be linked by **more than one linkage type**, representing the multiple types of relationships between the entities represented by the nodes.” EX1007, ¶24; *see also* EX1007, ¶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. Additionally, each node in Wong’s network 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, 31-32. Therefore, consistent with the description in the ’463 patent, Wong’s network 24 “captures and manages multi-dimensional relationships between persons and other entities that are users of the network.” EX1001, 15:1-20.

186. Wong also discloses that its nodes and linkages are maintained in “*a database.*” Specifically, Wong discloses that “[a] social network server or servers 20 maintain a system comprising an Internet website, **database** and associated data, which is accessible to users 10.” EX1007, ¶17, FIG. 1. “**Nodes, linkages,**

linkage types, and all data pertaining to the network can be categorized, sorted and stored in the same database which forms part of the system and retrievable from the same system.” EX1007, ¶36.

187. Therefore, it is my opinion that Wong teaches this element.

3. [1.B] “obtaining an indication of an occurrence of a situation”

188. In my opinion, Wong in view of Gogic and Gage teaches this element. Gogic and Gage each teach “*obtaining an indication of an occurrence of a situation.*” In Gogic, “[a] dispatcher 400 **identifies the occurrence or presence of an event or condition** wherein communications between proximately located users could be beneficial,” such as “a large scale natural disaster.” EX1008, 2:12-14, 10:18-21. When such a “*situation*” is identified (e.g., a natural disaster), Gogic’s system “*obtain[s] an indication of an occurrence of a situation*” via “a dispatcher interface configured to generate an invitation to join a communication group with the invitation including group membership location criteria.” EX1008, 2:54-58. Similarly, Gage discloses “**detecting an occurrence of a disaster** affecting a region.” EX1009, Claim 15; *see also* EX1009, ¶9 (“**[W]hen a disaster is detected**, mobile devices of subscribers can be queried for location and wireless connectivity by a centrally located disaster response system.”). In this manner, both Gogic and Gage teach “*obtaining an indication of an occurrence of a situation*” by detecting or receiving information about an event such as natural

disaster. As I discuss above in Section X.A, a POSA would have been motivated to incorporate Gogic's techniques detecting the occurrence of an event and forming an ad-hoc communication group in response to detection of the event into Wong's social network communication system, which would facilitate communication of information to and among users within the group.

189. Additionally, the combined system of Wong-Gogic-Gage "*obtain[s] an indication of an occurrence of a situation*" as part of "*establishing an event node*," as I discuss further for [1.C.1] below. In Wong, each node contains "communication tools" for "communicat[ing] with nodes in the same network of living and non-living entities," allowing nodes to "exchange information." EX1007, ¶¶19, 31. Wong also describes four exemplary "main node types"—people, places, objects, animals—but also teaches that more "main node types" and "sub-types" may be included. EX1007, ¶¶21-22. For example, "Object sub-types can be groups, organizations, products, businesses, books, songs, etc." EX1007, ¶22.

190. Because communication in Wong's network occurs between nodes, a POSA would have recognized that a new node ("*an event node*") corresponding to the identified event ("*situation*") would be useful in Wong's social network to facilitate communication related to the event or condition. For example, in Wong's network, a "node can contain information pertaining to the entity that it

represents,” and Wong provides “tools to allow one or more living individual persons to view, add, edit, or delete information pertaining to the entity.” EX1007, ¶31. In the case of an “event node,” a POSA would have recognized that this information would include information pertinent to the event, such as the type (e.g., an “earthquake or hurricane,” EX1008, 1:27) and location information related to the event.

191. Wong also teaches providing “notification of data updates within a node” as well as “alerts,” in line with Gogic’s desire “for users in an area to be given emergency assistance information” when a situation occurs. EX1007, ¶44; EX1008, 2:12-17. For example, Wong discloses that an “inactive node,” such as an event node, contains “tools to **allow one or more living individual persons to view, add, edit, or delete information** pertaining to the entity that it represents.” EX1007, ¶31. A POSA would have recognized that it would be beneficial to update event nodes with important information, including “emergency assistance information” as Gogic describes, so that users affected by the situation can be notified of the information as it becomes available. EX1007, ¶44; EX1008, 2:12-17.

192. Wong discloses creation of a new node by “select[ing] a node type for the new node” and “a node sub-type from a menu provided for that node type, or by entering an acceptable sub-type.” EX1007, ¶26. Wong’s system then stores the

created node in its database managed by social network server(s) 20. EX1007,

¶¶17, 36. When Wong's system receives the information for creating a new node related to the identified event, the system of Wong-Gogic-Gage "*obtain[s] an indication of an occurrence of a situation.*"

193. Therefore, it is my opinion that Wong in view of Gogic and Gage teaches this element.

4. [1.C] "forming the situational network as a subset of the multi-dimensional information network based at least in part on the situation by:"

194. In my opinion, Wong in view of Gogic and Gage teaches this element. For the reasons I discuss for element [1.P] and elements [1.C.1]-[1.C.5] below, Wong in view of Gogic and Gage teaches "*forming the situational network ... based at least in part on the situation,*" for example, based on "the occurrence or presence of an event or condition wherein communications between proximately located users could be beneficial." See EX1008, 10:16-21. Additionally, as I discuss for elements [1.P] and [1.A] above, as well as elements [1.C.1]-[1.C.5] below, Wong in view of Gogic and Gage teaches that the "*situational network*" is formed "*as a subset of the multi-dimensional information network,*" connecting a subset of user nodes within Wong's social network based on proximity to an emergency event.

195. Therefore, it is my opinion that Wong in view of Gogic and Gage

teaches this element.

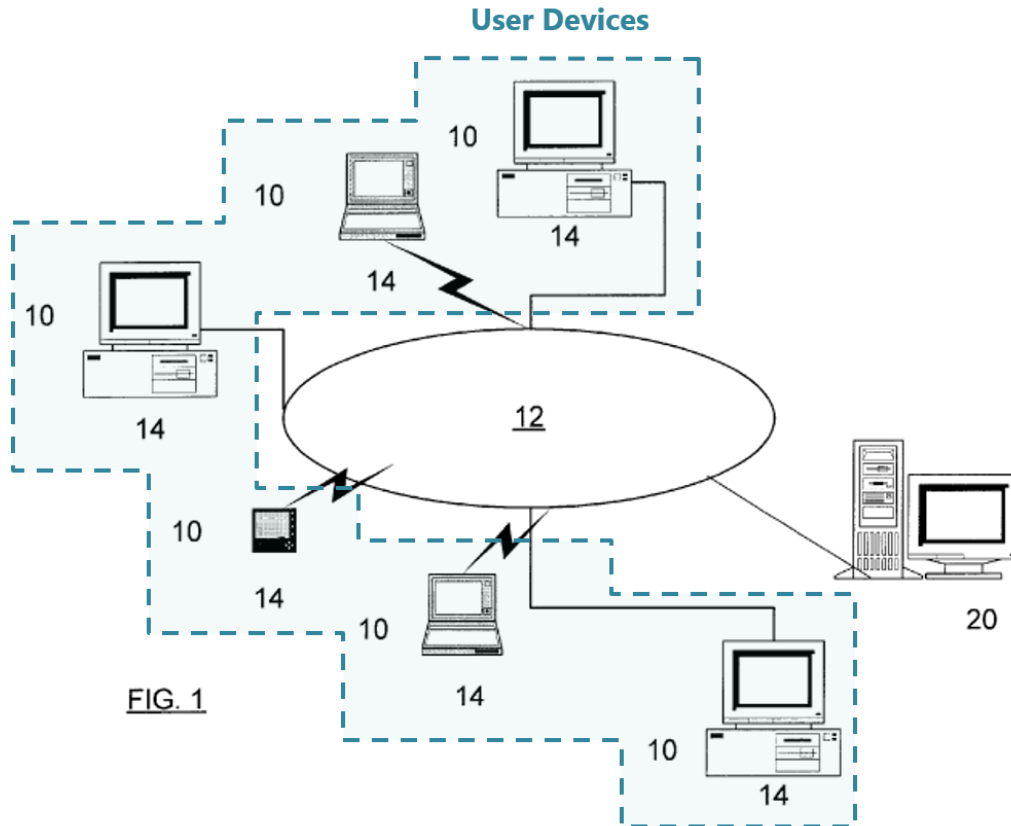
5. [1.C.1] “establishing an event node corresponding to the situation”

196. In my opinion, Wong in view of Gogic and Gage teaches this element for the reasons I discuss for element [1.B]. As I discuss for that element, a POSA would have recognized that a new node (“*an event node*”) corresponding to the identified event (“*situation*”) would be useful in Wong’s social network to facilitate communication related to the event or condition. Wong in view of Gogic and Gage teaches “*establishing*” the “*event node*” by creating and storing the node in its social network database. EX1007, ¶¶17, 26, 36.

197. Therefore, it is my opinion that Wong in view of Gogic and Gage teaches this element.

6. [1.C.2] “wherein the event node is discoverable to each respective user device of a plurality of user devices associated with the plurality of user nodes by browsing a data feed provided based on the database and wherein the event node contains information pertinent to the situation”

198. In my opinion, Wong teaches this element. As illustrated in Figure 1 below, Wong discloses “a number of users 10 having computer terminals 14, whether laptops, desktops, handheld, personal digital assistants, mobile telephones or any other device capable of communicating over a network, have access to a computer network 12 such as the Internet.” EX1007, ¶17.



EX1007, FIG. 1 (annotated).

199. Wong describes, “[i]nitially user 10 accesses the system website and is presented with a page to register for the system,” and “once registered, a representation in the system, hereinafter referred to as a ‘node’ 30, is created for the user.” EX1007, ¶18. Therefore, Wong teaches “a plurality of user devices” e.g., “computer terminals 14” in Wong, “associated with the plurality of user nodes.” EX1007, ¶¶17-18.

200. Wong also teaches that nodes are “discoverable” to users within the network. Wong teaches that users may find an “existing node” by “searching and selecting from keyword identifiers or other search terms.” EX1007, ¶28. “Each

node can be viewed by the user or third parties as a web page having features designated by the user it represents.” EX1007, ¶22. Additionally, Wong teaches that the “network of living and non-living entities 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.

201. A POSA would have recognized that by allowing users to search for existing nodes, Wong’s system allows “*each respective user device*” to “*brows[e] a data feed*” by presenting a list or graphical display of nodes matching the search query. EX1007, ¶¶28, 35. And the “*data feed*” is “*based on the database*” because Wong’s “[n]odes, linkages, linkage types, and all data pertaining to the network” are stored in its social network database. EX1007, ¶36.

202. As I discuss for Ground 1, Wong’s list or graphical display of nodes matching a search query is consistent with the ’463 patent’s use of the term “data feed.” The ’463 patent discusses data feeds broadly and abstractly—the patent does not specify or 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 which the External 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. Wong’s search results are similarly requested by a user and provided to the user’s device in list or graphical form. Additionally, the ’463 patent describes

that “[t]he event node may be discovered by a user’s PIA 404 corresponding to the user 250 **based on the PIA 404 searching or crawling the network** for information about the situation or event.” EX1001, 20:46-49. Wong’s user performs similar operation, searching the network for nodes (which would include the “*event node*”) via the user’s device. EX1005, 5:8-10, 6:51-59, 18:31-54, 18:61-19:9. Therefore, Wong teaches “*the event node is discoverable to each respective user device ... by browsing a data feed provided based on the database.*”

203. Wong also teaches that “*the event node contains information pertinent to the situation*” for the reasons I discuss for [1.B] above. For example, in Wong’s network, a “node can contain information pertaining to the entity that it represents,” and Wong provides “tools to allow one or more living individual persons to view, add, edit, or delete information pertaining to the entity.” EX1007, ¶31. In the case of an “event node,” a POSA would have recognized that this information would include information pertinent to the event, such as the type (e.g., an “earthquake or hurricane,” EX1008, 1:27) and location information related to the event.

204. Therefore, it is my opinion that Wong teaches this element.

7. **[1.C.3] “creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation”**

205. In my opinion, Wong in view of Gogic and Gage teaches this element

for the reasons I discuss for element [1.P]. In particular, in response to the occurrence of an emergency event (“*situation*”), Gogic teaches transmitting invitations to join an ad-hoc communication group and joining to the group users within geographic proximity to the event upon acceptance of the invitation. EX1008, 4:30-35, 10:18-50, 10:62-11:9, Abstract. Gogic expressly teaches “*determin[ing] that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation*” by evaluating “group membership location criteria” prior to joining user to the group. EX1008, 10:26-11:9.¹ And, as I discuss above, a POSA would have been motivated to incorporate Gogic’s teachings of an ad-hoc location-based communication group into Wong’s social network communication system to be able to, for example, send updates or alerts to the subset of network users located in an affected area during an emergency. *See* Section X.A.

206. Therefore, it is my opinion that Wong in view of Gogic and Gage teaches this element.

¹ Gage also teaches this element in my opinion by determining a subset of users “affected by the disaster” based on “location information from mobile devices.” EX1009, ¶36.

8. [1.C.4] “presenting the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes”

207. In my opinion, Wong in view of Gogic and Gage teaches this element in multiple ways. First, as I discuss for elements [1.B] and [1.C.2], a POSA would have recognized that “*information pertinent to the situation*” in Wong-Gogic-Gage’s system would include information such as the type (e.g., an “earthquake or hurricane,” EX1008, 1:27) and location information related to the event. Additionally, as I discuss for elements [1.P] and [1.C.3], Wong in view of Gogic and Gage teaches transmitting invitations to join an ad-hoc communication group and joining to the group users within geographic proximity to the event upon acceptance of the invitation.¹

208. Gogic also teaches that invitations sent to users include “location criteria” related to the event, such as a “region” or “inclusive boundary” associated with the event. EX1008, 10:26-29, 10:35-50. A POSA would have recognized the benefit of providing other information pertinent to the event in the invitation, such as the type and severity of the event (for example, in the case of “a large scale natural disaster,” EX1008, 2:12-14), so that users can evaluate whether to accept

¹ The claims do not preclude presenting information to devices beyond those “associated *with the first subset of the plurality of user nodes.*”

the invitation to the ad-hoc communication group. Indeed, Gogic describes that once an “emergency flag” is set on a monitored channel, device users actively monitor the channel “to obtain further information.” EX1008, 10:51-56. Thus, a POSA would have recognized the benefit of providing information about the event to the users monitoring the channel and receiving the invitation to join the ad-hoc communication group. Therefore, Wong in view of Gogic and Gage teaches “*presenting the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes*” as part of invitations sent to users.

209. Second, once joined to the group, Gogic aims “for users in an area to be given emergency assistance information” related to the situation. EX1008, 2:12-17. Wong further teaches providing “notification of data updates within a node” and “alerts” to other nodes within the network. EX1007, ¶44. Based on these teachings, it is my opinion that a POSA would have recognized the benefit of presenting updated information regarding the event (“*information pertinent to the situation*”) “*to devices associated with the first subset of the plurality of user nodes*,” for example, when information contained in the event node is updated to “add[] details” related to the event. EX1007, ¶38 (discussing editing node information), ¶44.

210. For at least these reasons, it is my opinion that Wong in view of Gogic and Gage teaches this element.

9. [1.C.5] “joining at least a first node of the first subset of the plurality of user nodes to the event node based on interaction with the presented information pertinent to the situation”

211. In my opinion, Wong in view of Gogic and Gage teaches this element in multiple ways. First, Wong in view of Gogic and Gage teaches “*joining at least a first node of the first subset of the plurality of user nodes to the event node*” when a user accepts an invitation to join the ad-hoc communication group (“*based on interaction with the presented information pertinent to the situation*”), enabling communication with and among the users of the group. EX1008, 2:12-14, 2:35-38 (“Permission to transmit to others of the plurality of wireless communication devices of the communication group is granted to one of the wireless communication devices of the communication group.”). A POSA would have recognized that this group relationship would be reflected in Wong’s network, specifically by creating a “linkage” from the user node to the event node, as Wong discloses that “[e]ach linkage type represents the actual relationship type which exists between a node and any other node type.” EX1007, ¶24. Gogic, in fact, discloses maintaining a “group list” that includes the user devices joined to the group, EX1008, 10:66-11:9, which can and would beneficially be recorded through a linkage between user nodes and the event node in Wong’s system.

212. Second, Wong teaches that each node (including “inactive” nodes like an “*event node*”) contains “a home page” with “information pertaining to the

entity. EX1007, ¶31; *see also* EX1007, ¶22 (“Each node can be viewed by the user or third parties as a web page...”). In the combined system of Wong-Gogic-Gage, a POSA would have recognized the benefit of providing a link to the home page of the “*event node*” in either the group invitation or when an alert regarding the event is transmitted to group members. In particular, this operation would enable a user to access the home page of the “*event node*” to view detailed information regarding the event, and to “exchange information pertaining to the” event. EX1007, ¶31. In this manner, Wong in view of Gogic and Gage teaches “*joining at least a first node ... to the event node based on interaction with the presented information pertinent to the situation.*”

213. For at least these reasons, it is my opinion that Wong in view of Gogic and Gage teaches this element.

10. [1.D] “receiving an indication of the supplemental information”

214. In my opinion, Wong in view of Gogic and Gage teaches this element. Gage teaches that “[w]hen a subscriber is proximate to a disaster area, the subscriber’s device can be queried for a status indicator and for an optional user provided message.” EX1009, ¶9. For example, “[s]oftware 212 on device 210 can permit subscriber 214 to report situation status information to system 230,” such as “OK, NEED HELP, and IN CRITICAL NEED.” EX1009, ¶27. The user can also convey “location information to system 230,” obtained, for example, “through

either a Global Position System (GPS) component or through triangulation based upon a relative position of a mobile device within a wireless mobile communication network.” EX1009, ¶¶19, 32. Gage, therefore, teaches “*receiving an indication of the supplemental information,*” for example, status and location information of users affected by the situation.

215. As I discuss in Section X.A, a POSA would have been motivated to incorporate Gage’s techniques for obtaining “a situational status and a location of a subscriber potentially affected by a disaster” into Wong-Gogic’s system to ensure that concerned parties are notified of pertinent information related to the event. EX1009, ¶¶8, 37. This incorporation would enable concerned parties to obtain the information without needing to establish direct contact with the individual affected by the situation. *See* Section X.A. A POSA would have also had a reasonable expectation of success in doing so, as such information could be received by Wong’s “social network server or servers 20” and stored in Wong’s associated database. EX1007, ¶¶17, 36; Section X.A.

216. Therefore, it is my opinion that Wong in view of Gogic and Gage teaches this element.

11. [1.E] “**analyzing the database that comprises the multi-dimensional node-to-node links to identify a second node included in the database that is connected via at least one dimension in the multi-dimensional information network to**

a third node of the database, wherein the at least one dimension is indicative of potential interest in the situation”

217. In my opinion, Wong in view of Gogic and Gage teaches this element. Gage discloses “providing a situational status and a location of a subscriber potentially affected by a disaster to concerned parties,” such as “family members.” EX1009, ¶¶8, 37, Abstract. For example, in the event of an emergency such as a “hurricane,” family members (e.g., “a mother,” “an aunt,” “an out of state brother,” etc.) or other “emergency contacts” “can be contacted and informed of the status indicator and the location information of the mobile device.” EX1009, ¶¶37, 44, 46.

218. As I discuss in Section X.A, a POSA would have recognized the benefits of providing status and location information to concerned friends and family in an automated fashion in Wong-Gogic-Gage’s system, without the need for concerned parties to establish direct contact with the individual affected by the situation. Wong teaches storing relationships between individuals in its database, including, for example, “familial relationships” such as “mother/daughter,” as well as providing “notification of updates” or “alerts” to users. EX1007, ¶¶2, 23, 44. Based on this disclosure, a POSA would have stored “concerned party” relationships, such as familial relationships and emergency contact relationships, in Wong’s database to allow identification of concerned parties in an emergency. EX1007, ¶36.

219. In this manner, the system of Wong-Gogic-Gage would identify concerned party nodes by “*analyzing the database that comprises the multi-dimensional node-to-node links*” (Wong’s social network database, EX1007, ¶36) “*to identify a second node included in the database,*” for example, a family member or other emergency contact, “*that is connected via at least one dimension in the multi-dimensional information network to a third node of the database,*” for example, one of the “*first subset of the plurality of user nodes*” affected by the situation. In other words, because concerned party relationships would be stored in Wong’s database, those relationships would be used to identify concerned parties when a situation occurs.

220. A POSA would have also recognized that “*the at least one dimension is indicative of potential interest in the situation.*” As Gage discloses, for example, a “a mother” (a “concerned party”) would be interested in “determin[ing] whether her daughter ... is alright in the aftermath of a disaster,” EX1009, ¶20, and thus the mother/daughter relationship is “*indicative of potential interest in the situation.*” And the same would be true of any “emergency contact” relationship. EX1009, ¶¶43-44.

221. Therefore, it is my opinion that Wong in view of Gogic and Gage teaches this element.

12. [1.F] “providing to a device associated with the second node the supplemental information”

222. In my opinion, Wong in view of Gogic and Gage teaches this element for the reasons I discuss for element [1.E]. In particular, Wong in view of Gogic and Gage teaches providing status and location information (“*the supplemental information*”) to a concerned party (“*the second node*”). Gage further discloses that the information is received via a “device 244,” which would correspond to a user device in Wong’s network (“*a device associated with the second node*”). EX1009, ¶¶26, 37; EX1007, ¶17, FIG. 1 (disclosing various user devices).

13. [1.G] “in response to interacting with the supplemental information, causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation”

223. In my opinion, Wong in view of Gogic and Gage teaches this element. Gage discloses “a Web site containing subscriber status information can be updated with the subscriber’s status indicator and location,” and “[c]oncerned parties, such as family members, can be granted access to the Web site, through which they can look-up the last known location and situational status of the subscriber.” EX1009, ¶37. Gage also teaches “combin[ing] data obtained from one or more devices 210 with information obtained from other sources, such as server 240, in order to create a more comprehensive situation assessment.” EX1009, ¶31. For example, as Gage describes, “server 240 can provide satellite images of a

disaster region, which can be combined with a subscriber location so that a concerned party 246 is able to see not only a status indicator and a location for a subscriber 214, but a picture of that area as well.” EX1009, ¶31.

224. As I note above for element [1.C.5], each node in Wong includes a “home page” containing information pertaining to the node, which “can be viewed by the user or third parties as a web page” via “an internet browser” on the user’s device. EX1007, ¶¶17, 22, 31. Based on this disclosure, a POSA would have recognized the benefit of making Gage’s “comprehensive situation assessment” data (which is already provided via “a Web site” in Gage, EX1009, ¶¶31, 37) available on the home page of the “*event node*” (i.e., “*a webpage containing information related to the situation*”). This would allow easy access to the comprehensive situation assessment simply by navigating the event node’s home page.

225. A POSA would have further recognized the benefit of providing a link to the home page of the “*event node*” with the provided “*supplemental information*” (for example, allowing the user to select/click the “*supplemental information*” to access the home page, i.e., “*causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation*”). This operation would enable concerned parties to quickly access more detailed information regarding the

event through their browser, including the “comprehensive situation assessment” of Gage, when they are notified of status information. EX1009, ¶31. Therefore, it is my opinion that the disclosures of Wong, Gogic, and Gage teach, “*in response to interacting with the supplemental information, causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation.*”

C. Independent Claim 7

226. In my opinion, Wong in view of Gogic and Gage renders obvious independent claim 7. Claim 7 sets forth elements substantially the same as claim 1, as illustrated in the following table.

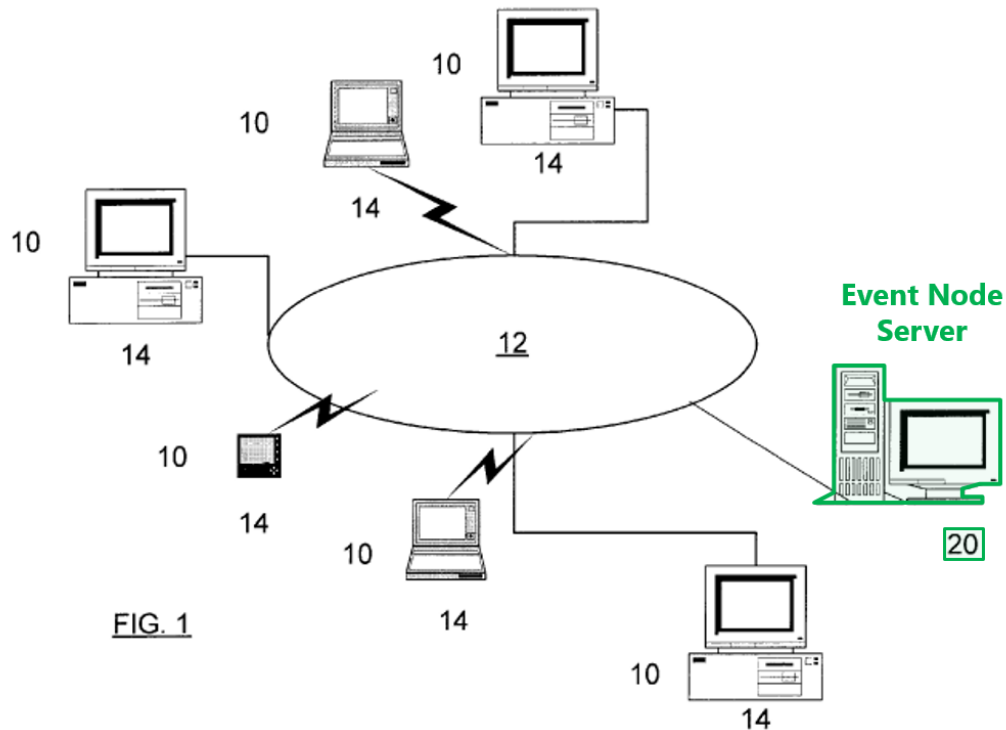
Independent Claim 1	Independent Claim 7
[1.P] A method for forming a situational network and providing supplemental information comprising:	[7,P] A system for forming a situational network and providing supplemental information comprising:
	[7.A] one or more central processing units of an event node server configured to:
[1.A] maintaining 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 a multi-dimensional information network;	[7.A.1] maintain 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 a multi-dimensional information network;
[1.B] obtaining an indication of an occurrence of a situation;	[7.A.2] obtain an indication of an occurrence of a situation; and
[1.C] forming the situational network as a subset of the multi-dimensional	[7.A.3] form the situational network as a subset of the multi-dimensional

information network based at least in part on the situation by:	information network based at least in part on the situation by:
[1.C.1] establishing an event node corresponding to the situation,	[7.A.4] establishing an event node corresponding to the situation,
[1.C.2] wherein the event node is discoverable to each respective user device of a plurality of user devices associated with the plurality of user nodes by browsing a data feed provided based on the database and wherein the event node contains information pertinent to the situation;	[7.A.5] wherein the event node is discoverable to each respective user device of a plurality of user devices associated with the plurality of user nodes by browsing a data feed provided based on the database and wherein the event node contains information pertinent to the situation;
[1.C.3] creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation;	[7.A.6] creating a first subset of the plurality of user nodes based on a determination that the first subset of the plurality of user nodes is associated with devices that are in geographic proximity to the situation; and
[1.C.4] presenting the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes;	[7.B] one or more network controllers of the event node server configured to: present the information pertinent to the situation to devices associated with the first subset of the plurality of user nodes;
	[7.C] wherein the one or more central processing units are configured to:
[1.C.5] joining at least a first node of the first subset of the plurality of user nodes to the event node based on interaction with the presented information pertinent to the situation;	[7.C.1] join at least a first node of the first subset of the plurality of user nodes to the event node based on interaction with the presented information pertinent to the situation;
[1.D] receiving an indication of the supplemental information;	[7.C.2] receive an indication of the supplemental information; and
[1.E] analyzing the database that comprises the multi-dimensional node-to-node links to identify a second node	[7.C.3] analyze the database that comprises the multi-dimensional node-to-node links to identify a second node

included in the database that is connected via at least one dimension in the multi-dimensional information network to a third node of the database, wherein the at least one dimension is indicative of potential interest in the situation;	included in the database that is connected via at least one dimension in the multi-dimensional information network to a third node of the database, wherein the at least one dimension is indicative of potential interest in the situation;
[1.F] providing to a device associated with the second node the supplemental information; and	[7.D] wherein the one or more network controllers are configured to: provide to a device associated with the second node the supplemental information; and
[1.G] in response to interacting with the supplemental information, causing a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation.	[7.E] wherein the one or more central processing units are configured to: in response to interacting with the supplemental information, cause a redirection of a web browser application operating on the device associated with the second node to a webpage containing information related to the situation.

227. In my opinion, the elements of claim 7 are rendered obvious for the same reasons that I discuss for claim 1 above.

228. Claim 7 further recites “*an event node server*” that includes “*one or more central processing units*” and “*one or more network controllers*” configured to perform the steps recited in claim 1. Wong’s “social network server or servers 20,” as illustrated in Figure 1 below, provides the recited “*event node server*.”



EX1007, FIG. 1 (annotated).

229. Wong teaches that its “social network server or servers 20 maintain a system comprising an Internet website, database and associated data, which is accessible to users 10.” EX1007, ¶17. As Wong explains, “[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.

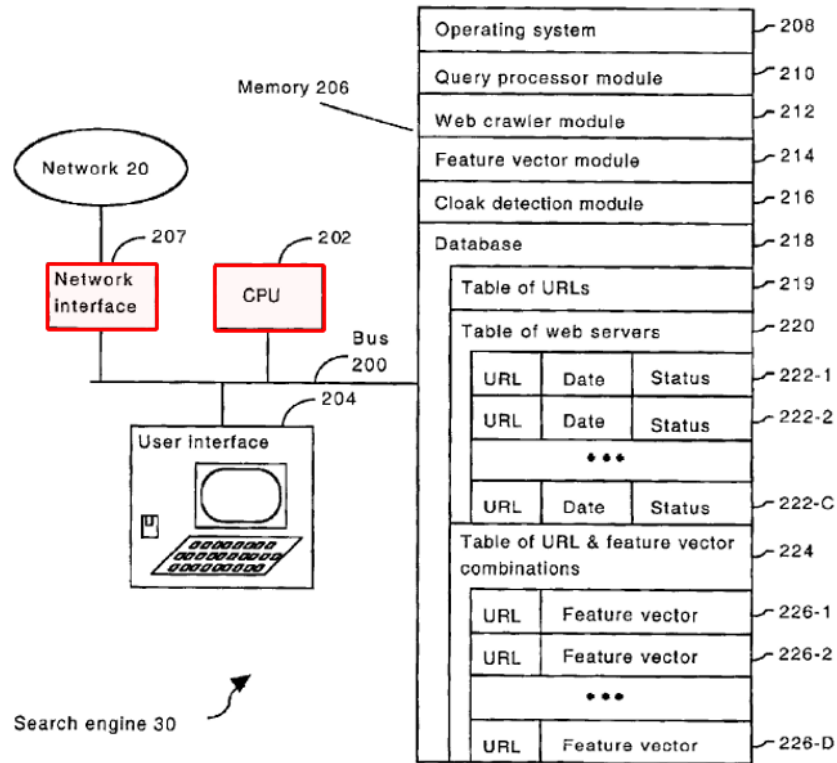
230. Wong further discloses that nodes are created and maintained through server 20 via the “system website” and “database.” EX1007, ¶¶17-18. In particular, Wong explains that a **“user 10 accesses the system website** and is presented with a page to register for the system,” and once registered, “a ‘node’ 30, is created for

the user.” EX1007, ¶18; *see also* EX1007, ¶36 (“**Nodes, linkages, linkage types, and all data pertaining to the network** can be categorized, sorted and **stored in the same database which forms part of the system and retrievable from the same system.**”). Additionally, each node hosted by server 20 contains “communication tools” that facilitate communication in Wong’s network, allowing users to “exchange information pertaining to the entity that it represents.” EX1007, ¶31. Therefore, a POSA would have recognized that Wong’s server 20 provides an “*event node server*” configured to perform the functions recited in claim 7, including establishing of an “*event node*” and facilitating communication to and between nodes.

231. A POSA would have further recognized that Wong’s server 20 would include “*one or more central processing units*” and “*one or more network controllers*” for carrying out its operations and facilitating communication with users. For example, Wong describes that its server 20 “operate[s] an internet accessible social network” and is connected to “a computer network 12.” EX1007, ¶17, FIG. 1. Wong further discloses that its “[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, FIG. 1. And, consistent with the ’463 patent specification, which describes a “network controller 1016” as facilitating network connectivity for a generic computer

(EX1001, 33:37-41), a POSA would have recognized that Wong’s server 20 would include a “*network controller*” to facilitate connection to network 12 and users of the network.

232. As I discuss for Ground 1, it was well known at the time of the ’463 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.” EX1018, ¶4; *see also* EX1018, ¶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.” EX1018, ¶¶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.**” EX1019, 3:60-64.



EX1019, FIG. 2 (annotated).

233. A POSA would have understood that Wong's server 20 would similarly include "standard server components" such as a central processing unit and network interface to operate and receive/transmit data over the network. EX1019, 3:60-64. Therefore, it is my opinion that the additional elements of independent claim 7 would have been obvious in view of Wong's, Gogic's, and Gage's teachings.

D. Claim 2

234. Claim 2 recites, "*in response to interacting with the supplemental information, joining the second node to the event node.*"

235. In my opinion, Wong in view of Gogic and Gage teaches the

additional elements of claim 2 for the reasons I discuss for element [1.G]. In particular, Wong in view of Gogic and Gage teaches “*joining the second node*” (via its associated device) “*to the event node*” through a connection to the home page of the “*event node*,” allowing the user associated with the “*second node*” to “exchange information pertaining to the” event. EX1007, ¶¶17, 22, 31; EX1009, ¶¶31, 37.

236. Additionally, as I discuss for element [1.E], once a concerned party is identified in the combined system of Wong-Gogic-Gage, a POSA would have recognized that the relationship would be represented in Wong’s network by a linkage between the concerned party’s node (“*the second node*”) and “*the event node*.” Wong discloses that “[n]odes are [] linked by precise linkage types representing the actual type relationship which exists between ... the linked nodes,” suggesting that such relationships would be represented in its database. EX1007, ¶24. Therefore, a POSA would have recognized that “*the second node*” would also be joined to “*the event node*” by a linkage representing concerned party.

E. Claim 3

237. Claim 3 recites, “*wherein the identifying the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database comprises:*

identifying a direct link between the second node and the third node, wherein the third node is one of the first subset of the plurality of user nodes.”

238. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 3 for the reasons I discuss for element [1.E]. In particular, as I discuss for element [1.E], Wong in view of Gogic and Gage teaches that “*the third node is one of the first subset of the plurality of nodes,*” and that familial relationships and emergency contact relationships would be represented as “linkages” in Wong’s database, providing “*a direct link between the second node and the third node*”—i.e., a direct link between a node corresponding to an individual affected by the situation and a node corresponding to a concerned party. EX1007, ¶¶2, 23, 36, 44; EX1009, ¶¶8, 37, 44, 46.

F. Claim 4

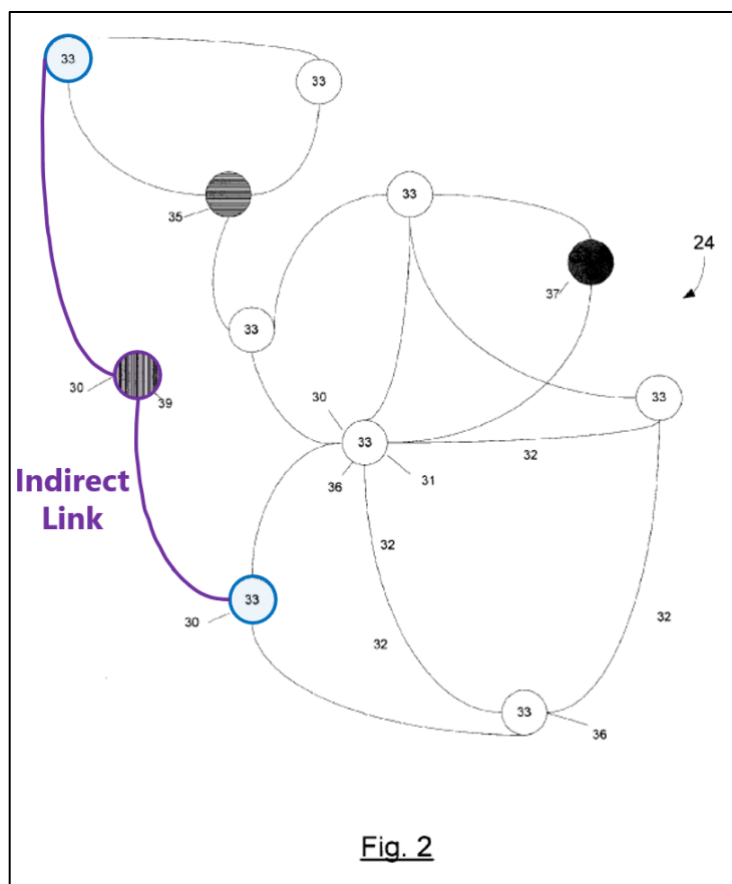
239. Claim 4 recites, “*wherein the identifying the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database comprises: identifying a direct link between the second node and the third node, wherein the third node is joined to the event node.*”

240. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 4 for the reasons I discuss for element [1.E] and claim 3.

G. Claim 5

241. Claim 5 recites, “*wherein the identifying the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database comprises: identifying an indirect link between the second node and the third node, wherein the third node is joined to the event node and wherein both the second node and the third node are connected by a preference dimension to an additional node.*”

242. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 5. Wong teaches that “nodes can be linked by more than one linkage type,” and a linkage may be “*an indirect link between*” nodes—that is, “the chain of links and nodes between non-adjacent nodes,” as illustrated in Figure 2 of Wong below. EX1007, ¶21, FIG. 2.



EX1007, FIG. 2 (annotated to show indirect link between user nodes).

243. Wong also teaches that user nodes may be “*connected by a preference dimension to an additional node*,” such as being a “customer,” “fan,” “admirer,” or “member”) of particular “groups, organizations, products, businesses, books, songs, etc.” EX1007, ¶¶22, 24. For instance, Wong discloses that “[a] linkage of a person node to an object node can be, for example, customer, fan, owner, admirer, member and the like. When “*the second node and the third node*” are connected by such a common preference (e.g., being a fan of a particular book or song), “*both the second node and the third node are connected by a preference dimension to an*

additional node”—an “[o]bject” node representing the group, organization, product, business, book, or song. EX1007, ¶¶21-22.

H. Claim 6

244. Claim 6 recites, “*wherein the identifying the second node comprises identifying the second node based on a dimension in the multi-dimensional information network other than a dimension indicative of interaction with the event node.*”

245. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 6 for the reasons I discuss for element [1.E]. In particular, Wong in view of Gogic and Gage teaches “*identifying the second node*” based on a potential interest in the situation, for example, a concerned party interested in the situation’s effect on another. Such identification is, therefore, “*based on a dimension in the multi-dimensional information network other than a dimension indicative of interaction with the event node.*”

I. Claim 8

246. Claim 8 recites, “*wherein the one or more network controllers are configured to: in response to interacting with the supplemental information, join the second node to the event node.*”

247. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 8 for the reasons discussed for claim 2.

J. Claim 9

248. Claim 9 recites, “*wherein the one or more network controllers are configured to identify the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database nu: identifying a direct link between the second node and the third node, wherein the third node is one of the first subset of the plurality of user nodes.*”

249. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 9 for the reasons discussed for claim 3.

K. Claim 10

250. Claim 10 recites, “*wherein the one or more network controllers are configured to identify the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the third node of the database by: identifying a direct link between the second node and the third node, wherein the third node is joined to the event node.*”

251. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 10 for the reasons discussed for claim 4.

L. Claim 11

252. Claim 11 recites, “*wherein the one or more network controllers are configured to identify the second node included in the database that is connected via the at least one dimension in the multi-dimensional information network to the*

third node of the database by: identifying an indirect link between the second node and the third node, wherein the third node is joined to the event node and wherein both the second node and the third node are connected by a preference dimension to an additional node.”

253. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 11 for the reasons discussed for claim 5.

M. Claim 12

254. Claim 12 recites, “*wherein the one or more network controllers are configured to identify the second node by identifying the second node based on a dimension in the multi-dimensional information network other than a dimension indicative of interaction with the event node.*”

255. In my opinion, Wong in view of Gogic and Gage teaches the additional elements of claim 12 for the reasons discussed for claim 6.

XI. GROUND 3: THE COMBINATION OF WONG, GOGIC, GAGE, AND KRAFT RENDERS OBVIOUS CLAIMS 1-12.

256. To the extent argued that Wong, Gogic, and Gage does not expressly teach an “*event node*,” Kraft also provides this teaching. As I discuss for Ground 1, Kraft discloses nodes that represent “[m]any types of real-world entities,” including “events.” EX1005, 8:23-31, 9:65-66 (disclosing an “**Event**” node type “representing occurrences such as elections, **natural disasters**, sports events, and so on.”), 15:47-52. Wong discloses that additional “main node types” may be

included in its network, EX1007, ¶¶21-22. In my opinion, a POSA would have been motivated to incorporate Kraft's "Event" node type in Wong-Gogic-Gage's system to further extend the types of nodes that may be used in Wong's social network communication system, allowing users to expressly delineate between events and other types of objects. And incorporation of an event node type would require no changes to Wong-Gogic-Gage's system aside from including an event type as a valid "node type" or "sub-type." EX1007, ¶¶26-27.

257. Therefore, it is my opinion that the combination of Wong, Gogic, Gage, and Kraft also renders obvious claims 1-12.

XII. CONCLUSION

258. 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 the case and that cross-examination will take place within the United States. If such cross-examination is required, I will appear for cross-examination within the United States during the time allotted.

259. 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 10th day of November 2025, in Westmount, Quebec.



Jeremy Cooperstock, Ph.D.