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 IPR2024-00530
U.S. Patent No. 9,877,345

DECLARATION OF DR. JEREMY COOPERSTOCK IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,877,345

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Meta v. SitNet
IPR2026-00100

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4. [1.3]: presenting a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant; 45

5. [1.4]: receiving a status response from one or more of the participants; and.....47

6. [1.5]: aggregating the status responses from responsive participants into a roll call list. 47

B. Independent Claim 8.....51

1. [8.P] A method of providing situation related information to a situation authority via a situational network, the method comprising 51

2. [8.1] receiving, by a participant device, a roll call query soliciting a reply related to a status of a participant based on the participant being determined, by the situation authority, to be geographically proximate to the situation; 51

3. [8.2] receiving, by the participant device, a selection of a status response from the participant; and 52

4. [8.3] sending the status response to the central authority, wherein the status response is included in a roll call list.....53

C. Independent Claim 13.....53

1. [13.P] A system for accessing situation related information, the system comprising: 53

2. [13.1] a central server, corresponding to a situation authority, 53

3. [13.2] configured to receive an indication of an occurrence of a situation, ...54

4. [13.3] form a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network, ...54

5. [13.4] present a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant, ...55

6. [13.5] receive a status response from one or more of the participants, and aggregate the status responses from responsive participants into a roll call list; 55

7. [13.6] and a database corresponding to the central server for storing the responses and the roll call list. 55

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A. Independent Claim 1 70

1. [1.P]: A method of accessing situation related information, the method comprising: 70

2. [1.1]: receiving an indication of an occurrence of a situation; .71

3. [1.2]: forming a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network; 72

4. [1.3]: presenting a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant; 78

5. [1.4]: receiving a status response from one or more of the participants; and 80

6. [1.5]: aggregating the status responses from responsive participants into a roll call list. 81

B. Independent Claim 8 82

1. [8.P] A method of providing situation related information to a situation authority via a situational network, the method comprising 82

2. [8.1] receiving, by a participant device, a roll call query soliciting a reply related to a status of a participant based on the participant being determined, by the situation authority, to be geographically proximate to the situation; 83

3. [8.2] receiving, by the participant device, a selection of a status response from the participant; and 83

4. [8.3] sending the status response to the central authority, wherein the status response is included in a roll call list. 84

C. Independent Claim 13 84

1. [13.P] A system for accessing situation related information, the system comprising: 84

2. [13.1] a central server, corresponding to a situation authority, 84

3. [13.2] configured to receive an indication of an occurrence of a situation, ... 85

4. [13.3] form a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network, ... 85

5. [13.4] present a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant, ... 85

6. [13.5] receive a status response from one or more of the participants, and aggregate the status responses from responsive participants into a roll call list; 85

7. [13.6] and a database corresponding to the central server for storing the responses and the roll call list.....85

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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.

2. I understand that this Declaration accompanies a petition for IPR involving U.S. Patent No. 9,877,345 ("the '345 patent") (EX1001), which resulted from U.S. Patent Application No. 14/861,340 ("the '340 application"), filed on September 22, 2015. I understand that the '345 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 '345 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") (i.e., a person of ordinary skill in the field of telecommunications and computer networking 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 1003.

5. I received my B.A.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 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) and I am an associate editor of the Frontiers Journal in Virtual Reality, and the Institute of Electrical and Electronics Engineers (IEEE) Transactions on Haptics, and previously, the Journal of the AES.

III. SUMMARY OF OPINIONS

12. In forming my opinions about the ’345 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 1-16 of the ’345 patent would have been obvious to a POSA prior to February 2, 2007.

Ground	Basis	Claims	References
1	§103	1, 3-8, 10-13, and 15-16	Gage
2	§103	2, 9, and 14	Gage-Mitchell
3	§103	1, 3-4, 6-8, 10-13, and 15	Shida
4	§103	2, 5, 9, 14, and 16	Shida-Sinha

13. I have been asked to consider how a POSA would have understood the challenged claims in light of the disclosures of the ’345 patent. I have also been asked to consider how a POSA would have understood the prior art references Gage, Mitchell, Shida, and Sinha.

14. 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 1-16 of the ’345 patent.

IV. MATERIALS CONSIDERED

15. In formulating my opinions, I have relied upon my training, knowledge, and experience that are relevant to the ’345 patent. I have also reviewed and am familiar with the following documents and materials in addition to any other documents cited in this declaration:

Exhibit No.	Description
1001	U.S. Patent No. 9,877,345 to Cona et al. (“’345 patent”)
1002	Prosecution History of U.S. Patent No. 9,877,345 (“’345 File History”)
1004	*Curriculum Vitae* of Dr. Jeremy Cooperstock
1005	U.S. Publication No. 2008/0139165 to Gage et al. (“Gage”)
1006	U.S. Publication No. 2003/0162557 to Shida (“Shida”)
1007	U.S. Publication No. 2008/0208605 to Sinha et al. (“Sinha”)
1008	U.S. Provisional Application No. 60/862,365 to Sinha et al. (“Sinha Provisional”)
1009	U.S. Publication No. 2003/0197615 to Roche et al. (“Roche”)
1010	U.S. Patent No. 9,143,535 to Cona et al. (“Cona”)
1011	U.S. Patent No. 8,045,455 to Agronow et al. (“Agronow”)
1012	U.S. Publication No. 2007/0276908 to Asthana et al. (“Asthana”)
1013	U.S. Publication No. 2007/0194938 to Mitchell (“Mitchell”)
1014	Japanese Patent Application Publication 2005-80211 to Ikeda (with certified English translation) (“Ikeda”)
1015	U.S. Patent No. 7,817,982 to Chu et al. (“Chu”)
1016	U.S. Patent No. 8,024,330 to Franco et al. (“Franco”)

Exhibit No.	Description
1017	U.S. Publication No. 2005/0197775 to Smith ("Smith")
1018	U.S. Publication No. 2007/0233635 to Burfeind et al. ("Burfeind")
1019	U.S. Publication No. 2006/0270419 to Crowley et al. ("Crowley")
1020	U.S. Publication No. 2006/0047825 to Steenstra et al. (Steenstra")
1021	U.S. Publication No. 2006/0155809 to Arav ("Arav")
1022	U.S. Publication No. 2006/0117051 to Chin ("Chin")

16. To the best of my knowledge, the above-mentioned documents and materials 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.

V. LEGAL UNDERSTANDING

17. 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

18. 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

19. 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.

20. 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 to a POSA at the time the invention was made.

21. 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.

22. 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.

23. 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.

24. 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.

25. At this point, I am not aware of any secondary indicia of non-obviousness. But, I reserve the right to review and opine on any evidence of objective indicia of nonobvious that may be presented during this proceeding.

26. 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.

27. 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

28. I understand that a person of ordinary skill in the relevant art ("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.

29. 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:

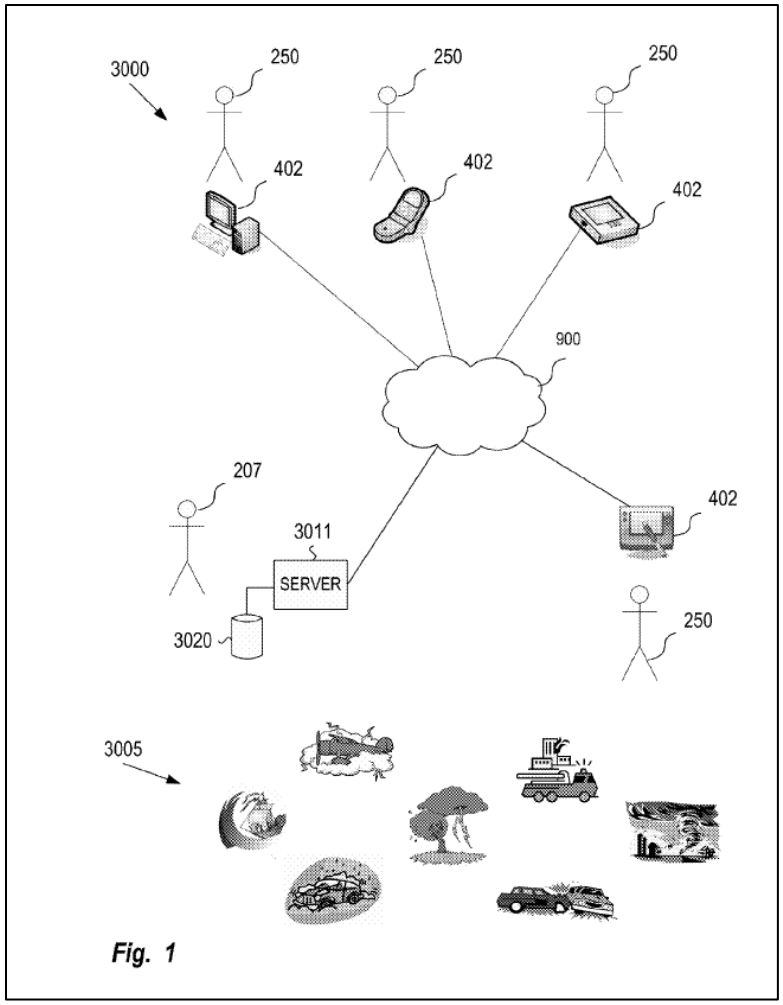
- the levels of education and experience of persons working in the field;
- the types of problems encountered in the field; and
- the sophistication of the technology.

30. 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 ’345 patent. However, my opinions herein would not be affected if the ’345 patent is found to only be entitled to a later effective filing date.

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

VI. OVERVIEW OF THE ’345 PATENT

32. The ’345 patent discloses techniques for enabling participant devices to exchange information regarding an event or situation, such as a weather event, emergency situation, or natural disaster. EX1001, 4:3-10, 4:59-65. To do so, the ’345 patent forms a situational network in response to determining that the situation has occurred. For instance, Figure 1 below depicts a situational network 3000 that connects participants 250, 207 via an existing computer network 900. *Id*.

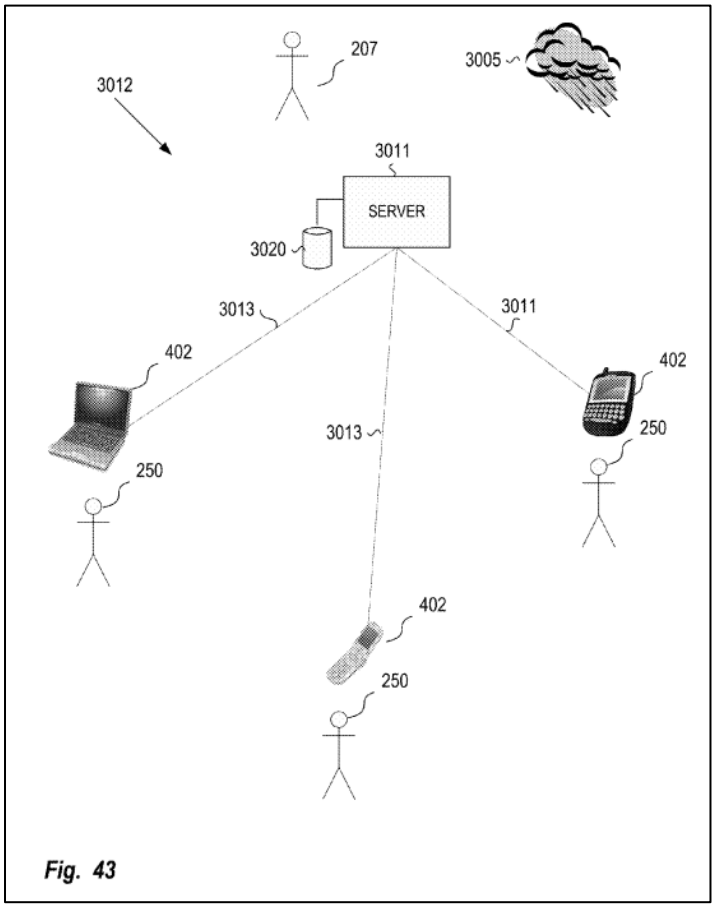


EX1003, FIG. 1.

33. The network 900 is implemented using conventional and known networking technologies (e.g., the internet). EX1001, 4:3-10, 14:1-11. As also shown in Figure 1, the participants include users 250 and external entities 207. The users 250 include users affected by the situation (e.g., located near the situation). EX1001, 5:39-41, 26:7-18. The external entities 207 include, for instance, emergency responders, relief agencies, and situation authorities. EX1001, 4:15-27, 25:61-26:25.

34. The situational network is thus formed by establishing “connections”

or "links" between participants via conventional computer networks. EX1001, 4:3-10. In some embodiments, the connections are established by coupling the participants to a central server, as shown in Figure 43 below. EX1001, 6:44-59.



EX1001, FIG. 43.

35. The situational network can implement a "roll-call" feature, for instance, "to establish a list of persons that might be missing or need assistance." EX1001, 27:3-6. For example, the situation authority of the SitNet "invite[s] users determined to be physically threatened by a disaster or emergency event to check-in." EX1001, 27:3-9. As shown in Figure 32 below, a user's device "displays an alert warning 3070 requiring user input that they are either ok 3074 or need

assistance 3072." EX1001, 27:19-21. The user can also "provide information on users that have not responded to the roll call query." EX1001, 27:19-25, FIG. 32.

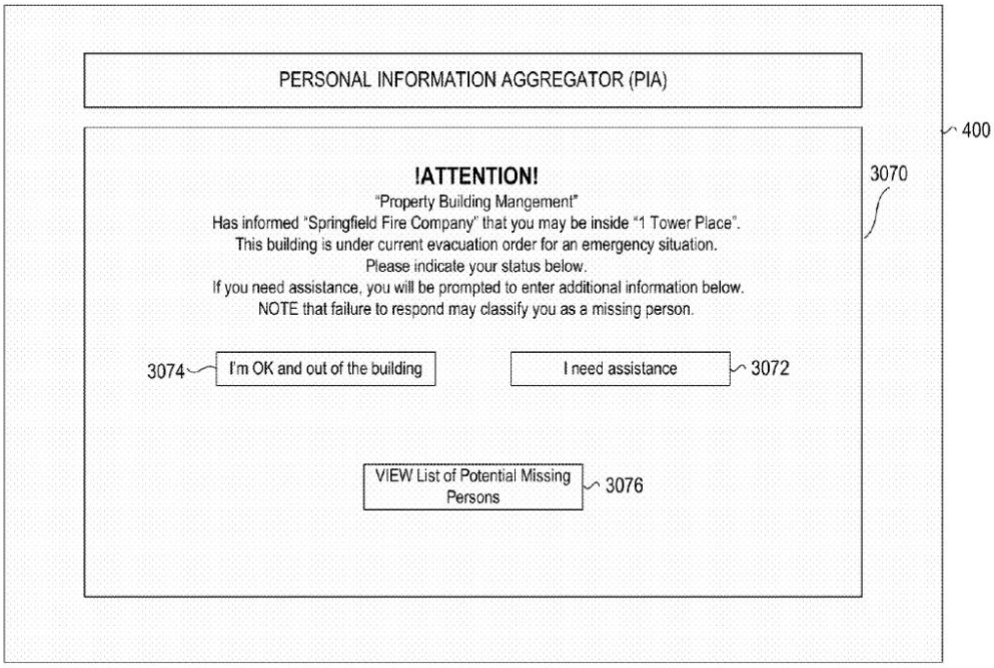


Fig. 32

EX1003, FIG. 32.

36. The '345 patent also discloses a searchable message board for users connected to the SitNet as well as "visitors not connected to the SitNet." EX1001, 27:30-36. The message board is "accessible by a website on the internet" for visitors to search for information related to a situation or event. EX1001, 27:45-49.

VII. OVERVIEW OF THE TECHNOLOGY

37. As I explained above, the '345 patent describes systems and techniques for accessing situation related information. EX1001, Abstract. The claims of the '345 patent broadly recite general concepts, such as "receiving an indication of an occurrence of a situation," "forming a situational network related

to the occurrence of the situation," "presenting a roll call query to each of the plurality of participant devices," "receiving a status response from one or more of the participants," and "aggregating the status responses from responsive participants into a roll call list." These concepts were well known before the '345 patent's earliest possible priority date. For instance, systems for sharing roll call statuses and other information related to situations or events were well known.

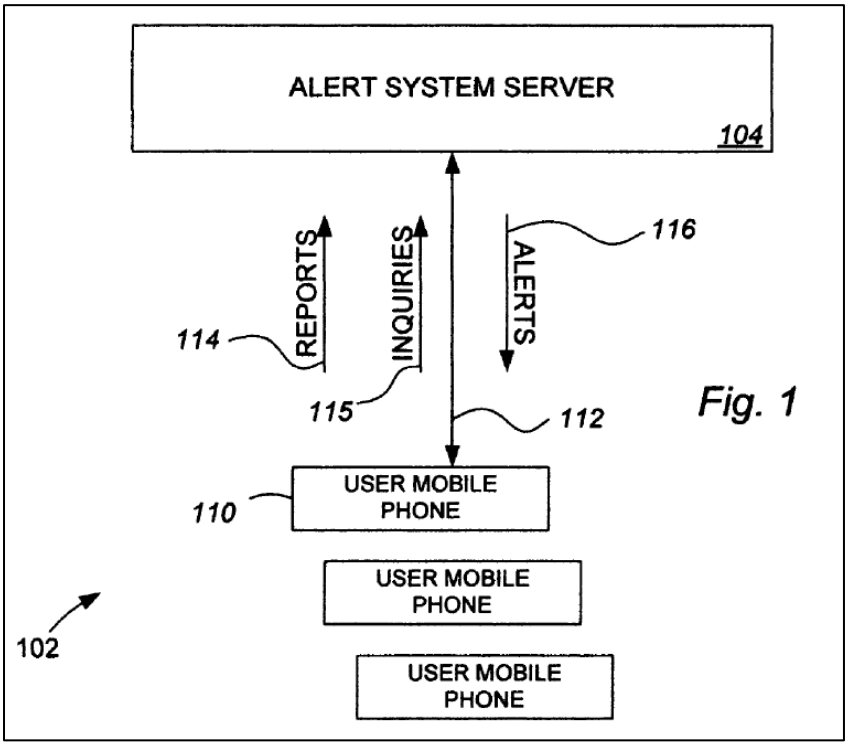
A. Sharing Information Related to Events

38. As I explained, the '345 patent claims broadly require receiving an indication of an occurrence of a situation and forming a situational network related to the occurrence of the situation. I note that the claims do not require any particular manner in which the situational network is formed, only that it be formed with a plurality of participant devices determined to be geographically proximate to the situation. These broad, conceptual claim elements were well known prior to the '345 patent. For instance, such claimed elements were commonly found in emergency warning systems and event planning systems.

1. Emergency Warning Systems

39. 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." EX1016, Abstract. "Reports of incidents are transmitted to the server accompanied by the current position of the user/mobile phone." EX1016, Abstract. The server then reports the information related to the incident to certain users within a "zone of interest" near the incident. EX1016, 2:17-25, 3:7-28, FIG. 1.



EX1016, FIG. 1.

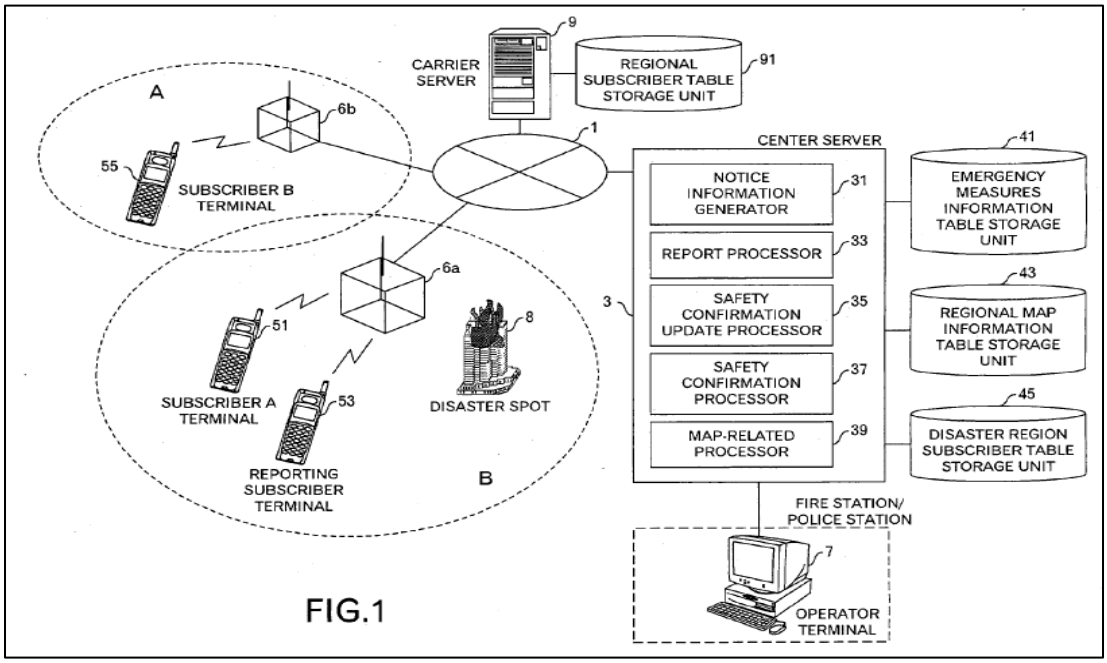
40. Franco thus capitalized on the intuitive idea that "facilitating information sharing based on users' geographic locations… significantly opens the opportunities for individuals to be Good Samaritans by informing others of hazards or by responding to urgent requests for assistance by others in need." EX1016,

1:53-58. Indeed, this confirms my opinion that the claimed concepts of sharing information related to situations were well known and would have been readily appreciable by a POSA in the relevant time frame.

41. As another example, Smith teaches "a system and method for receiving event or hazard information by a mobile data processing device." EX1017, ¶17. Smith also enables users to report hazards that they have observed to the event center. For instance, the user's device includes an interface for inputting a type and location of the observed condition. EX1017, ¶¶95-96. The device then "wirelessly sends to [the] event center, the event type and the determined event location." EX1017, ¶20. The event center then "distributes the received information, e.g., the initial event type, event location, and associated secondary information, to third parties" located near the hazard and other authorized users. EX1017, ¶¶110, 115.

42. Shida provides another example. Shida is directed to a system for confirming the safety of persons upon the occurrence of a disaster. EX1006, Abstract. When a disaster occurs, a reporting subscriber terminal (e.g., user device) generates and transmits a disaster occurrence report to a "carrier server," which in turn transmits "disaster information included in the disaster occurrence report" to a "center server." EX1006, ¶¶33, 37, FIG. 1. The center server then determines "the subscribers… who should be informed of the occurred disaster." EX1006, ¶46.

Specifically, "the subscribers to be notified are subscribers who exist in the disaster occurring region," as specified by a "disaster region subscriber table" stored at the center server. EX1006, ¶¶39, 46.

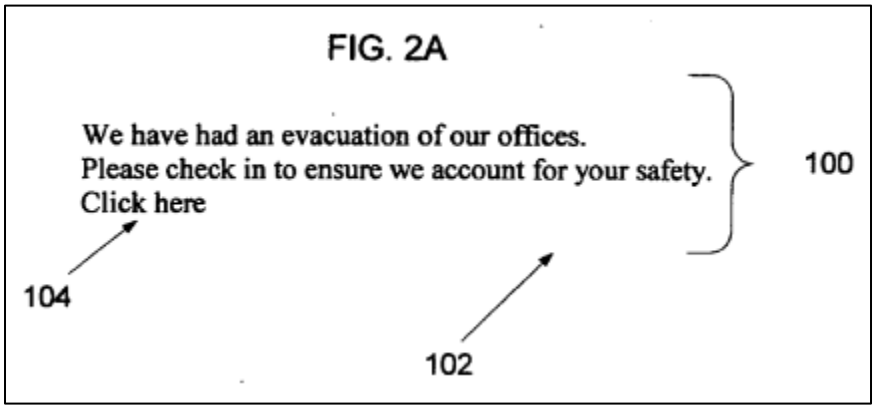


EX1006, FIG. 1.

43. The center server "generates notice information" related to the disaster "and transmits it to the subscribers to be notified." EX1006, ¶46. "The subscriber terminal of the designated subscriber receives the broadcast notice information from the mobile communication network system, and displays it on the display device." EX1006, ¶46.

44. Mitchell discloses another example emergency warning system. Specifically, Mitchell is directed to an "intelligent headcount system" that "ensur[es] that all persons have been accounted for… in real time in response to an emergency or disaster declaration." EX1013, ¶11, *see also* Abstract. When a

disaster is detected, a server provides an "alert message" to a user prompting the user to check in by sending an "acknowledgement signal" that indicates the user's status. EX1013, ¶¶35-37.



EX1013, FIG. 2A.

45. These example systems thus show that the claimed concepts of sharing information items related to a situation with user devices located near the situation were well known. As I explain in greater detail below, the prior art references applied herein teach similar emergency warning systems that teach and/or render obvious the claims.

2. Event Planning Systems

46. The claimed concepts of sharing information related to an event were also known via event planning systems. For instance, Burfeind discloses a system for "schedul[ing] a location-specific event." EX1018, Abstract. For instance, an "event organizer" plans an event by using a "portable device" to access an "organization device" implemented as a server. EX1018, Abstract, ¶¶56, 59, 66, 146-147. The event organizer provides "event information" to the organization

device, which uses the information to create a new event. EX1018, ¶¶108, 110, 162. The organization device then sends invitations (information items) to invitees of the events and "track[s] the attendance status of each event invitee." EX1018, ¶¶108, 131.

47. As another example, Crowley discloses a system for coordinating meetings between friends and acquaintances. EX1019, Abstract. Specifically, Crowley discloses "location-based social software" for "establishing connection between users of mobile devices." EX1019, ¶¶7-8. Specifically, Crowley's system determines when a user's acquaintances are geographically proximate to an event venue, and automatically sends invitations to those acquaintances, inviting them to meet the user at that venue. EX1019, ¶45.

48. For instance, Crowley discloses an example where a user "TJ" is "located at a bar called the Luna Lounge." EX1019, ¶45. At TJ's request, the system "identif[ies] which of [TJ's] acquaintances is currently active in the system, and… which of the acquaintances is near the Luna Lounge." EX1019, ¶45. The system then "send[s] each of the acquaintances messages" inviting them to meet TJ at Luna Lounge. EX1019, ¶45, *see also* ¶78.

49. As another example, Steenstra teaches a "[l]ocation based service (LBS) system and method for creating a social network." EX1020, Title. The LBS system "includes an interest group feature" that shares information related to an

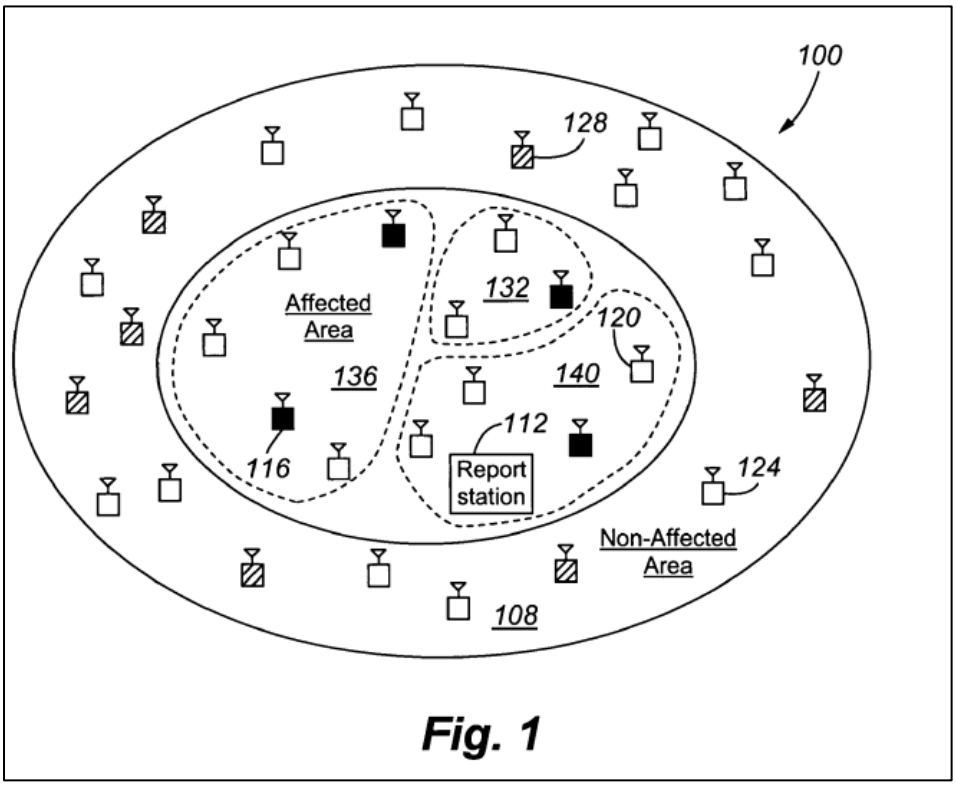
event with user devices located proximate to the event. EX1020, ¶50. For instance, Steenstra describes an example in which a user named "Alex" creates "an interest group" for basketball. EX1020, ¶50. The system makes information related to the event available to other users "based on their being in the same geographical location as Alex." EX1020, ¶50. The system then enables the users to "arrange to meet at the Neighborhood Park and play 3-on-3 basketball." EX1020, ¶50.

B. Roll Calls Related to an Event

50. Roll call features for tracking user statuses related to a situation were also well known. As with the above claim features, roll call lists were known, for instance, via emergency warning systems and event planning systems.

51. For example, Chu discloses "a disaster status system" that "contact[s] users that may be in or around a disaster-affected area." EX1015, Abstract. Chu explains that it is "quick[]" and "efficient" to contact users in a disaster area to determine the statuses of those users. EX1015, 2:34-46, *see also* 6:39-48. That is, upon determining that a disaster has occurred in a particular area, Chu's system contacts users located in the area to solicit information regarding "the status of the area around the user and the status of the user." EX1015, 8:21-26. The system "maintains a record of the status of the area with the information that it receives from each user." EX1015, 8:21-26. For instance, Chu's system implements a database for storing "user name information, contact number information, location

information, [and] user status information" for users in the disaster area. EX1015, 8:21-26, 9:5-19. Based on the received data, the system contacts users in the area to "let them know what the status is and provide them with any additional instructions." EX1015, 8:33-38, *see also* 8:33-64.



EX1015, FIG. 1.

52. As another example, Shida teaches a system for confirming the safety of persons upon the occurrence of a disaster. EX1006, Abstract. As explained above, Shida's center server "generates notice information" related to the disaster "and transmits it to the subscribers" located near the disaster. EX1006, ¶46. Upon receiving this notice information, the subscribers then input a "safety confirmation response," which is transmitted to the center server via a "mobile communication

network system." EX1006, ¶¶44, 50. The safety confirmation response can indicate, for instance, a message of "Safety" or a message of "Rescue request." EX1006, ¶50. The center server maintains a roll call list within a disaster region subscriber table that includes statuses of the user's safety, as shown below in Figure 6. EX1006, ¶¶57, 58. An example disaster region subscriber table showing safety confirmation statuses is shown below.

205	206	207	208	209
REPORTING SUBSCRIBER ID	DISASTER OCCURRING REGION ID	SUBSCRIBER ID	CURRENT REGION ID	STATUS OF SAFETY CONFIRMATION
REPORTING SUBSCRIBER	REGION A	SUBSCRIBER A	REGION A	NOT YET
		SUBSCRIBER B	REGION B	OK
		SUBSCRIBER C	REGION A	NOT YET
		SUBSCRIBER D	REGION D	OK
		⋮	⋮	⋮

FIG.6

EX1006, FIG. 6.

53. As another example, Gage discloses a "method for reporting a status indicator using a mobile device during a disaster." EX1005, Abstract. Specifically, Gage discloses "a disaster response system" that, upon detecting a disaster, queries "mobile devices of subscribers… for location and wireless connectivity." EX1005, ¶9. A disaster can be, for instance, "a hurricane, flood, fire, tsunami, and the like." EX1005, ¶19. "When a subscriber is proximate to a disaster area," the disaster response system also queries "the subscriber's device… for a status indicator and for an optional user provided message." EX1005, ¶9. The subscriber's device then

displays an interface that permits the subscriber to "report situation status information." EX1005, ¶27, FIG. 2. For instance, a user can select a status indicator such as "OK, NEED HELP, and IN CRITICAL NEED." EX1005, ¶27, FIG. 2. The disaster response system then "make[s] the status indicator and the location available to concerned parties." EX1005, Abstract. Gage then compiles and stores the received status responses in a database. EX1005, ¶38.

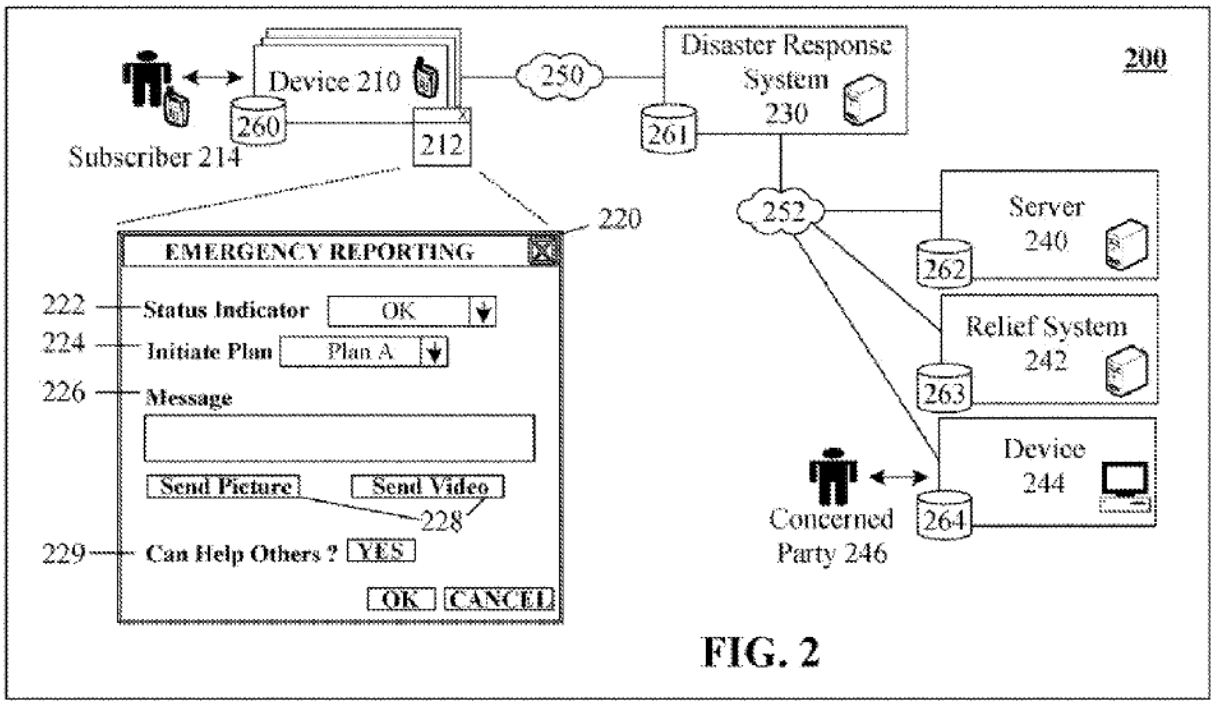


FIG. 2

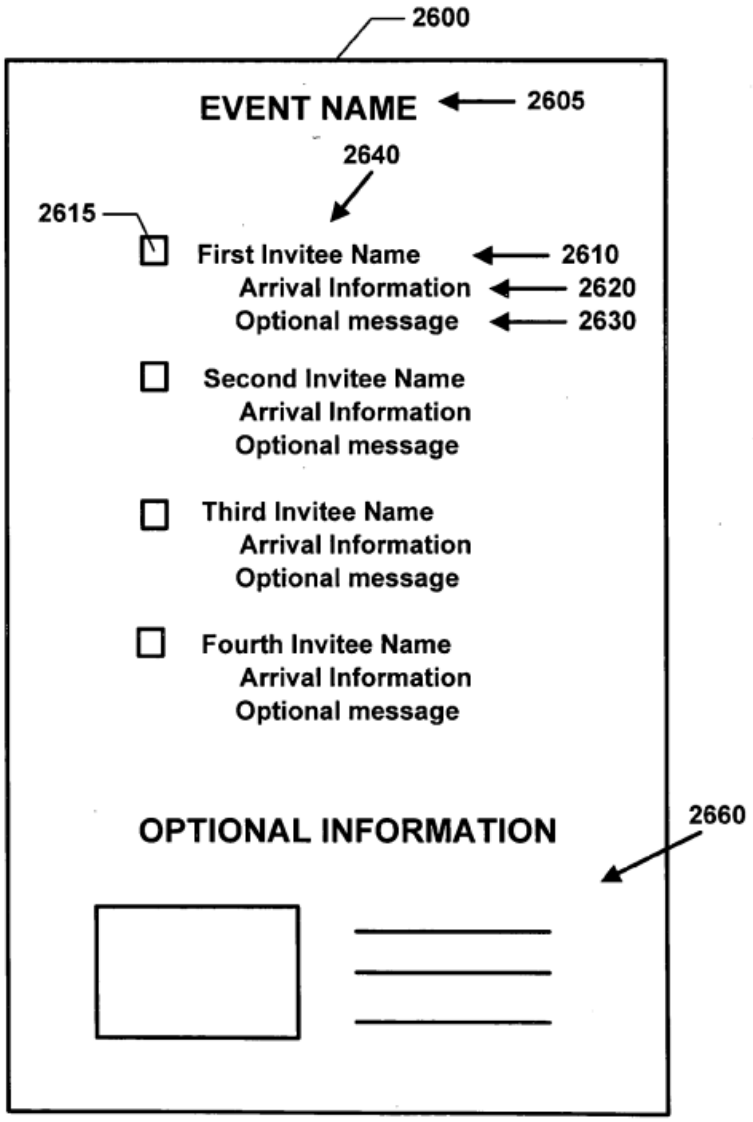
EX1009, FIG. 2.

54. Mitchell similarly discloses "an intelligent real time headcount system" that sends alert messages to receivers at a crisis-event site and solicits acknowledgment and/or additional information from the receivers in order to "locate, identify and realize a cyber headcount of all persons present at a crisis-event site during a crisis event." EX1013, ¶¶12, 34-38.

55. Roche similarly teaches a "disaster recovery virtual roll call and recovery management system" that "allows any organization to locate their staff and allocate resources to their staff in the event of a disaster." EX1009, Abstract. "In case of disaster, the system can contact the users over one or more communications networks… and request the user provide their status." EX1009, Abstract. "The users can send user status updates to the web network using internet enabled devices, such as personal computers, telephones, or handheld portable computers." EX1009, Abstract. "The system can compile the information, and generate reports on group and individual status." EX1009, Abstract.

56. Burfeind also discloses this feature in the event planning space. For instance, as explained above, Burfeind discloses a system for "schedul[ing] a location-specific event." EX1018, Abstract. Burfeind discloses an "organization device [that] tracks the participation status of each invitee" and provides an "event status interface" to the user devices of the invitees. EX1018, ¶¶4, 131, 137. Specifically, upon receiving the invitations for the new event from the organization device, the invitees "transmit[] a response including a participation status of the invitee" to the organization device. EX1018, ¶117. Burfeind's organization device includes the participation statuses within an "event status interface," and provides the event status interface to the invitee's user devices. EX1018, ¶¶137, 139. Figure 26 below shows an example event status interface that includes the arrival

information (roll call) for the invited users.



EX1018, FIG. 26.

VIII. PROSECUTION HISTORY

57. The application that issued as the ’345 patent was allowed after a single rejection that included only a double-patenting rejection over references to

Cona (EX1010) or Agronow (EX1011)[1] in view of a reference to Asthana (EX1012). EX1002, 0138-39. In this rejection, the Examiner indicated that Cona and Agronow each "teach accessing situation related information of [a] plurality participant devices geographically proximate to the situation in the network, but do not teach a roll call list of participants." EX1002, 0139. However, the Examiner found that "the concept of forming a roll call list of participants is known in the art, as disclosed by Asthana." EX1002, 0139.

58. The Examiner issued a notice of allowance after the applicant filed a terminal disclaimer. EX1002, 0156-57, 0160, 0174-81. The application then issued on January 23, 2018. EX1002, 0232.

IX. LEVEL OF ORDINARY SKILL IN THE ART

59. A person of ordinary skill in the art (POSA) 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.

60. I am well qualified to determine the level of ordinary skill in the art. I am very familiar with the technology of the '345 patent during the February 2007

[1] Cona and Agronow each share a specification with the '345 patent.

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.

X. CLAIM CONSTRUCTION

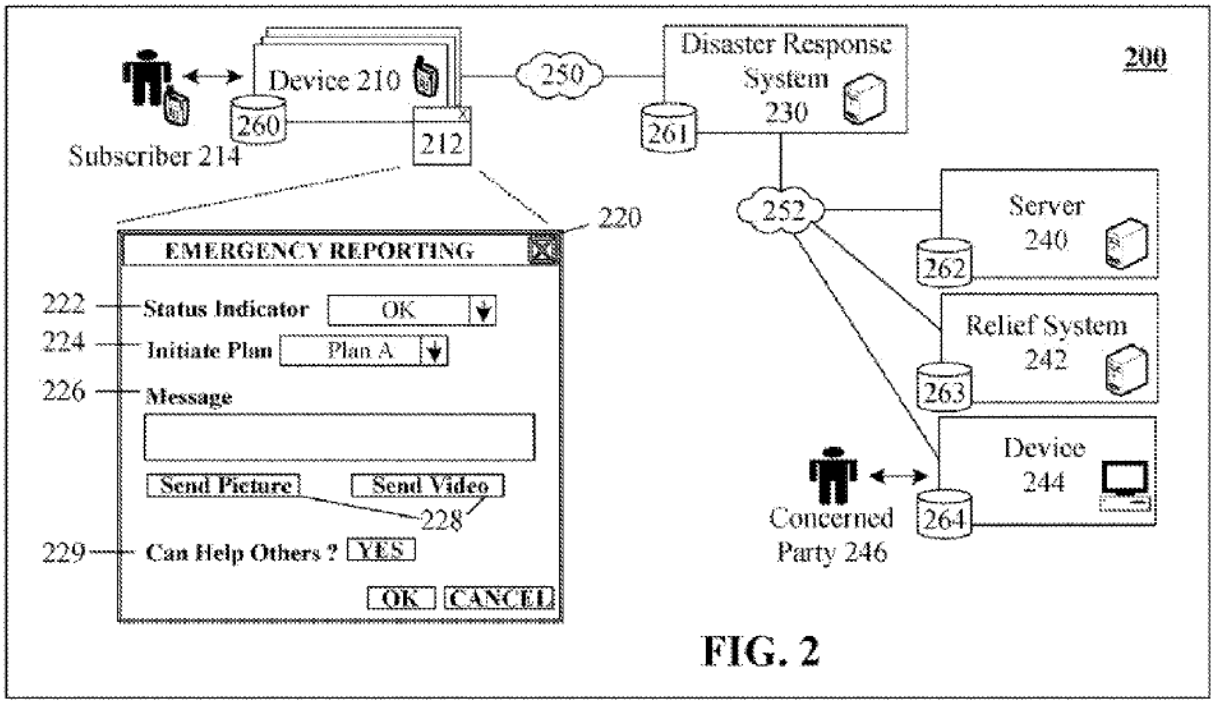
61. I have been informed that the challenged claims of the ’345 patent are to be given their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention in light of the specification and the prosecution history pertaining to the patent. Based on my review of the challenged claims, it is my opinion that none of the claim terms require explicit constructions. Accordingly, all claim terms should receive their plain and ordinary meaning, in the context of the ’345 patent specification.

XI. OVERVIEW OF THE PRIOR ART

A. Gage

62. Gage describes a system for connecting participants in response to the determination of the occurrence of a disaster. EX1005, Abstract, ¶¶9, 23, 25. Specifically, Gage discloses “a disaster response system” that, upon detecting a disaster (e.g., a hurricane, flood, fire, tsunami, etc.), queries subscriber devices for their location. EX1005, ¶¶9, 19. “When a subscriber is proximate to a disaster area,” the disaster response system also queries “the subscriber’s device… for a status indicator and for an optional user provided message.” EX1005, ¶9. The

subscriber's device then displays an interface that permits the subscriber to "report situation status information." EX1005, ¶27, FIG. 2. For instance, a user can select a status indicator such as "OK, NEED HELP, and IN CRITICAL NEED." EX1005, ¶27, FIG. 2.



EX1005, FIG. 2.

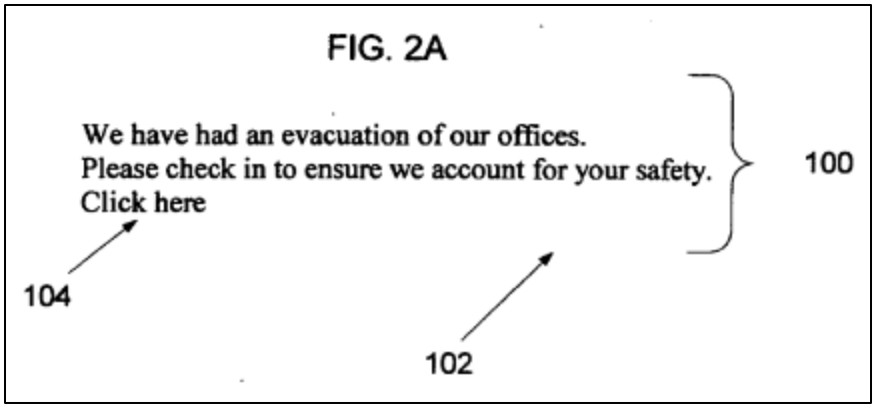
63. The disaster response system receives the status responses, and shares the status responses and other information associated with the disaster with various entities, such as disaster relief personnel and other concerned parties. EX1005, ¶¶21, 23, 31. For instance, "Concerned parties, such as family 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." EX1005, ¶37.

64. Gage explains that "multiple communication/information transmission

options" are established to enable subscribers to communicate with the disaster response system. EX1005, ¶25. For instance, "a special communication channel can be reserved for the disaster response system to obtain the situational status indicators and messages" from users proximate to the disaster. EX1005, ¶¶9-10, *see also* ¶24. As another example, "ad hoc networks can be dynamically established (i.e., through BLUETOOTH functionality of mobile telephones) to enable subscribers 130-134 to convey status and location." EX1005, ¶25.

B. Mitchell

65. Mitchell discloses techniques for enabling participants in an "intelligent headcount system" to share information regarding an emergency or disaster. EX1013, Abstract. The intelligent headcount system "ensur[es] that all persons have been accounted for… in real time in response to an emergency or disaster declaration." EX1013, ¶11, *see also* Abstract. When a disaster is detected, a server 18 provides an alert message to a user prompting the user to check in by sending an acknowledgement signal that indicates the user's status. EX1013, ¶¶35-37.

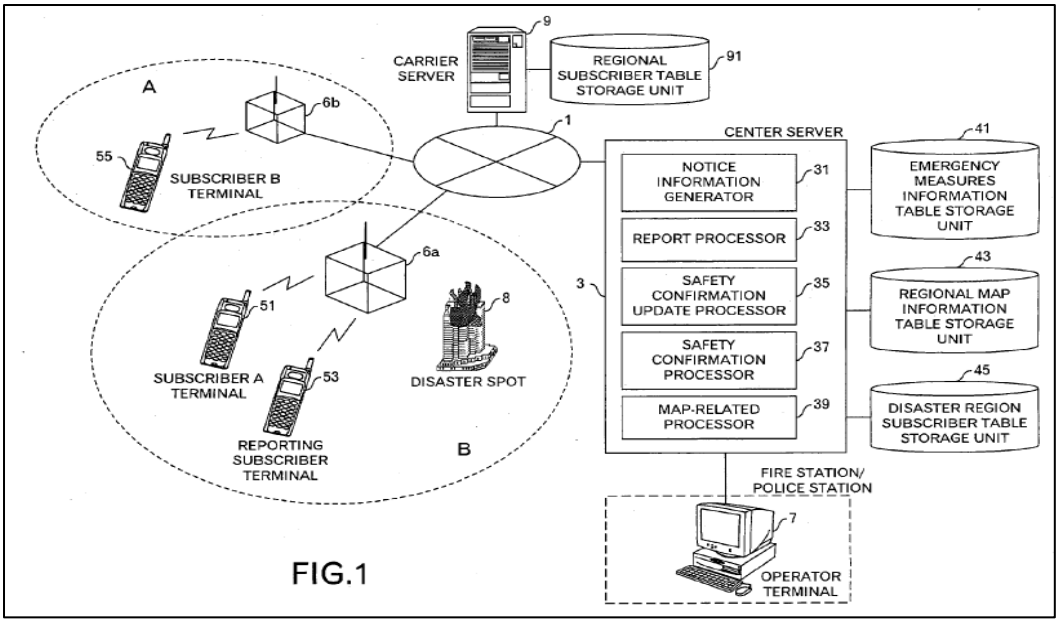


EX1013, FIG. 2A.

66. Mitchell further teaches "backup procedures" for determining the statuses of users who do not respond to the alert message. EX1013, ¶¶52-56. For instance, one backup procedure includes "generating a message sent only to a selected group of colleagues" that "requests that the recipients of this message provide information regarding the unaccounted for person." EX1013, ¶19, *see also* ¶¶54-55. If such information is received, the system updates the status for the nonresponsive user. EX1013, ¶19, *see also* ¶¶54-55.

C. Shida

67. Shida discloses techniques for enabling users to share information regarding a disaster. EX1006, Abstract. For instance, when a disaster occurs, a reporting subscriber terminal generates and transmits a disaster occurrence report to a carrier server, which in turn transmits information included in the disaster occurrence report to a center server. EX1006, ¶¶33, 37, FIG. 1. The center server then determines the subscribers who are located near the disaster and informs those users of the occurrence of the disaster. EX1006, ¶¶39, 46.



EX1006, FIG. 1.

68. The center server generates "notice information" related to the disaster and transmits it to the subscribers in the disaster region. EX1006, ¶46. "The subscriber terminal of the designated subscriber receives the broadcast notice information from the mobile communication network system, and displays it on the display device." EX1006, ¶46. The users of the subscriber terminals then input a "safety confirmation response," which is transmitted to the center server via a mobile communication network system. EX1006, ¶50. The safety confirmation response can indicate, for instance, a message of "Safety" or a message of "Rescue request." EX1006, ¶50. Upon receiving the safety confirmation responses, the center server updates the disaster region subscriber table to include statuses of the user's safety, as shown below in Figure 6. EX1006, ¶¶57-58.

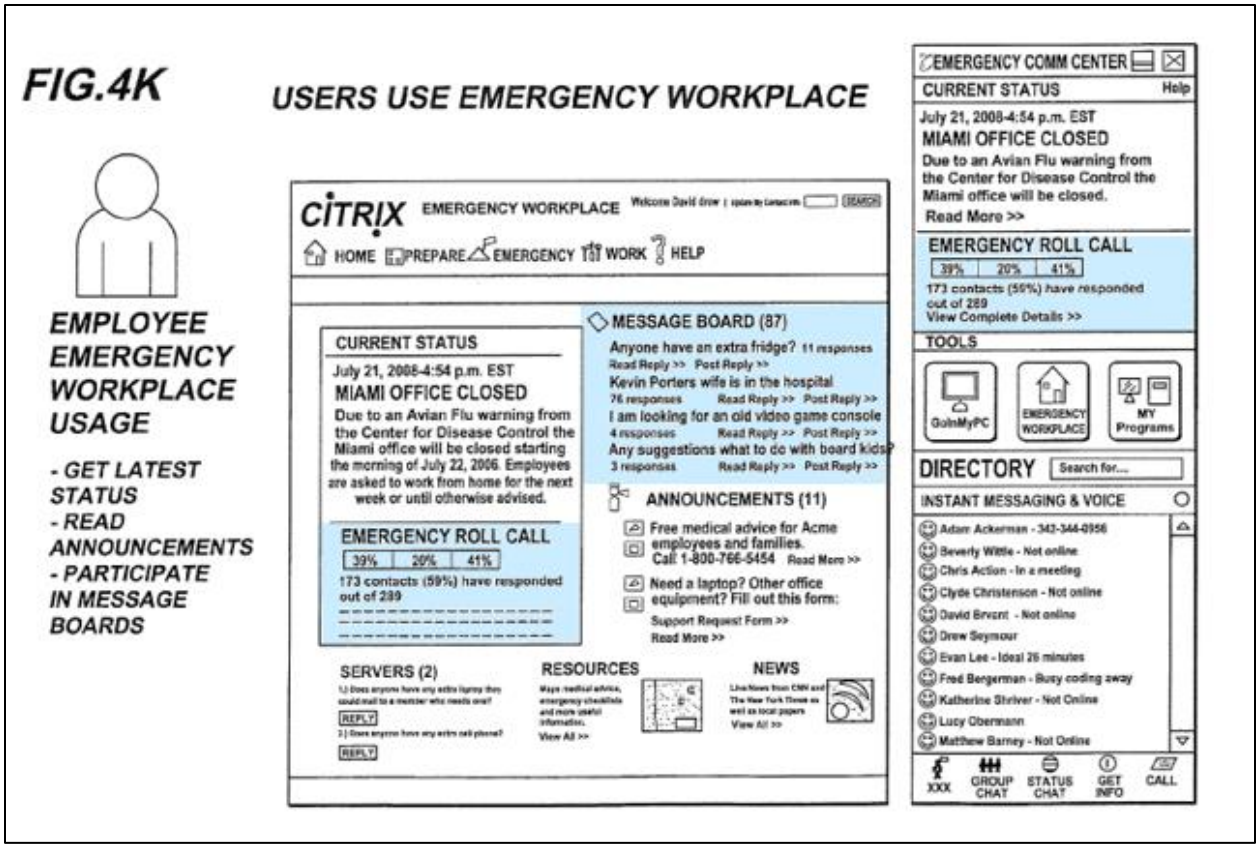
205 REPORTING SUBSCRIBER ID	206 DISASTER OCCURRING REGION ID	207 SUBSCRIBER ID	208 CURRENT REGION ID	209 STATUS OF SAFETY CONFIRMATION
REPORTING SUBSCRIBER	REGION A	SUBSCRIBER A	REGION A	NOT YET
		SUBSCRIBER B	REGION B	OK
		SUBSCRIBER C	REGION A	NOT YET
		SUBSCRIBER D	REGION D	OK
		⋮	⋮	⋮

FIG.6

EX1006, FIG. 6.

D. Sinha

69. Sinha discloses a "business continuity application" that is provided "to a portion of a displaced workforce of an organization when an event occurs." EX1007, Abstract; EX1008, 1:31-2:6. Specifically, Sinha teaches a "workforce continuity server (WFC server) 194" that provides a "message board" and "roll call report." EX1007, ¶¶54, 112, 133-134, FIGs. 4J-K; EX1008, 4:23-30, 22:25-29, 24:13-25:2. The WFC server provides to employee user devices a "user interface [that] displays information for the employee regarding the employee roll call." EX1007, ¶134, FIG. 4K; EX1008, 24:28-25:2, FIGs. 5J-K.



EX1007, FIG. 4K (annotated).

XII. GROUND 1: GAGE RENDERS OBVIOUS CLAIMS 1, 3-8, 10-13, AND 15-16.

A. Independent Claim 1

1. [1.P]: A method of accessing situation related information, the method comprising:

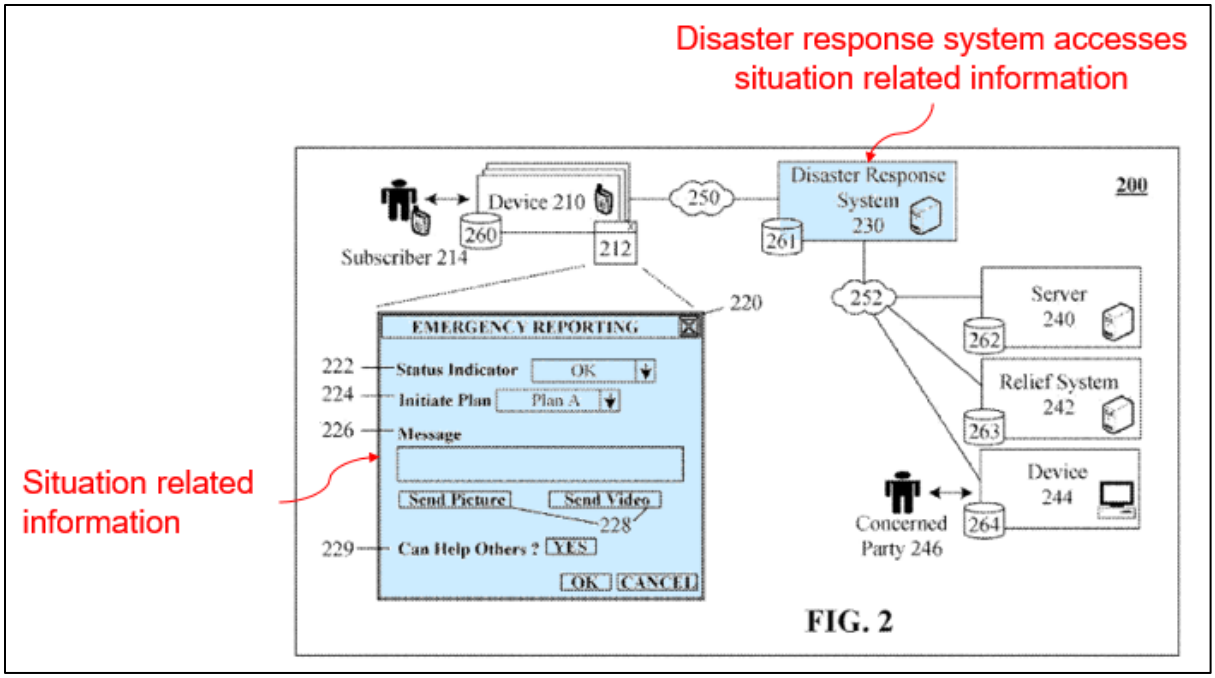
70. To the extent limiting, Gage discloses the preamble.

71. Gage discloses "a method for reporting a status indicator" (*situation related information*) to a disaster response system "during a disaster." EX1005, Abstract. Gage discloses that a disaster can be "a hurricane, flood, fire, tsunami, and the like." EX1005, ¶19. The disaster is thus a *situation* as claimed. Indeed, the '345 patent explains that situations include "weather phenomenon, such as

hurricanes, tornadoes, severe thunderstorms, or winter storms," as well as "building fires" and "tsunamis." EX1001, 4:59-5:2.

72. Gage explains that subscribers in a disaster region communicate "a status indicator" to the disaster response system indicating "whether the subscriber [] is alright or is in need of help due to the disaster." EX1005, ¶19, FIG. 1. Thus, by receiving the status indicators, the disaster response system *accesses situation related information*.

73. For instance, Figure 2 below shows that subscriber 214 "report[s] situation status information," including a status indicator, to a disaster response system 230. EX1005, ¶¶26, 27. The disaster response system then "inform[s] concerned parties [] of a situation status of subscribers [] who may have been effected by a disaster." EX1005, ¶19, FIG. 1, *see also* ¶¶20, 31. The disaster response system 230 also "convey[s] data to one or more disaster relief systems 242." EX1005, ¶31.



EX1005, FIG. 2 (annotated).

2. [1.1]: receiving an indication of an occurrence of a situation;

74. Gage teaches this claim element.

75. Gage's disaster response system receives messages *that indicate an occurrence of a situation*. Specifically, the disaster response system receives messages indicating (i.e., *receiving an indication*) that subscribers have activated an "emergency response plan" and these received messages indicate the occurrence of a disaster (i.e., *an occurrence of a situation*). EX1005, ¶36, *see also* ¶28, claim 7 ("communicating the plan triggering command to the disaster response system…"). That is, the subscribers activate the emergency response plan when a disaster occurs. The disaster response system receives messages indicating such activations, and when enough activations are received, determines that a disaster has occurred.

76. For instance, Gage's Figure 3 depicts a method 300 "used by a disaster response system" for determining "whether a disaster has occurred." EX1005, ¶35. "In step 310, a determination can be made as to whether a disaster has occurred." EX1005, ¶¶35-36. Gage explains that the disaster response system determines that a disaster occurred based on "sufficient subscriber emergency plan activation in a given area." EX1005, ¶36. That is, subscribers can "manually activate[] an emergency response plan." EX1005, ¶36. A POSA would have understood that the subscribers transmit indications of such activations to the disaster response system. *See, e.g.*, EX1005, claim 7 ("communicating the plan triggering command to the disaster response system"). Indeed, when the disaster response system receives such indications from a sufficient number of subscribers in the area, the disaster response system determines that a disaster has occurred in the area. EX1005, ¶36 ("sufficient subscriber emergency plan activation in a given area can cause step 310 to be automatically evaluated as true for that area"). Thus, the emergency response plan activation messages received by the disaster response system comprise *an indication of an occurrence of a situation* because the disaster response system determines that a disaster has occurred based on these messages. EX1005, ¶36.

77. Gage further discloses that "multiple communication/information transmission options" are established between subscribers and the disaster response

system. EX1005, ¶25, *see also* ¶¶26, 30. A POSA would have understood that the disaster response system *receives* such information when a subscriber manually activates an emergency response plan.

78. Thus, Gage discloses *receiving an indication of an occurrence of a situation*.

3. [1.2]: forming a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network;

79. Gage teaches this claim element. This claim element includes three features: (i) forming a situational network related to the occurrence of the situation; (ii) the situational network is formed with a plurality of participant devices determined to be geographically proximate to the situation; and (iii) each of the participant devices correspond[s] to a participant in the situational network. Each of these features is taught by Gage.

80. First, Gage discloses forming a situational network related to the occurrence of the situation. Gage discloses that "when a disaster is detected" (occurrence of the situation), "a centrally located disaster response system" queries mobile devices of subscribers located near the disaster for status indicators. EX1005, ¶9. To do this, Gage forms a situational network related to the occurrence of the disaster.

81. That is, a POSA would have understood that the disaster response system forms a situational network by connecting with subscribers 132-134 in the disaster region 110 using one or more communication channels for querying subscribers' situation status. The situational network includes subscriber devices located "proximate to a disaster area" (*a plurality of participant devices determined to be geographically proximate to the situation*). EX1004, ¶9.

82. Specifically, upon determining that a "disaster has occurred," and that one or more users are located proximate to the disaster, the disaster recovery system establishes connections with the users' mobile devices to "contact[]" the users by "request[ing] status indicators." EX1005, ¶¶9-10, 36, 38, FIG. 3. The disaster response system also establishes connections for communication with "one or more disaster relief systems" or "agencies" that can provide assistance to needful subscribers. EX1005, ¶¶21, 31, 33.

83. The disaster recovery system establishes communications with the subscribers in the disaster area using "multiple communication/information transmission options... to enable subscribers 130-134 to communicate with system 120." EX1005, ¶25. For instance, one example transmission option comprises "a special communication channel [that] can be reserved for the disaster response system to obtain the situational status indicators and messages" from users proximate to the disaster. EX1005, ¶¶9-10, *see also* ¶24. Further, "mobile

telephony and push-to-talk (PTT) channels of mobile devices can both be used for sending status indicators to system 120." EX1005, ¶25, FIG. 1, *see also* ¶19. As another example, "ad hoc networks can be dynamically established (i.e., through BLUETOOTH functionality of mobile telephones) to enable subscribers 130-134 to convey status and location." EX1005, ¶25. Further, "[l]ocal wireless data networks, such as WIMAX networks and WIFI networks can also be used for relaying status information to system 120." EX1005, ¶25. "[C]ommunication access points, such as WIFI access points" can also be used for "receiving situation status information from areas that are otherwise disconnected from system 120." EX1005, ¶25.

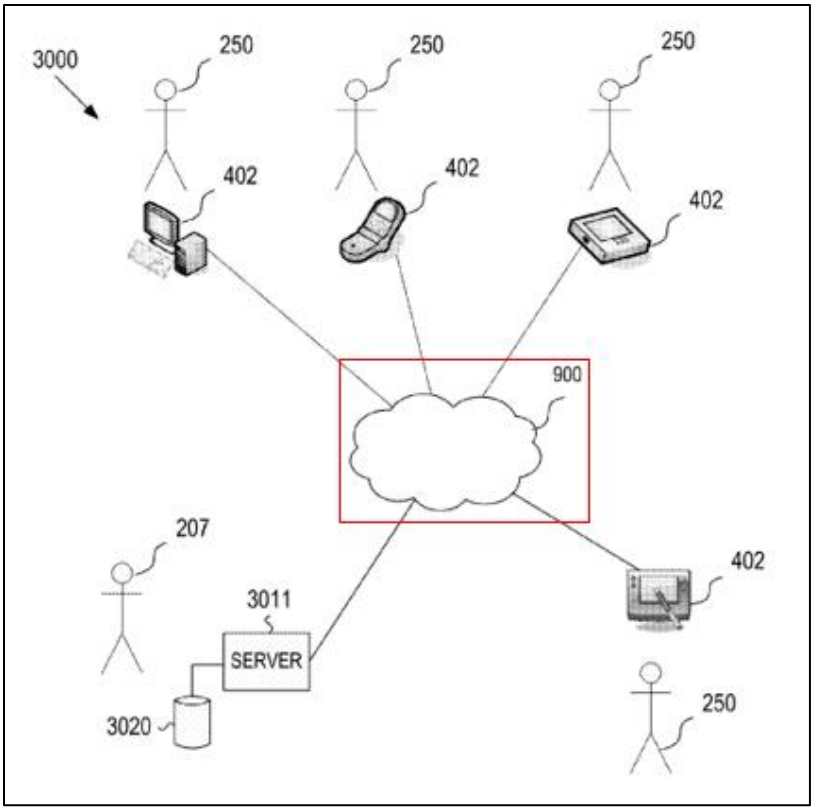
84. Gage's subscriber status reporting system comprises a situational network as claimed. The disaster response system determines the "subscribers [that] have been affected by the disaster" (e.g., subscribers who are "proximate to a disaster area"), and provides messages related to the disaster to these subscribers via network communications, for instance by querying "for a status indicator and for an optional user provided message" related to the disaster. EX1005, ¶¶9, 36. The system also enables the affected subscribers to provide information relating to the disaster to the disaster response system. For instance, the subscribers can provide the requested status indicator and message to the disaster response system. EX1005, ¶9. The subscribers can also "send a picture or video of the post-disaster

situation to system." EX1005, ¶29, *see also* ¶11. The disaster response system further enables the subscribers to communicate with "disaster relief workers/agencies" to help focus relief efforts. EX1005, ¶¶11, 21, 31. For instance, the disaster response system is coupled to "one or more disaster relief systems" to enable the "disaster relief workers/agencies" to "provide assistance to needful subscribers." EX1005, ¶¶21, 31.

85. Thus, in response to the determination of a disaster, the disaster response system creates a situational network with multiple participants, such as the mobile devices of affected subscribers, the disaster response system server, and one or more disaster relief systems. The system enables interaction and exchange of information between these participants to assess the situation and coordinate recovery efforts. As I explained above, this communication is established using "multiple communication/information transmission options." EX1005, ¶25. For instance, one communication option includes "dynamically" establishing "ad hoc networks" to enable communication between the subscribers and the disaster response system sever.

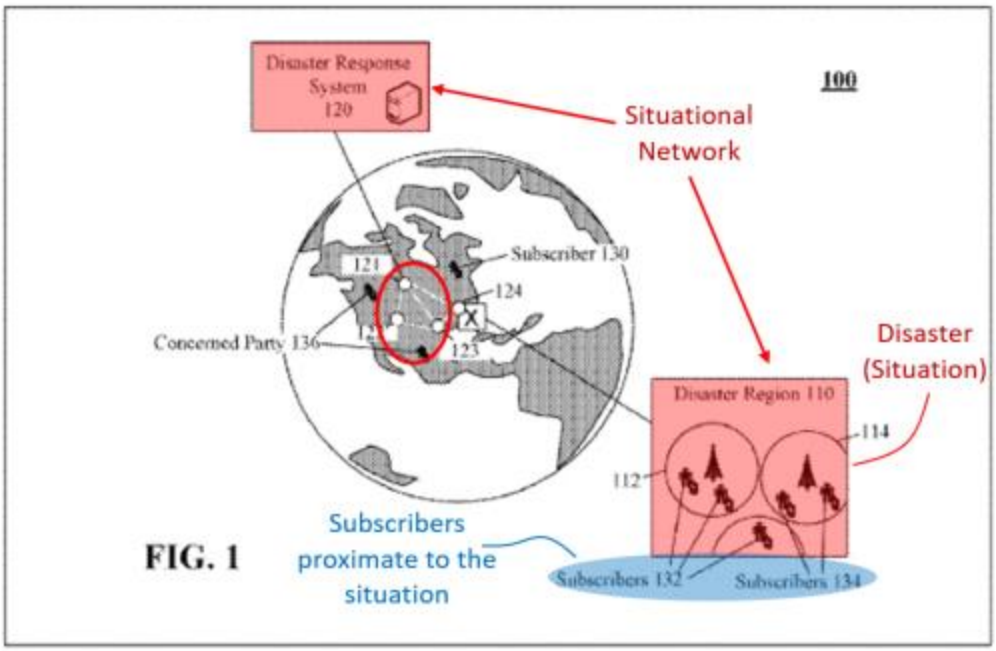
86. Such a situational network is consistent with the '345 patent. Indeed, the '345 patent explains that situational networks are formed by "caus[ing] connections… to be established between, within or among a set of participants." EX1001, 4:3-10, *see also* 7:29-51. The participants include users proximate to the

situation, "emergency responders," "situation authorities," "government agencies (e.g., local fire departments…)," "relief agencies," etc. EX1001, 4:16-32, 25:59-26:25. The connections are formed by coupling the participant devices to a central server via existing computer networks (e.g., the internet). EX1001, 4:3-10, 6:44-59, 14:1-11. For instance, with respect to Figure 1, the '345 patent explains that the situational network enables communications among the participants "over connections to or through a computer network 900." EX1001, 4:7-10. "The computer network 900 may be implemented with a variety of hardware platforms" and "communication tools," such as "using the well-known TCP/IP suite of protocols." EX1001, 14:1-11. "The Internet and some corporate intranets are examples of computer networks that use the technologies and standards described above." EX1001, 14:1-11.



EX1001, FIG. 1 (excerpt, annotated).

87. As I explained above, this is consistent with Gage's disclosure that the disaster response system forms connections with multiple participants including subscriber devices (e.g., through the established communication channels) and disaster relief systems or agencies. *E.g.*, EX1005, ¶¶25, 31, 33.



EX1005, FIG. 1 (annotated).

88. *Second*, Gage's situational network is formed *with a plurality of participant devices determined to be geographically proximate to the situation*. The disaster response system "request[s] location information" from the subscribers, and determines "whether any subscribers have been affected by the disaster" based on the received location information. EX1005, ¶36. "When 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." EX1005, ¶9. Figure 1 above shows that subscribers 132-134 inside or proximate to a disaster region 110 communicate a status indicator to the system 120 through various communication options. EX1005, ¶¶19 ("disaster region 110 can include multiple mobile communication zones 112-114 within which included subscribers 132-134

can communicate a status indicator"), 25. Thus, the subscriber devices 132-134 located in the disaster region are *a plurality of participant devices determined to be geographically proximate to the situation*. As I explained above, Gage's disaster response system forms the *situational* network with these devices.

89. *Third*, Gage teaches that each of the participant devices in its situational network *corresponds to a participant in the situational network*. For instance, 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." EX1005, ¶9. Each subscriber device (e.g., subscriber devices 132-134) is "associated with a subscriber." EX1005, ¶26, claim 15 ("determining a set of mobile telephony devices associated with the region, each mobile telephony device being associated with a subscriber"), *see also* ¶19, FIG. 2.

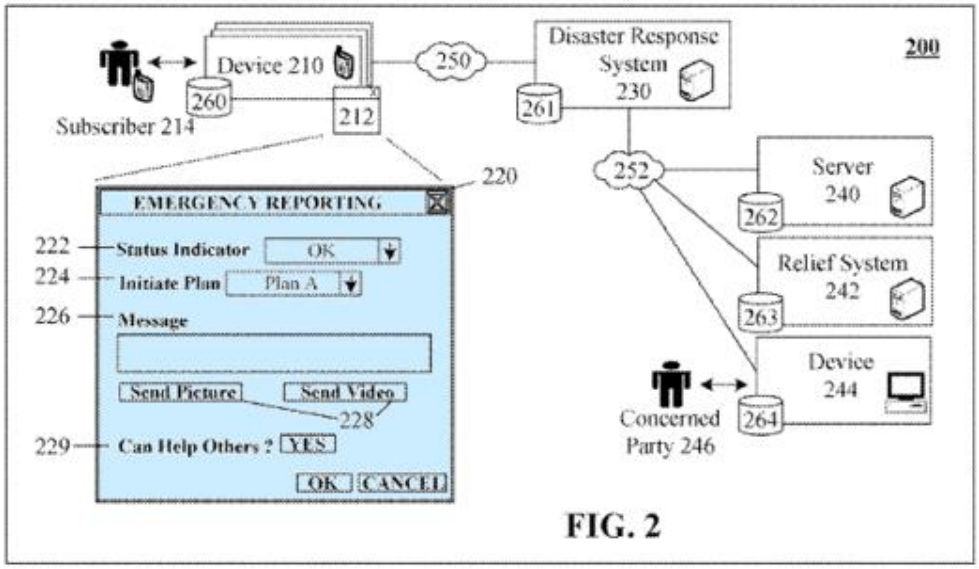
90. Thus, Gage teaches this claim element.

4. [1.3]: presenting a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant;

91. Gage teaches this claim element.

92. Gage discloses that "[w]hen a subscriber is proximate to a disaster area, the subscriber's device [is] queried for a status indicator and for an optional user provided message." EX1005, ¶9, *see also* ¶¶10, 30. The query is a *roll call query* as claimed because it is provided to the subscriber devices that are

"proximate to a disaster area" (i.e., *participant devices*), and solicits a "status indicator" and "message" from subscriber (i.e., *a reply related to a status of the participant*). For instance, as shown below in Figure 2, when the disaster recovery system queries a mobile device, the mobile device displays an interface 220 that permits subscriber 214 to "report situation status information." EX1005, ¶27, FIG. 2. By interacting with the interface 220, a user can select a status indicator 222, such as "OK, NEED HELP, and IN CRITICAL NEED." EX1005, ¶27, FIG. 2. The subscriber can also provide a message 226.



EX1005, FIG. 2.

93. This is consistent with the '345 patent, which describes the roll call query as a message prompting the user "to reply if they are alright" or if "they need assistance." EX1001, 27:11-29. Thus, Gage teaches presenting a roll call query to each of the plurality of participant devices (e.g., query for status indicator from

subscribers proximate to a disaster area) soliciting a reply related to a status of the participant (e.g., a status indicator such as OK, NEED HELP, or IN CRITICAL NEED).

5. [1.4]: receiving a status response from one or more of the participants; and

94. Gage teaches this claim element.

95. Gage discloses that "a user can enter their status indicator and optional message [*status response*], which is thereafter automatically conveyed to the disaster response system." EX1005, ¶9. Specifically, Gage explains that multiple communication/information transmission options are used "for sending status indicators to" the disaster response system. EX1005, ¶25, *see also* ¶30. Additionally, Gage discloses that the disaster response system stores the "response to each of these queries" in a corresponding database entry. EX1005, ¶38.

96. Thus, Gage teaches *receiving a status response from one or more of the participants*.

6. [1.5]: aggregating the status responses from responsive participants into a roll call list.

97. Gage teaches (and/or renders obvious) this claim element in two ways.

98. First, Gage aggregates the status indicators of responsive participants into a roll call list by compiling and storing the status indicators in a database. For

instance, Gage's disaster response system places "response[s] to each of [the status] queries" in "a corresponding database entry." EX1005, ¶38. In doing so, the disaster response system populates "response field[s]" with the received status indicators. EX1005, ¶38. The database thus "relates the [status indicators] and the locations to a corresponding one of the mobile telephony devices." EX1005, claim 15, *see also* claim 3 ("associating an identifier for the mobile communication device and corresponding location and status indicators within a database structure"). Gage thus *aggregates the status responses from responsive participants into a roll call list* (database entries) that is stored in the database. *See* EX1005, ¶¶21, 45.

99. For instance, the disaster response system 230, shown in Figure 2, includes a data store 261, which is a "physical or virtual storage space configured to store digital information." EX1005, ¶34. The data store 261 stores data "within a database structure" that stores and associates subscriber device identifiers with corresponding locations and status indicators. EX1005, ¶34, claim 3, claim 15. Upon receiving status indicators from the subscriber devices, the disaster response system stores these status indicators "in a corresponding database entry" for the subscriber in the database. EX1005, ¶38. The database entries include a "response field" in which the status indicator for the respective subscriber is placed. EX1005, ¶38. For instance, Gage teaches that "the response field can be populated with an

'Unknown' indication" if the user has not provided a status response. EX1005, ¶38. A POSA would have understood that this response field is also populated with the user's status when the user has provided a response. Thus, the database comprises a set of database entries including the status indicators for the respective subscribers.

100. *Second*, Gage also teaches, or at least renders obvious, this element by aggregating the status indicators (responses) in "a Web site containing subscriber status information" that is "updated with the subscriber's status indicator and location." EX1005, ¶37. "Concerned 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." EX1005, ¶37. Thus, the Web site provides the status indicators for subscribers in a disaster region.

101. To the extent Gage does not explicitly disclose that the Web site provides the "subscriber status information" in a *list* format (i.e., *roll call list*), a POSA would have found it obvious to implement the Web site in this way. Indeed, a list is a natural way to provide aggregated information for a number of users. Such a list would also provide an intuitive and easily navigable interface for the concerned parties to "look-up the last known location and situational status of the subscriber." EX1005, ¶37. For instance, the Web site would include a list of subscriber names and corresponding status responses that users could easily scroll

through. It would have been intuitive for a POSA to format such information, e.g., in a table format with respective columns designated for subscriber names and corresponding status indicators (and/or locations). *See* EX1022, ¶¶2-22. Such format would also be advantageous by enabling users who access the Web site to be able to quickly identify the statuses of multiple subscribers by merely scrolling through the list. This would save time relative to other formatting techniques that require the users to search for each subscriber individually.

102. A POSA would have understood that users, such as concerned parties, are familiar with data presented in a list format, and would have readily understood how to navigate such information. Thus, a POSA would have recognized the applicability of such a format. The roll call list would have been easily and predictably implemented as merely configuring the format with which the data is presented on the Web site. Such formatting techniques were well within the grasp of a POSA, and the POSA would not have encountered any unreasonable technical hurdles in implementing the roll call list for display on the Web site.

103. Thus, Gage teaches *aggregating the status response from responsive participants into a roll call list*.

B. Independent Claim 8

1. [8.P] A method of providing situation related information to a situation authority via a situational network, the method comprising:

104. To the extent limiting, Gage teaches the preamble for the reasons provided for elements [1.P] and [1.2]. Indeed, as explained for claim 1 and below for claim 8, Gage teaches that a subscriber device communicates a status indicator (situation related information) to the disaster response system (a situation authority) through a subscriber status reporting system that implements a network configured for use during disasters (situational network). EX1005, ¶19, *see also* ¶25. The disaster response system is a situation authority because the disaster response system "detect[s] an occurrence of a disaster affecting a region" (situation), receives and "aggregate[s]" information related to the disaster, and provides the information to various participants in the network, such as disaster relief agencies and rescue personnel. EX1005, ¶¶8-9, 21, 36, 45, claim 15. This is consistent with the '345 patent, which discloses that situation authorities are "generally [] able to aggregate and provide comprehensive information related to the situation" to "relief agencies" and "emergency responders." EX1001, 4:16-20, 25:61-26:33.

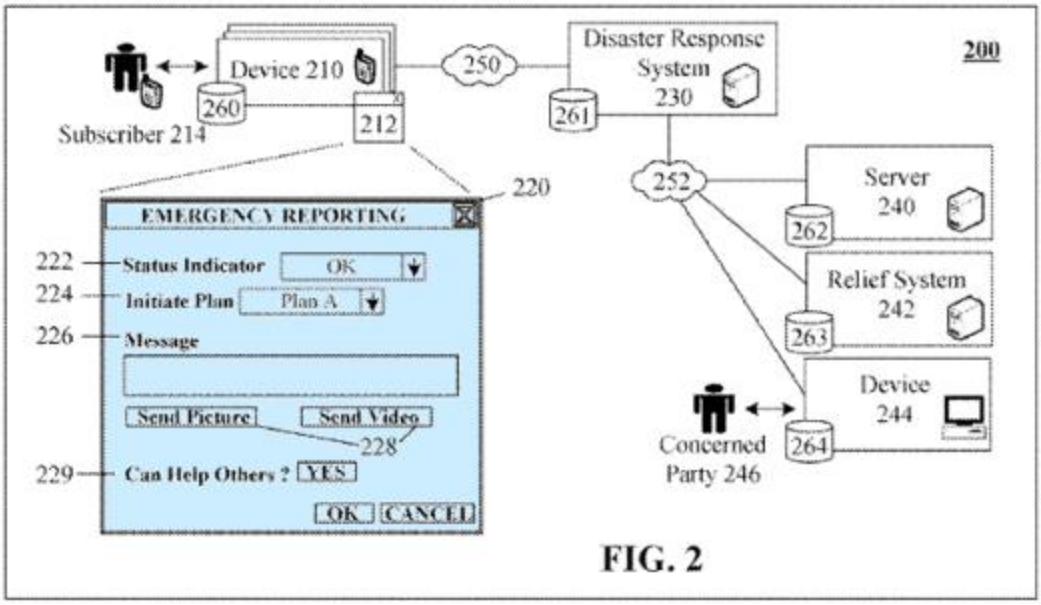
2. [8.1] receiving, by a participant device, a roll call query soliciting a reply related to a status of a participant based on

the participant being determined, by the situation authority, to be geographically proximate to the situation;

105. Gage teaches element [8.1] for the reasons provided for elements [1.2] and [1.3].

3. [8.2] receiving, by the participant device, a selection of a status response from the participant; and

106. Gage teaches element [8.2] for the reasons provided for element [1.4]. Further, Gage discloses that a reporting interface 220 on device 210 (the participant device) permits subscriber 214 to "report situation status information." EX1005, ¶27, *see also* ¶9, FIG. 2. Gage explains a user can "select a status indicator" (a status response) such as OK, NEED HELP, and IN CRITICAL NEED. EX1005, ¶27, *see also* claim 1 ("entering a situation status indicator in a mobile communication device"). The subscriber inputs the status indicator in response to a query provided by the disaster response system. EX1005, ¶9. Thus, Gage teaches that the participant device receives a selection of a status r*esponse from the participant*.



EX1005, FIG. 2 (annotated).

4. [8.3] sending the status response to the central authority, wherein the status response is included in a roll call list.

107. Gage teaches element [8.3] for the reasons provided for elements [1.4]-[1.5].

C. Independent Claim 13

1. [13.P] A system for accessing situation related information, the system comprising:

108. To the extent limiting, Gage teaches the preamble for the reasons provided for element [1.P]. Indeed, as explained for claim 1 and below for claim 13, the disaster response system performs the method for providing situational status.

2. [13.1] a central server, corresponding to a situation authority,

109. Gage teaches element [13.1] for the reasons provided for elements

[1.1].

110. Further, Gage discloses "a centralized disaster response system" providing "situational status." EX1005, ¶8, *see also* ¶9 ("centrally located disaster response system"). The disaster response system includes a "disaster response server" (*central server*)[2]. EX1005, ¶10. Gage also explains that the disaster response system is implemented in a "server 120." EX1005, ¶21, *see also* ¶¶36, 38, 47. Thus, Gage teaches that the disaster response system comprises *a central server*.

3. [13.2] configured to receive an indication of an occurrence of a situation,

111. Gage teaches element [13.2] for the reasons provided for element [1.1].

4. [13.3] form a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network,

112. Gage teaches element [13.3] for the reasons provided for element

[2] Although Gage discloses an example embodiment where the elements of the disaster response system are "geographically dispersed," this embodiment is optional. EX1005, ¶23 ("a series or cluster of linked communication resources *can be* geographically dispersed") (emphasis added).

[1.2].

5. [13.4] present a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant,

113. Gage teaches element [13.4] for the reasons provided for element [1.3].

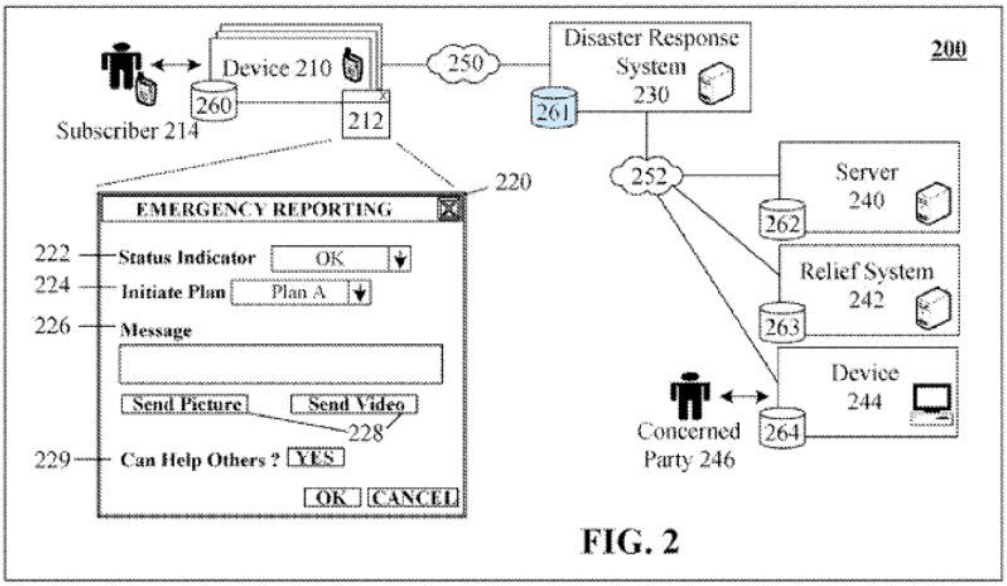
6. [13.5] receive a status response from one or more of the participants, and aggregate the status responses from responsive participants into a roll call list;

114. Gage teaches element [13.5] for the reasons provided for elements [1.4] and [1.5].

7. [13.6] and a database corresponding to the central server for storing the responses and the roll call list.

115. Gage teaches this claim element.

116. Gage discloses data store 261 coupled to the disaster response system 230 and is configured to "store digital information." EX1005, ¶34, FIG. 2. As explained for element [13.1], the disaster response system 230 is implemented in a central server.



EX1005, FIG. 2 (annotated).

117. Gage explains that "a time-stamp response to each of these queries" is placed in a "corresponding database entry" for "all responses." EX1005, ¶38, *see also* discussion for element [1.5]. For instance, Gage teaches "storing [the status responses] and the determined locations in a data store that relates the [status responses] and the locations to a corresponding one of the mobile telephony devices." EX1005, claim 15, *see also* claim 3 ("associating an identifier for the mobile communication device and corresponding location and status indicators within a database structure"). Thus, Gage teaches *a database corresponding to the central server* (database in data store 261) *for storing the responses and the roll call list* because the database has a corresponding entry for each response, and relates the status responses to the mobile devices (*roll call list*).

D. Claims 3, 10, and 15

118. Claims 3, 10, and 15 recite, "*wherein the situation includes at least one of an emergency event, a weather phenomenon, or a natural disaster*."

119. Gage discloses that a disaster (*the situation*) can be "a hurricane, flood, fire, tsunami, and the like." EX1005, ¶19. Thus, Gage teaches these claims.

E. Claim 4

120. Claim 4 recites, "*wherein the situational network is formed by a situation authority*."

121. Gage discloses this element for the reasons provided for elements [1.2] and [8.P]. As explained, Gage's disaster response system is a situational authority that forms the situational network.

F. Claims 5 and 16

122. Claim 5 recites, "*establishing an electronic message board for providing access to the roll call information related to the situation for individuals not participating in the situational network*." Claim 16 recites substantively similar elements.

123. *First*, Gage discloses *establishing an electronic message board for providing access to the roll call information related to the situation*. For instance, Gage discloses that "[c]oncerned parties, such as family members, can be granted access to [a] Web site, through which they can look-up the last known location and situational status of the subscriber." EX1005, ¶37. The "Web site contain[s]

subscriber status information," (*roll call information*) and "can be updated with the subscriber's status indicator and location." EX1005, ¶37. The Web site further includes "user provided message[s]" that are "textual message[s]." EX1005, ¶9, claim 8 ("making the textual message available to the plurality of concerned parties"), *see also* ¶28 ("A message 226 entry option can also exist that permits the subscriber 214 to send a message detailing a situation to the system 230."). Thus, the Web site is a message board because it provides textual messages posted by the subscribers. That is, the disaster response system enables subscribers to provide messages that are displayed via the Web site. The messages are viewable by other users, such as concerned parties who are granted access to the Web site.

124. For instance, as I explained above for element [1.5], a POSA would have found it obvious to implement Gage's Web site in a list/table format with columns for respective subscriber identifiers and corresponding status indicators. Such implementation would further include a column displaying the textual messages provided by the subscribers. As I explained for element [1.5], this arrangement would provide an intuitive and easily navigable interface for users of the Web site to find information regarding friends and family affected by a disaster.

125. *Second*, Gage discloses that the message board is established for *individuals not participating in the situational network*. For instance, Gage

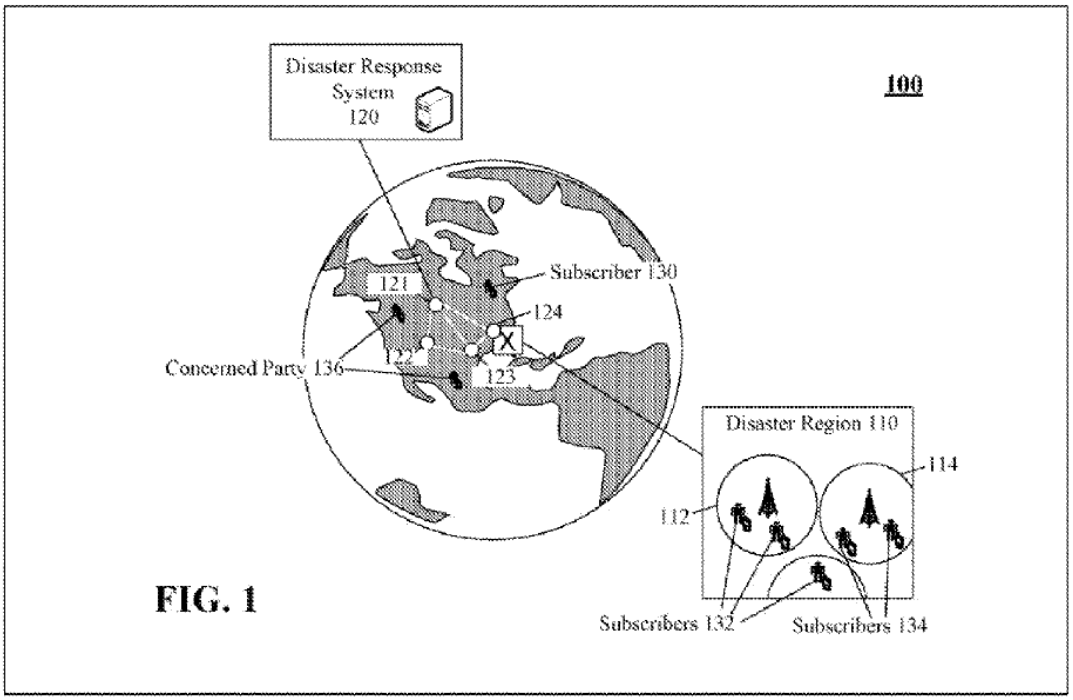
discloses the disaster response system 100 "for informing concerned parties 136 of a situation status of subscribers 130-134." EX1005, ¶19, FIG. 1. The "subscribers" are participants of the situational network because they communicate with the disaster response system via the "multiple communication/information transmission options [that are] established to enable subscribers 130-134 to communicate with system 120." EX1005, ¶25, *see also* discussion for element [1.2].

126. The concerned parties communicate with the disaster response system, by accessing the above-described Web site via the internet in order to "look-up the last known location and situational status of the subscriber." EX1005, ¶37.

127. Figure 1 of Gage shows that a concerned party 136 is outside the disaster region 110 for which the situational network is established. The concerned parties access the subscriber information "using unaffected telecommunication resources." EX1005, ¶23, *see also* ¶8 ("… providing information to concerned parties without burdening a communication infrastructure of an affected area"). For instance, Gage explains that "a mother (e.g., concerned party 136) can contact the [disaster] response system 120 to determine whether her daughter (e.g., one of subscribers 130-134) is alright in the aftermath of a disaster." EX1005, ¶20.

128. Indeed, this is consistent with the '345 patent, which explains that the

"message board also allows visitors not connected or unable to connect to the SitNet the opportunity to post [] or view [] messages that are relevant to a specific situation, such as searching for information on a missing family member or friend." EX1001, 27:52-57. That is, Gage, like the '345 patent, provides the Web site to enable users who are not affected by the disaster, or otherwise connected to the disaster response system, to determine the statuses of friends and family who were affected by the disaster. Thus, a POSA would have understood that concerned parties 136 are "*individuals not participating in the situational network*."



EX1005, FIG. 1.

129. Thus, Gage discloses these claims.

G. Claims 6 and 11

130. Claims 6 and 11 recite, "*wherein the status response includes a*

request for assistance and a location of the participant."

131. Gage discloses that, "when a disaster is detected, mobile devices of subscribers can be queried for location… by a centrally located disaster response system." EX1005, ¶9. The "subscriber's device [is also] queried for a status indicator and for an optional user provided message." EX1005, ¶9.

132. In response to these queries, the subscriber device provides its location, the status indicator, and the user provided message (*status response*). EX1005, ¶¶8-9, 19, 25, 32. The location is automatically obtained through either a GPS component or a triangulation based method. EX1005, ¶19. A POSA would have also understood that the "user provided message" could also include a location manually entered by the subscriber because the message includes information "detailing a situation." EX1005, ¶28, *see also* ¶¶9, 11. For instance, the subscriber could manually input a location that provides more detail than the location determined by the GPS, such as an indication that the subscriber is located on a particular floor of a building. The status indicator includes a *request for assistance* by specifying a status of "NEED[s] HELP" or "IN CRITICAL NEED." EX1005, ¶27, *see also* ¶¶19 ("a status indicator… indicates [that] the subscriber… is in need of help due to the disaster"), 21, 27.

133. Thus, Gage teaches these claims.

H. Claim 7

134. Claim 7 recites, "*wherein non-responding devices are reported to an emergency management organization*." Gage teaches this claim.

135. Gage's disaster response system stores the status indicators received from the subscribers in a database. EX1005, ¶38, FIG. 3. "If no response is received" from a subscriber, "the response field can be populated with an 'Unknown' indication." EX1005, ¶38. Users having an "Unknown" status are "potentially threatened subscribers." EX1005, ¶39. Gage discloses that the disaster response system conveys the subscriber statuses (including the unknown statuses) and locations "to one or more disaster relief systems 242, which can provide assistance to needful subscribers 214." EX1005, ¶31, *see also* ¶¶21 ("aggregated data can be reported to disaster relief workers and/or agencies"), 11 ("location information of subscribers and messages relating to relief needs can be used to further focus disaster relief efforts"), claim 5. This data helps relief workers and/or agencies "determine a response order and/or to proportion relief resources based upon need." EX1005, ¶21. A POSA would have understood one or more disaster relief systems 242 are *emergency management organizations* because they coordinate and provide relief for disasters or emergencies.

136. Thus, Gage teaches claim 7.

I. Claim 12

137. Claim 12 recites, "*wherein the roll call list includes aggregated status responses from responsive participants of the situational network*."

138. Gage teaches claim 12 for the reasons provided for element [1.5].

XIII. GROUND 2: THE COMBINATION OF GAGE AND MITCHELL RENDERS OBVIOUS CLAIMS ANTICIPATES CLAIMS 2, 9, AND 14.

A. A POSA would have found it obvious to combine Gage and Mitchell to arrive at claims 2, 9, and 14.

139. As explained above, Gage's disaster response system enables users who are located in a disaster region to "report[] a status indicator" that indicates whether the user is safe, in need of help, etc. EX1005, Abstract, ¶27. Specifically, Gage discloses that "[w]hen a subscriber is proximate to a disaster area, the subscriber's device [is] queried for a status indicator and for an optional user provided message." EX1005, ¶9, *see also* ¶¶10, 30. The disaster response system stores the status indicators in a database. EX1005, ¶38. When a user does not provide a response, the database entry for that user is "populated with an 'Unknown' indication." EX1005, ¶38. The disaster response system considers non-responsive subscribers to be "potentially threatened subscribers." EX1005, ¶39.

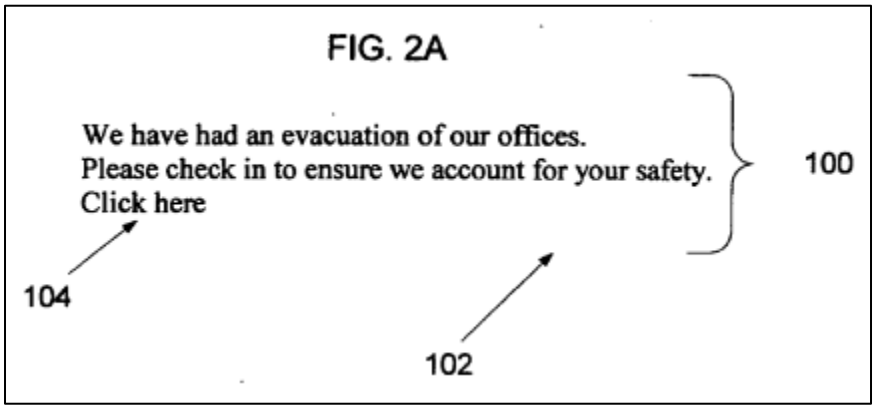
140. A POSA reading Gage would have understood that there could be many reasons for a subscriber to fail to respond to the disaster response system queries. For instance, the subscriber's phone battery may be dead, or the subscriber may not have checked his phone. *See* EX1005, ¶32. In each of these scenarios, the

non-responsive subscriber may be safe. A POSA would have also realized that other subscribers located within the disaster region may have information concerning the status of the non-responsive subscriber. For instance, friends or family who have been in contact with the non-responsive subscriber may have personal knowledge of the non-responsive subscriber's status and/or location. A POSA would have thus recognized that it would be beneficial to enable such other subscribers to provide information relating to the status of the non-responsive subscriber so that the disaster response system could receive the most accurate information.

141. With these concerns in mind, a POSA would have sought out references similar to Gage that additionally teach techniques for enabling other users or subscribers to provide status updates for non-responsive subscribers. This would have led a POSA to Mitchell.

142. Mitchell discloses a similar system as Gage. For instance, Mitchell is directed to an "intelligent headcount system" that "ensur[es] that all persons have been accounted for… in real time in response to an emergency or disaster declaration." EX1013, ¶11, *see also* Abstract. Thus, Mitchell is similar to Gage in that both references disclose techniques for determining the statuses of individuals who may have been affected by a disaster or emergency. In Mitchell, when a disaster is detected, a server 18 provides an "alert message" to a user prompting the

user to check in by sending an "acknowledgement signal" that indicates the user's status. EX1013, ¶¶35-37.



EX1013, FIG. 2A.

143. Mitchell further teaches "backup procedures" for determining the statuses of users who do not respond to the alert message. For instance, one backup procedure includes "generating a message sent only to a selected group of colleagues or a single colleague who has been accounted for and typically works in close contact with an [unaccounted for] person." EX1013, ¶19, *see also* ¶¶54-55. "The message requests that the recipients of this message provide information regarding the unaccounted for person." EX1013, ¶19. "If a response contains information verifying that the unaccounted for person is at a location outside the crisis event, the search for him/her may end and his/her status is updated as checked-in and accounted for." EX1013, ¶19, *see also* ¶50.

144. A POSA would have been motivated to modify Gage to enable accounted for (responsive) subscribers to provide information relating to the status of unaccounted for (nonresponsive) subscribers, as taught by Mitchell. As

explained above, this would improve Gage's system by enabling accurate status information to be determined for nonresponsive subscribers. *See* EX1004, ¶¶38-39. That is, this feature would help to mitigate the number of affected subscribers who have an "unknown" status in Gage's disaster response system. EX1004, ¶¶38-39. This would be beneficial in coordinating relief efforts so that relief agencies or rescue personnel do not waste resources on nonresponsive subscribers who are actually safe. EX1004, ¶¶11, 21. This would further Gage's goal of "determin[ing] areas and/or subscribers in greatest need of relief based upon subscriber status indicators and subscriber locations." EX1005, ¶11, *see also* ¶7 (a "problem that occurs in the aftermath of a disaster relates to deployment of rescue personnel and properly targeting relief resources to areas having the greatest need").

145. In the context of Gage's system, a POSA would have found it obvious to enable Gage's responsive subscribers in a disaster area to request and access the status information of other subscribers from the disaster response system, based on Mitchell's teachings. In viewing this information, the responsive subscribers could determine if they had any information relating to any unaccounted for subscriber, and if so, provide such information to the disaster response system.

146. This is consistent with Gage, which already discloses a "Web site [that] contain[s] subscriber status information," (*roll call list*) and "can be updated with the subscriber's status indicator and location." EX1005, ¶37, *see also*

discussion for element [1.5]. Gage enables users, such as concerned parties, to be "granted access to the Web site, through which they can look-up the last known location and situational status of the subscriber." EX1005, ¶37. That is, these users request and access the subscriber status information for the queried users from the Web site. Thus, Gage teaches a mechanism by which users can request and access subscriber status information.

147. Consistent with these teachings, in modifying Gage with Mitchell, a POSA would have found it obvious to enable responsive subscribers to request such subscriber status information from the disaster response system so that the subscribers could provide information on one or more nonresponsive subscribers to the disaster response system. That is, a POSA would have recognized that this would provide a convenient and predictable manner for subscribers to access information regarding nonresponsive subscribers. For instance, responsive subscribers would be interested in viewing the entire affected subscriber list to allow the subscribers to easily scroll through the list to determine whether they had information relating to the status of any nonresponsive subscribers on the list. This would provide an efficient manner for the responsive subscribers to provide relevant updated statuses.

148. Upon receipt of such updates, the disaster response system would update the statuses of the nonresponsive subscribers. *See* EX1005, Abstract, ¶38.

For instance, the disaster response system would replace the subscriber's "Unknown" status in the database with the status provided by the requesting subscriber. EX1005, ¶38. As I explained above, this would be beneficial to provide the disaster response system with accurate and updated information.

149. A POSA would have recognized that this implementation of Mitchell's teachings would amount to a predictable variation of Gage. That is, in the context of Gage's system, a POSA would have sought to implement Mitchell's backup procedure techniques by enabling the disaster response system to present requesting users with the status subscriber information (roll call list) so that the users could browse the list and provide status responses for other users. This would enable the users to determine whether they knew relevant information relating to any of the unaccounted for users on the list, and to report this information to the disaster response system in a convenient and efficient manner.

150. And a POSA would have readily been able to implement these techniques in Gage. As explained, Gage and Mitchell teach similar systems for determining the statuses of users located in a disaster region. Gage already discloses techniques for communicating with subscribers located in the disaster region. Gage also already teaches techniques for users to request and access subscriber status information from a Web site. EX1005, ¶37. A POSA would have readily been able to leverage Gage's existing infrastructure to enable subscribers to

request and access subscriber status information for updating the statuses of non-responsive subscribers. In this manner, a POSA would have realized that such implementations would merely amount to combining prior-art elements according to known methods to yield predictable results (providing backup procedures for locating non-responsive subscribers).

B. The combination of Gage and Mitchell teaches claims 2, 9, and 14.

151. Claim 2 recites, "*receiving a request from a responsive participant to view the roll call list; presenting the roll call list to the responsive participant; and receiving from the participant an indication of the status of non-responsive participant*." Claims 9 and 14 recite substantively similar elements.

152. The combination of Gage and Mitchell teaches these claims. As I explained above in §XIII.A, a POSA would have found it obvious based on Mitchell's teachings to enable Gage's responsive subscribers in a disaster area to *request* the status information of other subscribers (*roll call list*) from the disaster response system (*receiving a request from a responsive participant to view the roll call list*). *See* EX1005, ¶37; EX1013, ¶19. As explained, this is consistent with Gage's teaching of enabling users to request and view "a Web site containing subscriber status information" (*roll call list*). EX1005, ¶37. This is also consistent with Mitchell's teaching of enabling users to "provide [status] information regarding [an] unaccounted for person." EX1013, ¶19.

153. The disaster response system would *present* this information to the requesting subscriber (*presenting the roll call list to the responsive participant*), who could determine if they had any information relating to any unaccounted for subscriber, and if so, provide such information to the disaster response system (*an indication of the status of non-responsive participant*).

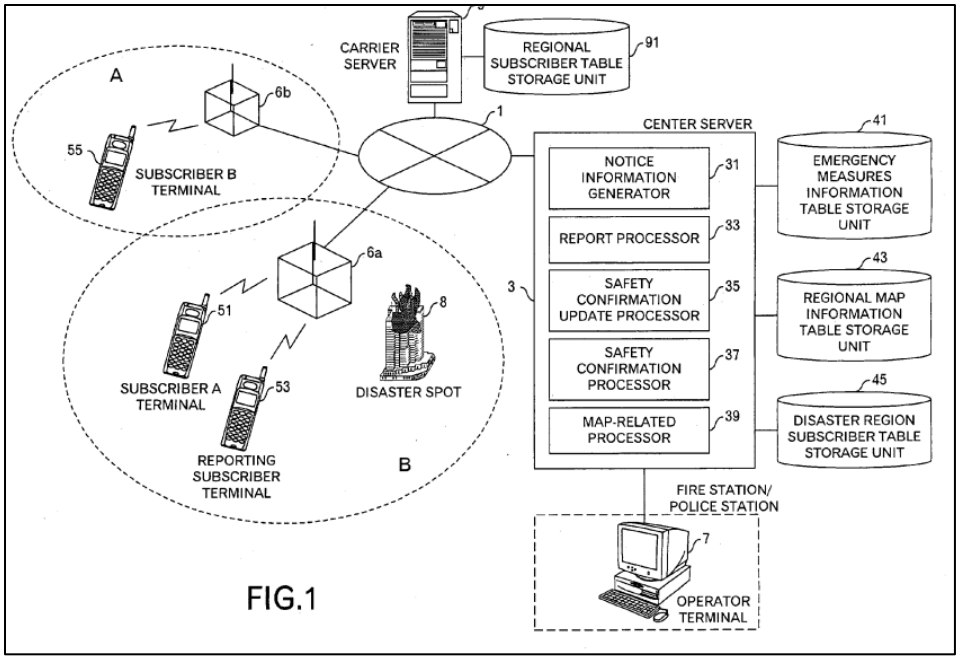
XIV. GROUND 3: SHIDA RENDERS OBVIOUS CLAIMS 1, 3-4, 6-8, 10-13, AND 15.

A. Independent Claim 1

1. [1.P]: A method of accessing situation related information, the method comprising:

154. To the extent limiting, Shida discloses the preamble.

155. Shida discloses "a method of processing information associated with [a] disaster" ("*situation related information*"). EX1006, ¶6. For instance, Shida discloses that a "center server" "receiv[es] information concerning a disaster occurring region and information of a user… in the disaster occurring region, and stor[es] it in a storage device." EX1006, ¶¶6, 27, *see also* ¶37 ("disaster information included in the disaster occurrence report" is transmitted "to the center server"). Shida also discloses that the center server accesses "safety confirmation response[s]" of users proximate to the disaster. EX1006, ¶¶49-50. Accordingly, Shida teaches a method of *accessing situation related information*.



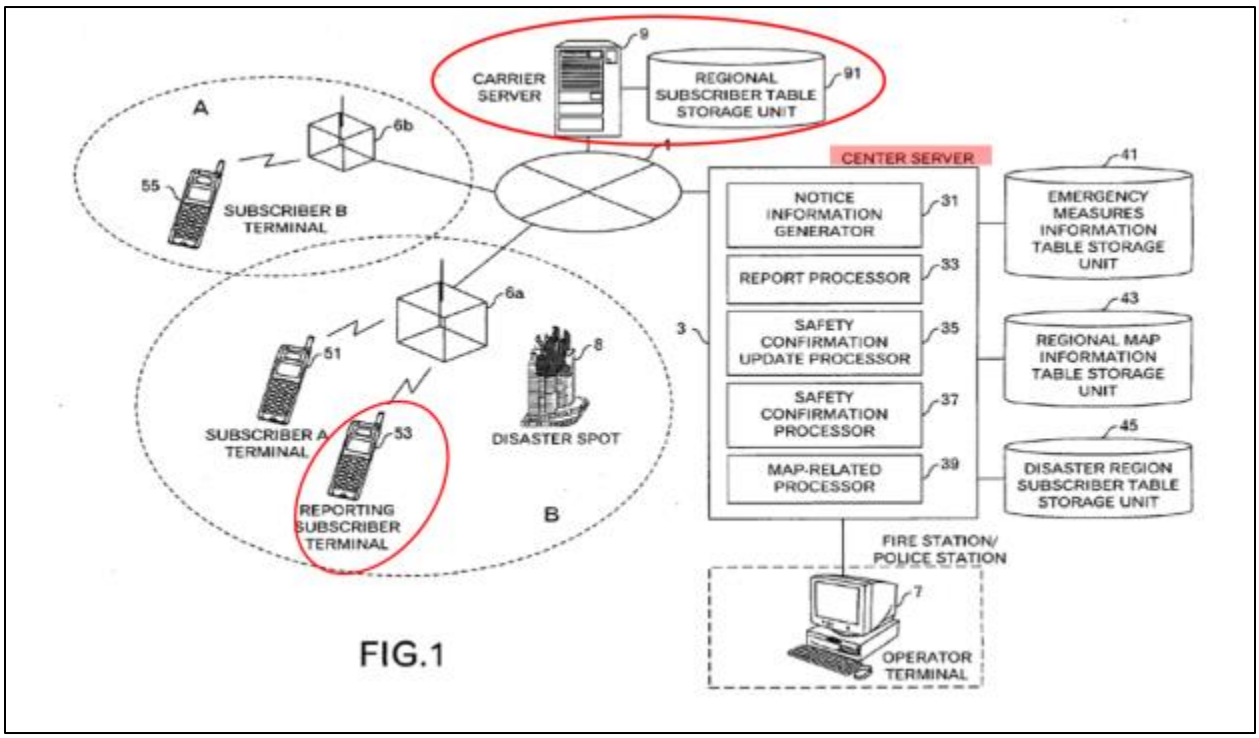
EX1006, FIG. 1.

2. [1.1]: receiving an indication of an occurrence of a situation;

156. Shida teaches this claim element.

157. Shida's "center server" receives *an indication of an occurrence of a situation* because it receives information related to a disaster that was communicated by a "reporting subscriber." EX1006, ¶¶32-33, 37. For instance, Shida discloses that a "reporting subscriber inputs disaster information by operating [a] reporting subscriber terminal [] when he or she discover[s] the occurrence of [a] disaster at the disaster spot." EX1006, ¶32, FIG. 1. The reporting subscriber terminal then "generates [a] disaster occurrence report including the input disaster information… and transmits it" to a "carrier server." EX1006, ¶33. The carrier server "receives the disaster occurrence report," and "transmits… disaster information included in the disaster occurrence report, information on the

disaster occurring region, and list information of the subscribers in the disaster occurring region information to [a] center server." EX1006, ¶¶33, 37. "[T]he center server [] receives [this information]… from the carrier server." EX1006, ¶38, FIG. 5. For instance, the center server includes a "report processor 33 that processes the disaster occurrence report from the reporting person of the occurrence of the disaster." EX1006, ¶31, *see also* ¶38. Thus, the center server *receives an indication of an occurrence of a situation*.



EX1006, FIG. 1 (annotated).

3. [1.2]: forming a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network;

158. Shida teaches this claim element. This claim element includes three

features: (i) *forming a situational network related to the occurrence of the situation*; (ii) the situational network is formed *with a plurality of participant devices determined to be geographically proximate to the situation*; and (iii) *each of the participant devices correspond[s] to a participant in the situational network*. Each of these features is taught by Shida.

159. *First*, Shida's center server *forms a situational network related to the occurrence of the situation* by establishing connections for communicating with "the subscribers… who should be informed of the occurred disaster." EX1006, ¶46. The center server then "generates notice information" related to the disaster "and transmits it to the subscribers to be notified." EX1006, ¶46. "The subscriber terminal of the designated subscriber receives the broadcast notice information from the mobile communication network system, and displays it on the display device." EX1006, ¶46.

160. The users of the subscriber terminals then input a "safety confirmation response," which is transmitted to the center server via a "mobile communication network system." EX1006, ¶50. The safety confirmation response can indicate, for instance, a message of "Safety" or a message of "Rescue request." EX1006, ¶50. The center server then "transmits [a] safety confirmation result… to the subscriber terminal," which may indicate, for instance, that "Safety was confirmed" or that the subscriber is "still in the vicinity of the region of the

disaster." EX1006, ¶60. Thus, Shida's center server *forms a situational network related to the occurrence of an event* by establishing connections with participant devices for communicating information related to the event.

161. The center server also establishes connections for communication with an "operator terminal" that is "provided in facilities such as fire stations and police stations." EX1006, ¶30. As a result, the situational network enables participants of the network, such as subscriber terminals, the center server, and the operator terminal, to communicate information regarding the disaster.

162. That is, the situational network includes subscriber devices of "subscribers who exist in the disaster occurring region" (*a plurality of participant devices determined to be geographically proximate to the situation*). EX1006, ¶46. The center server provides information related to the disaster to these subscribers via network communications, for instance by providing "notice information" related to the disaster to these devices. EX1006, ¶46. The notice information includes "general information of this disaster such as the kind of disaster and the degree of the emergency." EX1006, ¶46.

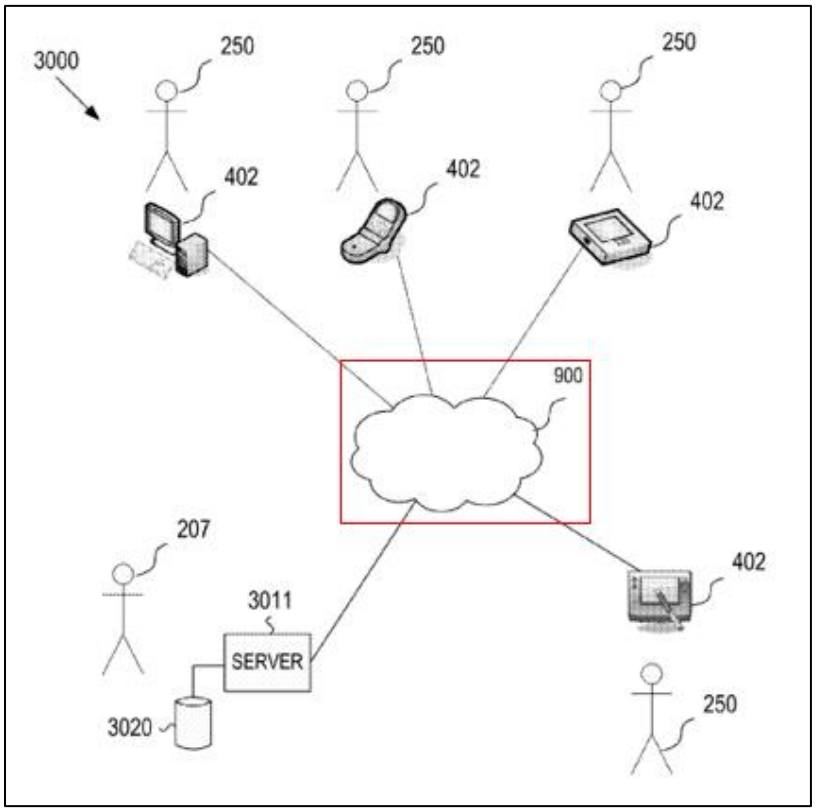
163. The system also enables these subscribers to provide information relating to the disaster to the center server. For instance, the subscribers can provide the requested "safety confirmation response" to the center server. EX1006, ¶50. The system also enables the subscribers to communicate with emergency

agencies, such as police and fire departments, so that these agencies can "plan and instruct measures against the disaster etc." EX1006, ¶¶30, 51, 63.

164. Thus, in response to the determination of a disaster, the center server creates a situational network with multiple participants, such as the mobile devices of subscribers in the disaster area, the center server, and the operator terminal. For instance, the center server communicatively couples with these participants to facilitate interaction and exchange of information between the participants to assess the situation and coordinate recovery efforts. *See* EX1006, ¶58. For instance, the center server transmits information relating to a user "including the subscriber's information (subscriber ID etc.) and the position information… to the operator terminal" so that the "rescue operation can be begun earlier." EX1006, ¶58.

165. Such a situational network is consistent with the '345 patent. The '345 patent teaches that situational networks are formed by "caus[ing] connections… to be established between, within or among a set of participants." EX1001, 4:3-10, *see also* 7:29-51. The connections are formed by coupling the participant devices to a central server via existing computer networks (e.g., the internet). EX1001, 4:3-10, 6:44-59, 14:1-11. The participants include users proximate to the situation, "emergency responders," "situation authorities," "government agencies (e.g., local fire departments…)," "relief agencies," etc. EX1001, 4:16-32, 25:59-26:25.

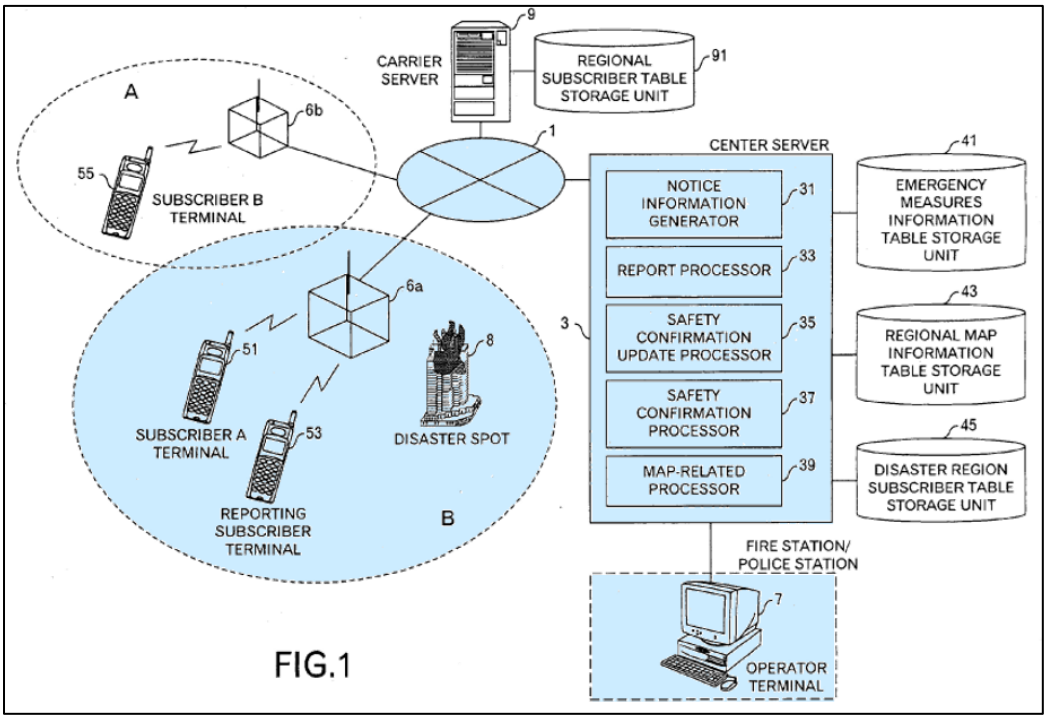
166. For instance, with respect to Figure 1, the ’345 patent explains that the situational network enables communications among the participants “over connections to or through a computer network 900.” EX1001, 4:7-10. “The computer network 900 may be implemented with a variety of hardware platforms” and “communication tools,” such as “using the well-known TCP/IP suite of protocols.” EX1001, 14:1-11. “The Internet and some corporate intranets are examples of computer networks that use the technologies and standards described above.” EX1001, 14:1-11.



EX1001, FIG. 1 (excerpt, annotated).

167. *Second*, Shida’s *situational network* is formed *with a plurality of participant devices determined to be geographically proximate to the situation*. For

instance, Shida describes determining which subscribers should be notified of the disaster by determining which exist in the disaster occurring region using subscriber position information (i.e., *determined to be geographically proximate to the situation*). EX1006, ¶¶8, 39, 46, 56. Figure 1 below shows a situational network formed by the center server. Upon determining that a disaster has occurred in Region B, the center server 3 establishes communication with the subscriber terminals located in Region B (proximate to the disaster) via network 1. EX1006, ¶¶38, 46.



EX1006, FIG. 1 (annotated).

168. Third, each of the subscriber terminals in Shida's situational network *corresponds to a participant in the situational network*. For instance, each of Shida's "subscriber terminals" are "operated by a subscriber." EX1006, ¶27. Thus,

as explained above, the center server forms a situational network with subscriber terminals that are associated with respective subscribers who are located in the "disaster occurring region." EX1006, ¶46, FIG. 1.

4. [1.3]: presenting a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant;

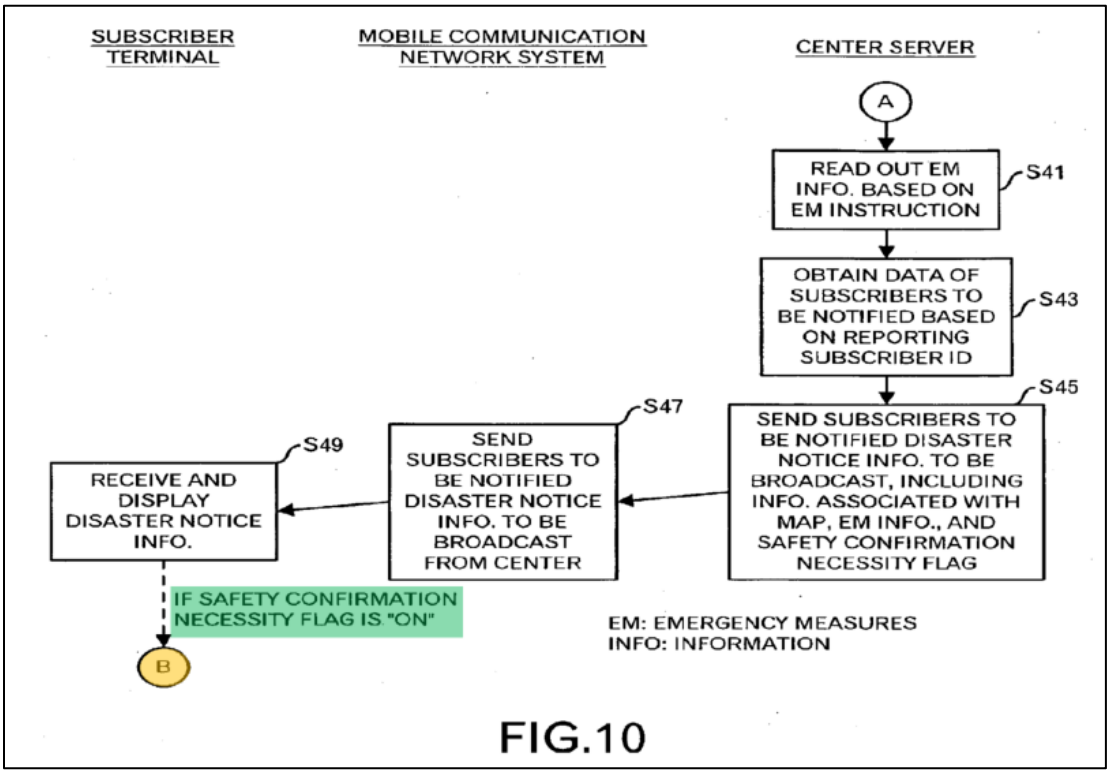
169. Shida teaches this claim element.

170. Shida discloses that subscribers receive the "broadcast notice information" including a "safety confirmation necessity flag" (*roll call query*). EX1006, ¶46. When the safety confirmation necessity flag is included in the notice information, the received notice information is a *roll call query* because it solicits a "safety confirmation response" from the subscriber (*reply related to a status of the participant*). EX1006, ¶¶49, 50. For instance, when the center server transmits the notice information, it "waits for receiving the safety confirmation response from the subscriber terminal." EX1006, ¶52.

171. "The subscriber terminal of the designated subscriber receives the broadcast notice information from the mobile communication network system, and displays it on the display device." EX1006, ¶46. For instance, the subscriber terminal displays interface elements such as a "Safety" button or "Rescue request" button "according to the disaster notice information" for soliciting a safety confirmation response. EX1006, ¶50. The user inputs the safety confirmation

response by "push[ing] 'Safety' button or 'Rescue request' button displayed on the display device of the subscriber" ("*a reply related to the status of the participant"*). EX1006, ¶50, FIGs. 10, 12. Thus, the subscriber terminal transmits the safety confirmation response in response to receiving the notice information to inform the center server that the subscriber is "safe" or in need of rescue. EX1006, ¶¶57-58.

172. Figures 10 and 12 below show the processes of a subscriber terminal providing safety confirmation response when the safety confirmation necessity flag is "ON." Thus, Shida teaches this claim element.



EX1006, FIG. 10 (annotated).

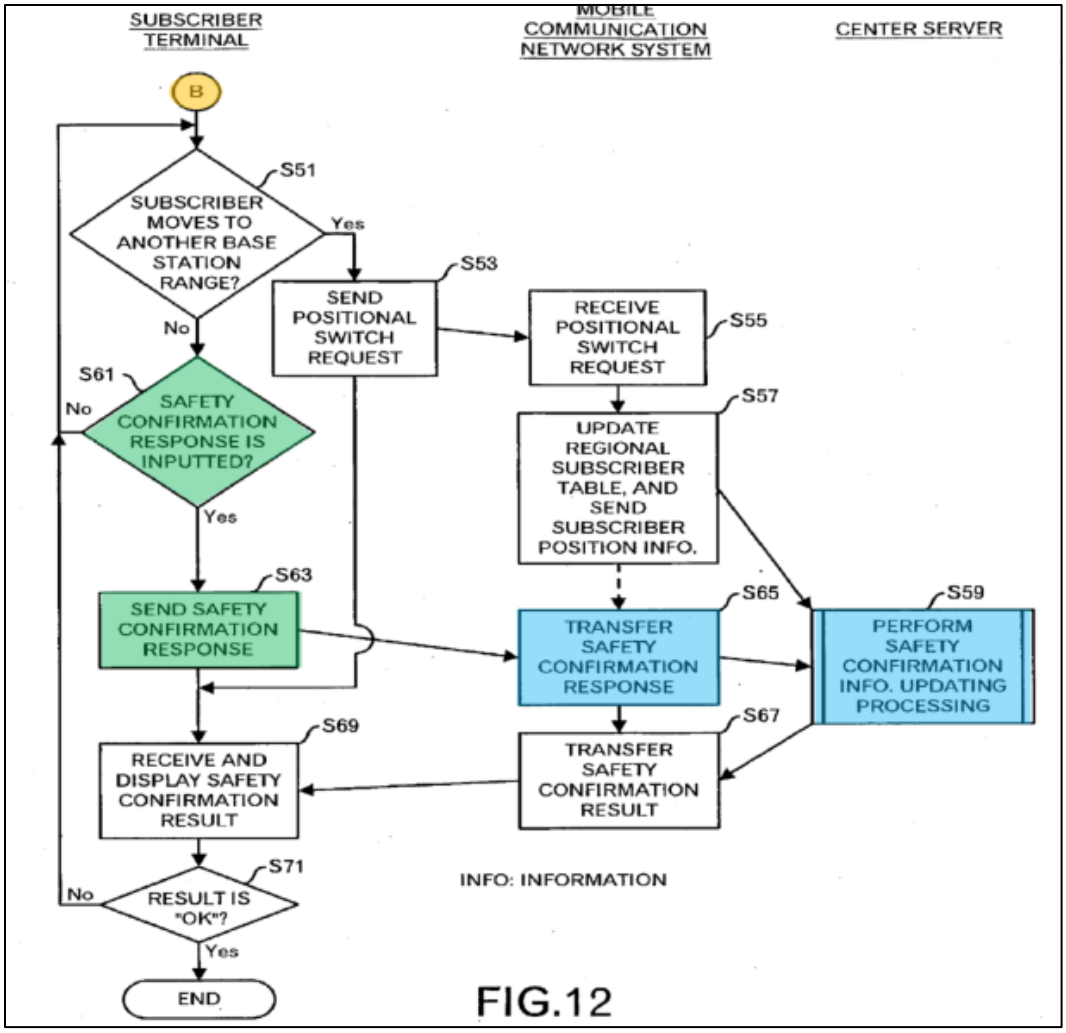


FIG.12

EX1006, FIG. 12 (annotated).

5. [1.4]: receiving a status response from one or more of the participants; and

173. Shida teaches this claim element.

174. Shida discloses that "[t]he mobile communication network system forwards the safety conformation response [*status response*] from the subscriber [] terminal [] to the center server" and that, upon receiving the response, "the center server [] carries out the safety confirmation information updating processing." EX1006, ¶50, FIG. 12, *see also* ¶52. The blue boxes in Figure 12 above shows that

the center server *receives* safety confirmation response (*a status response*). Upon receiving the safety confirmation response, the center server "judges whether the safety confirmation response is 'OK' which means [the subscriber] is safe," or whether "the safety confirmation response from the subscriber terminal is 'NG' which is a rescue request." EX1006, ¶¶57-58.

6. [1.5]: aggregating the status responses from responsive participants into a roll call list.

175. Shida teaches this claim element.

176. Shida discloses that the center server *aggregates the statuses from responsive participants into a roll call list* by "generat[ing a] disaster regional subscriber table [*roll call list*] from the disaster occurring region ID and list information of the subscribers in the disaster occurring region." EX1006, ¶39. As shown in Figure 6 below, the disaster region subscriber table includes "a column 207 of the subscriber IDs of subscribers who exist in the disaster occurring region, a column 208 of the current subscriber existing region ID, [and] a column 209 of the subscriber's safety confirmation status." EX1006, ¶39, FIG. 6. Shida explains that the center server updates the safety confirmation status of a subscriber in the disaster region subscriber table after receiving safety confirmation response from the subscriber. EX1006, ¶¶57-58, *see also* FIG. 13. The center server *aggregates* these responses into a *roll call list* in the form of the disaster regional subscriber table. EX1006, ¶39.

Roll call list

205	206	207	208	209
REPORTING SUBSCRIBER ID	DISASTER OCCURRING REGION ID	SUBSCRIBER ID	CURRENT REGION ID	STATUS OF SAFETY CONFIRMATION
REPORTING SUBSCRIBER	REGION A	SUBSCRIBER A	REGION A	NOT YET
		SUBSCRIBER B	REGION B	OK
		SUBSCRIBER C	REGION A	NOT YET
		SUBSCRIBER D	REGION D	OK
		⋮	⋮	⋮

FIG.6

EX1006, FIG. 6 (annotated).

177. The center server also aggregates the responses into a "safety confirmation status list" by extracting the subscriber IDs and safety confirmation statuses from columns 207 and 209 of the disaster regional subscriber table (shown in Figure 6). EX1006, ¶63. The center server then "transmits the subscriber safety confirmation status list to the operator terminal." EX1006, ¶63.

B. Independent Claim 8

1. [8.P] A method of providing situation related information to a situation authority via a situational network, the method comprising:

178. To the extent limiting, Shida teaches the preamble for the reasons provided for elements [1.P] and [1.2]. Indeed, as explained for claim 1 and below for claim 8, the method is performed by a subscriber terminal in the disaster occurring region that communicates a safety confirmation response (*situation related information*) to a center server (*a situation authority*) via *situational network*. EX1006, ¶50. The center server is a *situation authority* because the center

server determines "the occurrence of the disaster," stores "emergency measures information," and is "connected to an operator terminal [] provided in facilities such as fire stations and police stations, for instance, to plan and instruct measures against the disaster etc." EX1006, ¶¶6, 30, 38, 46. As explained for element [1.5], the center server also aggregates user safety confirmation responses by storing them in a disaster region subscriber table. The center server also provides the safety confirmation responses to an operator terminal (e.g., implemented in a fire station or police station). EX1006, ¶¶30, 51, 58. This is consistent with the '345 patent, which discloses that situation authorities are "generally [] able to aggregate and provide comprehensive information related to the situation" to "relief agencies" and "emergency responders." EX1001, 4:16-20, 25:61-26:25.

2. [8.1] receiving, by a participant device, a roll call query soliciting a reply related to a status of a participant based on the participant being determined, by the situation authority, to be geographically proximate to the situation;

179. Shida teaches element [8.1] for the reasons provided for elements [1.2] and [1.3].

3. [8.2] receiving, by the participant device, a selection of a status response from the participant; and

180. Shida teaches element [8.2] for the reasons provided for element [1.3]. The user inputs the safety confirmation response by "push[ing] 'Safety' button or 'Rescue request' button displayed on the display device of the subscriber." ("*a*

reply related to the status of the participant"). EX1006, ¶50, FIGs. 10, 12. The subscriber A terminal 51 then "accepts" the safety confirmation response input from the subscriber. EX1006, ¶50.

4. [8.3] sending the status response to the central authority, wherein the status response is included in a roll call list.

181. Shida teaches element [8.3] for the reasons provided for elements [1.4] and [1.5].

C. Independent Claim 13

1. [13.P] A system for accessing situation related information, the system comprising:

182. To the extent limiting, Shida teaches the preamble for the reasons provided for element [1.P]. Indeed, as explained for claim 1 and below for claim 13, Shida discloses a system including a center server for performing a method for providing and accessing disaster (situation) related information. EX1006, ¶27.

2. [13.1] a central server, corresponding to a situation authority,

183. Shida teaches element [8.1] for the reasons provided for elements [1.4] and [8.P].

184. Shida discloses a "center server 3 that carries out a main processing for this embodiment." EX1006, ¶27. The center server is a *situation authority* for the reasons provided for element [8.P].

3. [13.2] configured to receive an indication of an occurrence of a situation,

185. Shida teaches element [13.2] for the reasons provided for element [1.1].

4. [13.3] form a situational network related to the occurrence of the situation with a plurality of participant devices determined to be geographically proximate to the situation, each of the participant devices corresponding to a participant in the situational network,

186. Shida teaches element [13.3] for the reasons provided for element [1.2].

5. [13.4] present a roll call query to each of the plurality of participant devices soliciting a reply related to a status of the participant,

187. Shida teaches element [13.4] for the reasons provided for element [1.3].

6. [13.5] receive a status response from one or more of the participants, and aggregate the status responses from responsive participants into a roll call list;

188. Shida teaches element [13.5] for the reasons provided for elements [1.4] and [1.5].

7. [13.6] and a database corresponding to the central server for storing the responses and the roll call list.

189. Shida teaches this claim element.

190. Shida discloses that the center server includes "a disaster region subscriber table storage unit 45 for storing a disaster region subscriber table."

EX1006, ¶30, FIG. 1. As explained with respect to claim element [1.5], the disaster region subscriber table includes the responses and the roll call list. Thus, Shida teaches [13.6].

D. Claims 3, 10, and 15

191. Claims 3, 10, and 15 recite, "*wherein the situation includes at least one of an emergency event, a weather phenomenon, or a natural disaster*." Shida teaches these claims.

192. Again, Shida discloses a *situation* in the form of a "disaster." EX1006, ¶6. In response to determining the occurrence of the disaster, Shida's system implements "emergency measures." EX1006, ¶30, *see also* ¶41 (users take cover in "places of refuge"). Thus, Shida's disclosure of a disaster teaches the claimed *emergency event*. A POSA would have further understood that such disasters encompass natural disasters (e.g., fires) and weather phenomenon (e.g., tornadoes, hurricanes, etc.). EX1006, ¶¶2, 30. Thus, Shida teaches these claims.

E. Claim 4

193. Claim 4 recites, "*wherein the situational network is formed by a situation authority*."

194. Shida teaches this claim for the reasons provided for elements [1.2] and [8.P]. As explained, Shida's situational network is formed by the center server, which is a situation authority.

F. Claims 6 and 11

195. Claims 6 and 11 recite, "*wherein the status response includes a request for assistance and a location of the participant.*" These claims would have been obvious in view of Shida's disclosure.

196. Shida discloses that a subscriber terminal provides a safety confirmation response to the center server that may include a "Rescue request" (*request for assistance*). EX1006, ¶50, *see also* ¶58. Shida also teaches that the subscriber terminal provides location information to the center server in conjunction with the safety confirmation response. For instance, when the subscriber terminal determines that the subscriber has changed positions (e.g., to a new cell), it provides data indicative of the new position to the center server via the mobile communication network system. EX1006, ¶49, *see also* ¶¶52-53.

197. "In response to this, the… center server [] carries out the safety confirmation information updating processing" related to the new position. EX1006, ¶49. For instance, when the safety confirmation response from the subscriber terminal is a rescue request, the center server "transmits [a] warning including the subscriber's information (subscriber ID etc.) and the position information (the existing region information after the movement) to the operator terminal." EX1006, ¶58.

198. Thus, Shida teaches that, in response to receiving the notice

information from the center server, the subscriber terminal transmits a safety confirmation response and position information to the center server. A POSA would have understood that the safety confirmation response and position information collectively comprise the claimed *status response*.

199. To the extent that these claims require the safety confirmation response and position information to be transmitted in the same message, this would have been obvious in view of Shida.

200. For instance, a POSA would have found it obvious for the subscriber to send the safety confirmation response and "subscriber position information" together so that the center server would receive the most up-to-date location of the subscriber terminal to execute the rescue requested in the safety confirmation response. EX1006, ¶58. That is, a POSA would have recognized that it would be beneficial to receive subscriber position information that represents the subscriber's location at the time that the rescue request was issued.

201. Indeed, Shida suggests this implementation through its disclosure of sending position information to the operator terminal when the subscriber provides a safety confirmation response that requests rescue, as described above. *See* EX1006, ¶58. A POSA would have recognized that it would be beneficial for the operator terminal to receive position information that was provided concurrently with the safety confirmation response so that the operator terminal would receive

accurate and up-to-date information regarding the subscriber's status and location.

202. Shida further suggests this implementation through its disclosure of providing a safety confirmation result to the subscriber terminal based on the subscriber's location. EX1006, ¶60. For instance, the safety confirmation result may specify that the subscriber "[m]oved to the safe area" or "is still in the vicinity of the region of the disaster." EX1006, ¶60, *see also* ¶62. A POSA would have found it beneficial for the subscriber to transmit both the "subscriber position information" and the "safety confirmation response" simultaneously so that the event center would have more information to judge the safety status of the subscriber. For instance, the event center would be able to determine that the user "moved to the safe area" based on the position information, and that the user is "OK" based on the safety confirmation response. EX1006, ¶¶57, 60. Similarly, the event center would also be able to determine that the user "is still in the vicinity of the region of the disaster" based on the position information, and is also "not 'OK'" based on the safety confirmation response. EX1006, ¶¶52, 60.

203. A POSA would have recognized that such implementation would further Shida's goal of enabling fast and efficient rescues to "suppress human damage due to the disaster to the minimum." EX1006, ¶58. And this would have been trivial to implement as Shida already discloses sending the "position information" and "safety confirmation response" separately. EX1006, Abstract,

¶¶49, 52. Sending these messages together would have been a straightforward and predictable variation of Shida's express disclosure. That is, these features would have been straight forward to implement, and would have predictably resulted in a modified version of Shida in which the subscriber sends position information to the center server along with the subscriber's safety confirmation response.

204. Thus, Shida teaches these claims.

G. Claim 7

205. Claim 7 recites, "*wherein non-responding devices are reported to an emergency management organization*."

206. Shida discloses that, when a subscriber terminal has not yet provided a "safety confirmation response" to the center server, the center server specifies a safety confirmation status of "Not yet" in the "disaster regional subscriber table." EX1006, ¶39, FIG. 6. Shida also teaches that, upon a request from the operator terminal, the center server transmits the safety confirmation responses of the subscribers in the disaster regional subscriber table to the operator terminal (*emergency management organization*), including the "Not yet" statuses. EX1006, ¶63, *see also* ¶¶39, 52.

207. Specifically, the center server generates a "safety confirmation status list" by "extract[ing] each subscriber ID… and information of the safety confirmation status of that subscriber from the disaster subscriber table." EX1006,

¶63. For instance, with respect to the example disaster subscriber table shown in Figure 6, the center server "extracts information in the column 207 of the subscriber ID and the column 209 of the safety confirmation status." EX1006, ¶63. As can be seen below, the column 209 in the disaster subscriber table includes safety confirmation statuses of "Not Yet" for Subscribers A and C. The center server then "transmits the subscriber safety confirmation status list," which includes non-responding subscriber devices corresponding to subscribers A and C, to the operator terminal. EX1006, ¶63.

205	206	207	208	209
REPORTING SUBSCRIBER ID	DISASTER OCCURRING REGION ID	SUBSCRIBER ID	CURRENT REGION ID	STATUS OF SAFETY CONFIRMATION
REPORTING SUBSCRIBER	REGION A	SUBSCRIBER A	REGION A	NOT YET
		SUBSCRIBER B	REGION B	OK
		SUBSCRIBER C	REGION A	NOT YET
		SUBSCRIBER D	REGION D	OK
		⋮	⋮	⋮

FIG.6

EX1006, FIG. 6 (annotated).

208. The operator terminal is implemented in an *emergency management organization* because it is "provided in facilities such as fire stations and police stations, for instance, to plan and instruct measures against the disaster etc." EX1006, ¶¶30, 63. Shida thus teaches reporting non-responsive devices to an emergency management organization.

209. Shida also teaches this claim in another manner. When it is subsequently determined that the subscriber terminal is located "in the dangerous region," the center server updates the non-responding subscriber's safety confirmation status from "Not yet" to "NG." EX1006, ¶¶52, 56, FIG. 13. The center server then "transmits information on the state of the safety of subscribers who exist in the disaster occurring region to the operator terminal." EX1006, ¶31. For instance, when the safety confirmation status is set to "NG," the center server "transmits warning including the subscriber's information (subscriber ID etc.) and the position information… to the operator terminal." EX1006, ¶58, *see also* ¶60.

210. Thus, Shida teaches claim 7.

H. Claim 12

211. Claim 12 recites, "*wherein the roll call list includes aggregated status responses from responsive participants of the situational network*."

212. Shida teaches claim 12 for the reasons provided for element [1.5].

XV. GROUND 4: THE COMBINATION OF SHIDA AND SINHA RENDERS OBVIOUS CLAIMS 2, 5, 9, 14, AND 16.

A. A POSA would have found it obvious to combine Shida and Sinha.

213. A POSA would have found it obvious to modify Shida to implement Sinha's message board and roll call features.

214. As explained in §XIV, Shida discloses "a method of processing information associated with [a] disaster" ("*situation related information*").

EX1006, ¶6. Shida teaches that a subscriber terminal located in a disaster area sends a "safety confirmation response" (*status response*) to a "center server," indicating, for instance, whether the subscriber is safe or in danger. EX1006, ¶¶52-53, 57. The center server stores this response, and "carries out the safety confirmation information updating processing." EX1006, ¶50.

215. Shida, however, does not enable users to view the safety statuses of subscribers in the disaster region. Shida also does not enable direct communication between subscribers or other users, such as friends or family. A POSA would have recognized that such features would be beneficial to enable users to communicate information related to the disaster, and to view the statuses of subscribers located in the disaster area. For instance, concerned parties (e.g., friends and family) would be interested in being able to communicate with and/or view status information of subscribers located in the disaster area to make sure that the subscribers were safe. That is, certain concerned parties would be aware when a user is located proximate to a disaster, and would find it beneficial to be able to communicate with or to view the status of the user.

216. My opinion is informed by multiple corroborating references that provide techniques for enabling concerned parties to communicate with and view safety statuses of those affected by a disaster. *See, e.g.*, EX1005, ¶¶5-6, 37; EX1009, ¶¶2-5; EX1013, ¶¶2-11; EX1014, ¶33. For instance, Roche teaches that,

in case of emergency, there is a "need[] to provide user status information to concerned third parties, such as families and loved ones." EX1009, ¶2. To address this issue, Roche teaches a "disaster recovery virtual roll call and recovery management system" that queries users for their status during a disaster. EX1009, Abstract. The system also implements a "Notify List" so that the system "automatically notif[ies] family/friends of their status via email" in case of an emergency. EX1009, ¶¶20, 47, 51, 75.

217. Further, as I explained above for Ground 1, Gage teaches techniques for "allowing the concerned parties to receive current information about subscribers." EX1005, Abstract. In one example implementation, Gage discloses a "Web site containing subscriber status information" that can be accessed by concerned parties, such as family, to "look-up the last known location and situational status of the subscriber" who was located near a disaster. EX1005, ¶37.

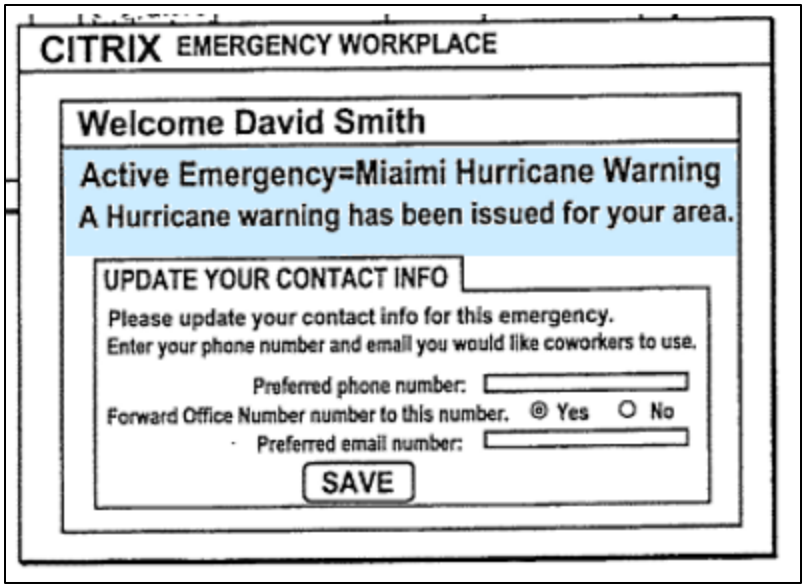
218. Similarly, Ikeda teaches a "welfare information provision" for "collecting disaster victim welfare information." EX1014, Abstract. Ikeda's system collects user statuses during a disaster, and further enables "family, friends, and acquaintances of the disaster victims" to "make inquiries about and confirm the welfare information of specific disaster victims." EX1014, ¶5.

219. Such references confirm my opinion that a POSA would have readily appreciated the benefits of enabling friends and family to view subscriber statuses

in the context of Shida's system. Thus, a POSA would have sought references teaching systems similar to Shida that also provide mechanisms for communicating with, and viewing statuses of, subscribers in a disaster region.

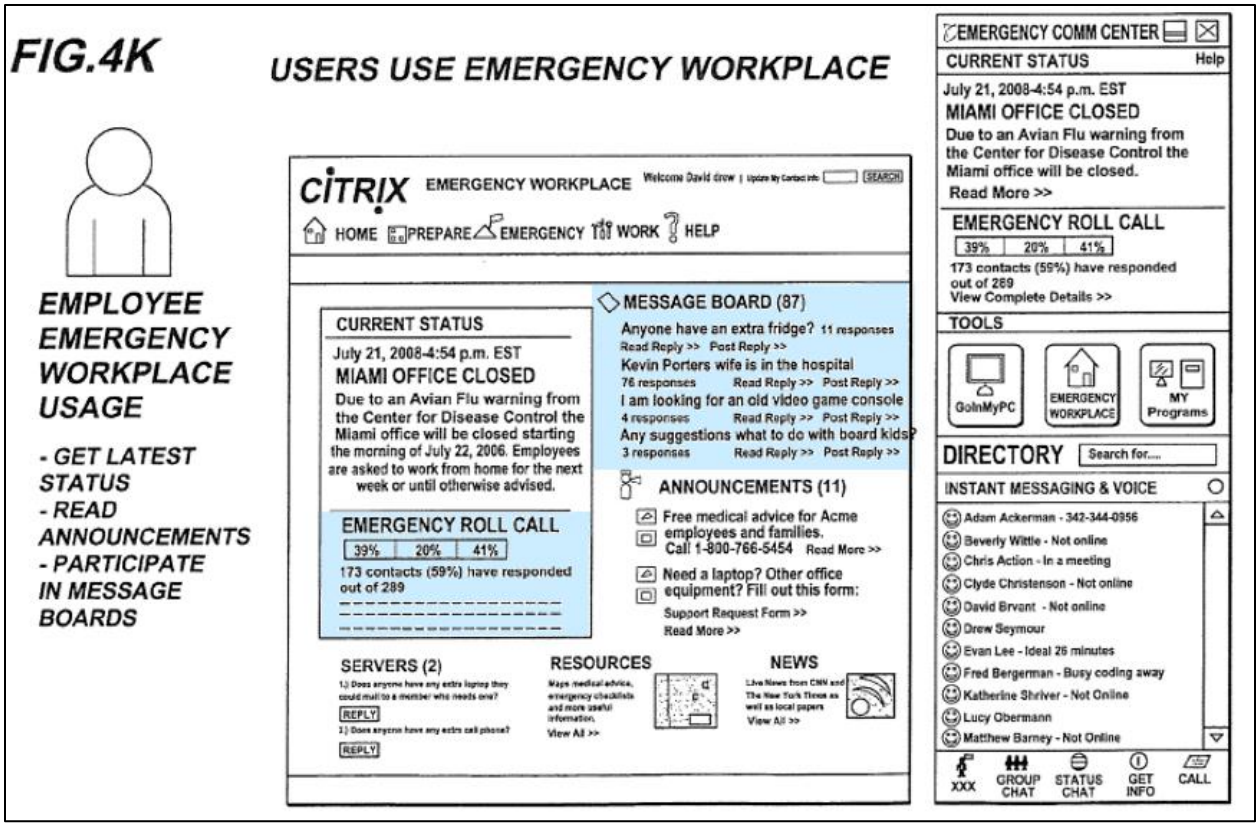
220. Sinha is such a reference. For instance, Sinha discloses "a business continuity application" that is provided to "a displaced workforce of an organization when an event occurs." EX1007, Abstract; EX1008, 1:31-2:6[3]. Like Shida, Sinha sends "alerts and notifications" related to location-specific events to users proximate to the event. EX1007, ¶¶119, 124; EX1008, 21:27-31. For instance, such alerts are provided to team members within "geographical zones" that are affected by an event, such as a hurricane, earthquake, pandemic, etc. EX1007, ¶¶126, 130, FIGs. 4G-H; EX1008, 22:24-26, 38:15-21, FIGs. 5G-H.

[3] The entirety of the Sinha Provisional (EX1008) is "incorporated by reference" into Sinha (EX1007). EX1007, ¶1.



EX1007, FIG. 4H (excerpt, annotated).

221. Sinha further discloses a "portal web-site or service" that can be accessed by "one or more users" affected by an event. EX1007, ¶¶58, 72, 118; EX1008, 5:27-6:4, 22:14-19. The portal provides a "message board" with which users impacted by the event can "participate (post and reply)." EX1007, ¶134, FIG. 4K; EX1008, 24:28-25:2, FIG. 5K. As shown in Figure 4K below, the message board enables users to post and respond to topics relating to the event.



EX1007, FIG. 4K (annotated).

222. The portal further includes a "roll call" list that includes "statistics and a bar graph showing the number of employees who have responded to the alert." EX1008, 139:16-20, *see also* 24:28-25:2, FIG. 5K; EX1007, ¶134, FIG. 4K. For instance, an employee can respond as being "OK" or "not OK." EX1007, ¶122, FIG. 4J; EX1008, 22:20-29, FIG. 5J. Users can interact with the roll call interface shown above in the emergency workplace portal to "view complete details" of the roll call. EX1007, FIG. 4K; EX1008, 98:1-27, 139:16-21, FIG. 5K. The "complete details" provide a list of employees and their status responses, as shown in Figure 4J. EX1007, ¶¶122, 133, FIG. 4J; EX1008, 22:20-29, 24:23-27, FIG. 5J. I note that, although Figure 4J depicts the roll call details as being viewed by a

"manager," Sinha teaches that other users can access the roll call details as well. EX1007, FIG. 4K; EX1008, 98:1-27, 139:16-21, FIG. 5K. For instance, Sinha teaches an option to "VIEW COMPLETE DETAILS (ROLL CALL)" within the "user portal." EX1008, 98:1-27 (depicting a Figure of the "user portal" with a link to "view complete details" in the roll call panel).

223. A POSA would have found it obvious to modify Shida based on Sinha's teachings to implement a user interface that includes a message board and roll call that could be accessed by subscribers and certain concerned parties, such as friends and families of subscribers. As explained above, a POSA would have sought to improve Shida's system by enabling subscribers and concerned parties to be able to communicate with and to view status information of other users. Sinha teaches such features through its message board and roll call interfaces.

224. That is, Sinha teaches techniques for enabling users to view the statuses of other users in the system through its roll call. A POSA would have understood that such techniques are a natural extension to Shida because Shida already teaches collecting the statuses of subscribers affected by a disaster. It would have been a predictable variation of Shida to enable other users, such as subscribers and concerned parties, to view those statuses. And as I explained in §VII.B, such systems were well known in the art. Sinha's message board also provides a convenient mechanism for allowing users to communicate information

related to a disaster. And as I explained above, a POSA would have found such features beneficial to increase the dissemination of information related to the disaster. Message boards were also widely used in 2007. *See, e.g.,* EX1021, ¶¶5-9.

225. In the combined system, Shida's center server would provide a user interface including a message board and roll call to Shida's subscribers in the disaster area, as well as to concerned parties, such as friends and family of the subscribers, in accordance with Sinha's teachings. This would be beneficial by increasing access to potentially vital information related to the disaster. *See, e.g.,* EX1005, ¶¶5-6, 37; EX1009, ¶¶2-5; EX1013, ¶¶2-11; EX1014, ¶33. For instance, users could post messages on the message board relating to developments of the disaster, refuge areas, rescue strategies, etc. This would provide a convenient and easily accessible forum for finding this information. Users could also access the roll call list to determine the statuses of other subscribers.

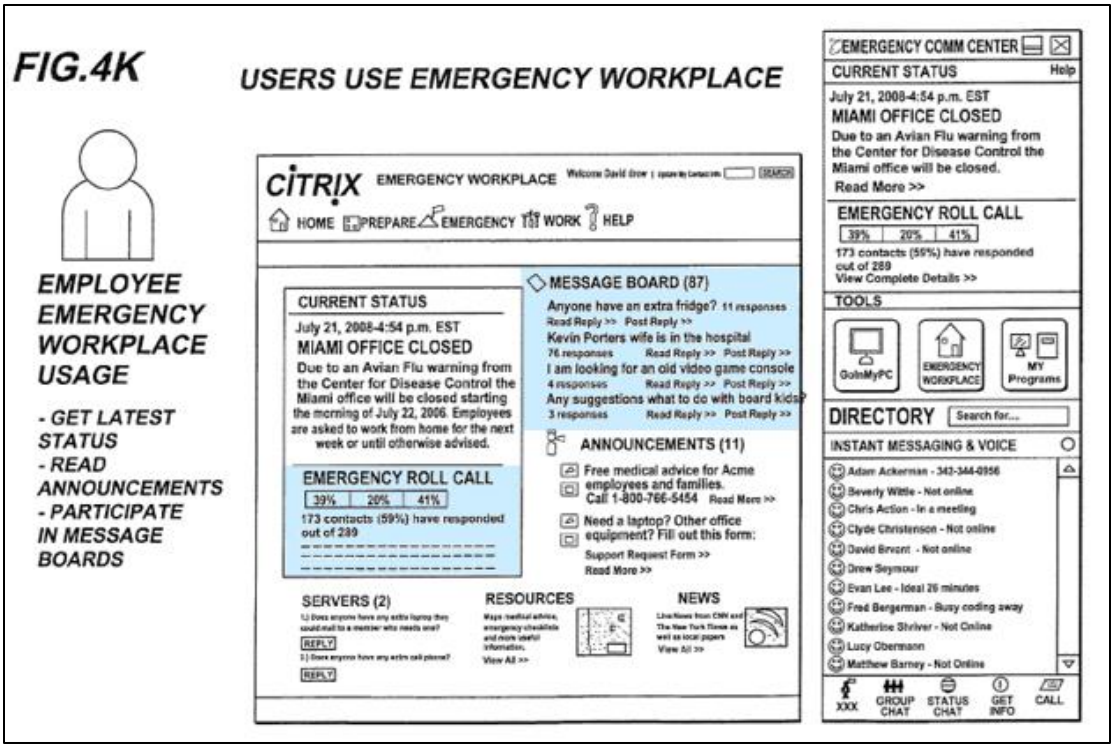
226. A POSA would have had a reasonable expectation of success in implementing these changes. Indeed, Shida already teaches techniques for communicating with subscribers in a disaster area. Sinha further teaches that "*any portion* of the functionality, operation or logic of the business workforce continuity system" can be utilized. EX1007, ¶72; EX1008, 5:27-6:4, 19:26-20:4. That is, a POSA would have understood that Sinha's message board and roll call features (i.e., *any portion*) could be implemented modularly. Thus, a POSA would have

readily been able implement Sinha's message board and roll call features within Shida by adapting Shida's existing capabilities. As I explained above, such features were commonly implemented and widely used. In this manner, a POSA would have recognized that these changes would merely amount to applying a known technique to a known system ready for improvement to yield predictable results.

B. Claims 5 and 16

227. Claim 5 recites, "*establishing an electronic message board for providing access to the roll call information related to the situation for individuals not participating in the situational network*." Claim 16 recites substantively similar elements. The combination of Shida and Sinha teaches these claims.

228. As explained, Sinha's portal provides a "message board" with which users impacted by the event can "participate (post and reply)." EX1007, ¶134, FIG. 4K; EX1008, 24:28-25:2, FIG. 5K. As shown in Figure 4K below, the message board enables employees to post and respond to topics relating to the event. As also shown, the message board interface *provides access to the roll call information* because the user interface implementing the message board also implements the roll call feature. EX1007, ¶134, FIG. 4K; EX1008, 24:28-25:2, FIG. 5K.



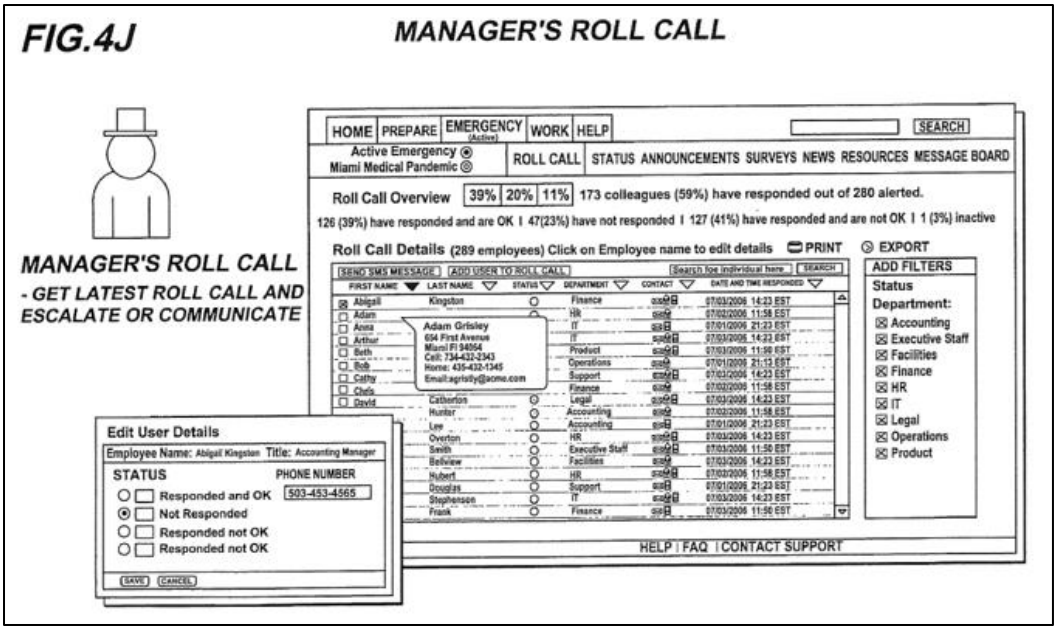
EX1007, FIG. 4K (annotated).

229. A POSA would have found it obvious to modify Shida to implement these features for the reasons provided in Section XV.A. As explained, the combined system would enable concerned parties, such as friends and family, to access the message board and roll call information, in addition to the subscribers themselves. *See* EX1005, ¶¶5-6, 37; EX1009, ¶¶2-5; EX1013, ¶¶2-11; EX1014, ¶33. The concerned parties would be able to access the message board and roll call list, even though they are located outside the disaster area and are thus not participating in Shida's situational network. Thus, the combined system would provide the message board and roll call list to *individuals not participating in the situational network*.

C. Claims 2, 9, and 14

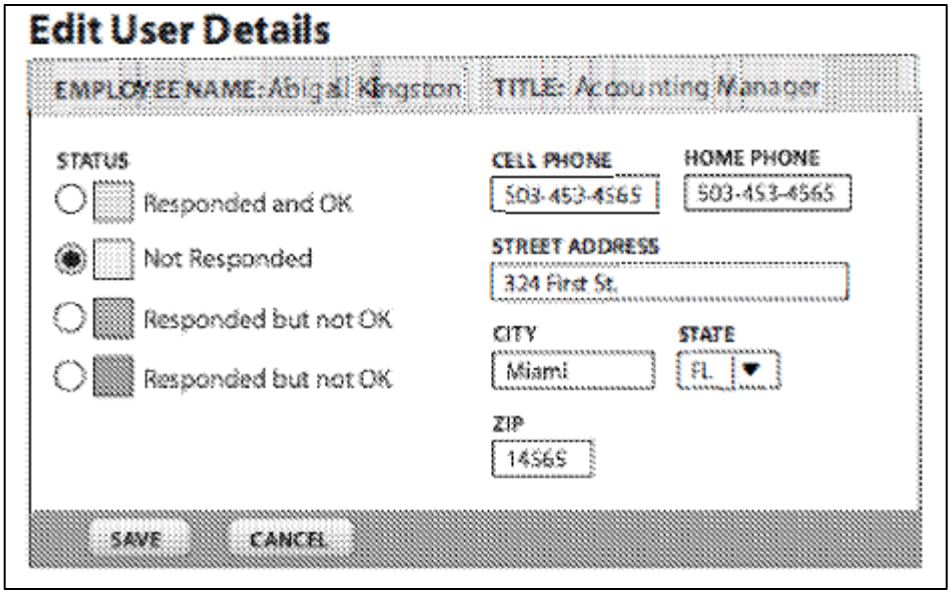
230. Claim 2 recites, "*receiving a request from a responsive participant to view the roll call list; presenting the roll call list to the responsive participant; and receiving from the participant an indication of the status of non-responsive participant*." Claims 9 and 14 recite substantively similar elements. The combination of Shida and Sinha teaches these claims.

231. First, Sinha teaches that certain users, such as a manager, can request to view details of a "roll call" that specifies user statuses during a disaster (*receiving a request from a responsive participant to view the roll call list*). The system then *presents* the roll call to the users (*presenting the roll call list to the responsive participant*). For instance, Sinha teaches that "[m]anagers use the portal and user interfaces… to access history and reports, such as a roll call, in managing the workforce during an emergency or disruptive situation." EX1007, ¶122; EX1008, 22:20-29, 98:1-17, *see also* EX1007, FIG. 4K; EX1008, 98:1-27, 139:16-21, FIG. 5K. Thus, the managers request to view the roll call, and the system presents the roll call to the managers in response.



EX1007, FIG. 4J.

232. Second, Sinha teaches *receiving from the participant an indication of the status of non-responsive participant*. For instance, Sinha enables the manager to "get the latest roll call information and escalate a status of an employee," and to "create, modify or update a status of information in the roll call" for users in the roll call. EX1007, ¶133, FIG. 4J; EX1008, 24:23-27, FIG. 5J. That is, the manager can update the status of a nonresponsive participant within the system to indicate that the participant is safe.



EX1008, 101.

233. A POSA would have understood that Sinha's managers are *responsive participants* because the managers are employees affected by a disaster, and thus participate in the roll call. EX1007, FIG. 4J; EX1008, 101:5-11, FIG. 5J. For instance, "[m]anagers use the portal and user interfaces… to access history and reports, such as a roll call, in managing the workforce during an emergency or disruptive situation." EX1007, ¶122; EX1008, 22:20-29, 98:1-17. "A manager may use the remote workplace portion of the portal or BCM web-site to post messages, read status updates and answer surveys," as well as to "review, update or otherwise manage the roll call portion of the web-site." EX1007, ¶124, FIG. 4J; EX1008, 23:3-8, FIG. 5J.

234. A POSA would have found it obvious to modify Shida to implement Sinha's roll call features for the reasons provided in Section XV.A. A POSA would

have further found it obvious to enable certain subscribers to request and receive the roll call list, and to update a status for a nonresponsive subscriber, as taught by Sinha. For instance, in Shida, when a subscriber fails to provide the safety confirmation response, Shida considers the user to potentially be "not 'OK.'" EX1006, ¶52. A POSA reading Shida would have understood that there could be many reasons for a subscriber to fail to respond to the disaster response system queries. For instance, the subscriber's phone battery may be dead, or the subscriber may not have checked his phone. In each of these scenarios, the nonresponsive subscriber may be safe.

235. A POSA would have also realized that other subscribers located within the disaster region may have information concerning the status of the non-responsive subscriber. A POSA would have thus recognized that it would be beneficial to enable such other subscribers to be able to update the status of the nonresponsive subscriber so that the system could receive the most accurate information.

236. Accordingly, a POSA would have recognized the benefits of implementing Sinha's techniques for allowing other users (e.g., managers) to update statuses of nonresponsive users. In the context of Shida, a POSA would have found it obvious to implement Sinha's teachings by enabling certain responsive subscribers (i.e., subscribers who already sent their safety confirmation

response) to provide a request to the center server to view the compiled safety confirmation statuses for the subscribers in the disaster area. As explained, in a disaster area, various subscribers may have information regarding the statuses of certain other subscribers, such as friends, family, colleagues, etc. The center server would present the list of statuses to the requesting subscriber, and enable the subscriber to update the statuses of one or more nonresponsive subscribers, for instance, if the subscriber had personal knowledge of the statuses.

237. And a POSA would have had a reasonable expectation of success in implementing these changes for the reasons provided in Section XV.A. A POSA would have readily been able to adapt Shida's existing capabilities to allow certain subscribers to update status responses for nonresponsive subscribers as described. In this manner, a POSA would have recognized that these changes would merely amount to applying a known technique to a known system ready for improvement to yield predictable results.

XVI. SINHA IS ENTITLED TO THE PRIORITY DATE OF ITS PROVISIONAL

238. **Sinha** (EX1007) was filed on October 20, 2007 and published on August 28, 2008. Sinha claims priority to U.S. Provisional Patent Application No. 60/862,365, EX1008, which was filed on October 20, 2006.

239. It is my opinion that Sinha is entitled to an October 20, 2006 priority date because the Sinha Provisional provides written description support for at least

one claim of Sinha as well as for the portions of Sinha relied on herein and in the Petition.

240. Specifically, for each citation to Sinha in Grounds 3 and 4 above, I have provided corresponding citations to the Sinha Provisional that provide written description support for the portions of Sinha (non-provisional) relied on herein.

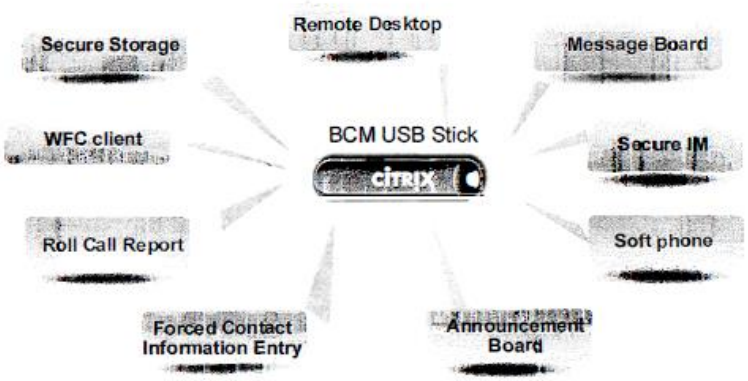
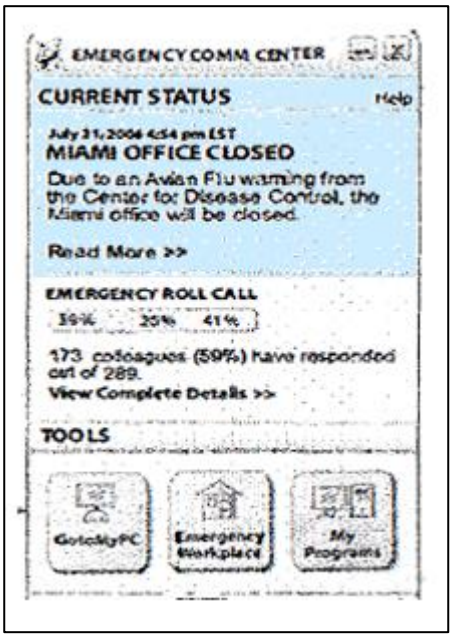
241. Further, the below claim chart shows that the Sinha Provisional provides written description support for at least one claim (claim 18) of Sinha.

Sinha Claim 18	**Sinha Provisional Written Description Disclosure**
[18.P] A graphical user interface displayed on a computing device for use in providing continuity to an employee of workforce in response to the occurrence of an event, the graphical user interface created by a program stored on a portable memory device, the graphical user interface comprising:	*The Sinha provisional teaches a graphical user interface displayed on a computing device in the form of the client-side sidebar.* EX1008, 24:13-22: "FIG. 51 depicts an embodiment of a **client-side sidebar** which provides an **emergency communication center** that works in conjunction with and communicates to the BCM system. In some embodiments, the sidebar application is **provided on or via the USB device**. In other embodiments, the employee or user downloads the sidebar application from the BCM website or the WFC gateway or server **to the user's computing device**. "

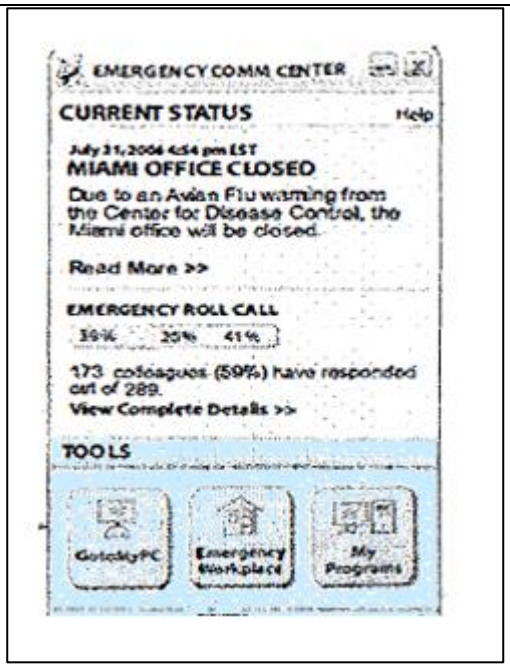
The client sidebar is for use in providing continuity to an employee of workforce in response to the occurrence of an event because the sidebar is part of a "business continuity management (BCM) solution.

EX1008, 1:31-2:11: "The systems and methods describe herein provides a **business continuity management (BCM)**

	solution for helping companies cope through a workforce disruption…" EX1008, 22:20-29: "The employees receive and [respond] to alert notifications and use a **client-side sidebar** and/or emergency workplace portion of the portal t**o work during the Emergency situation**." *The client sidebar is created by a program stored on a portable memory device, such as a "USB device or stick."* EX1008, 18:29-34: "In some embodiments, any one or more, or all, of these functions or applications may be provided or delivered **via a USB device or stick**." *See also* 20:5-21:2. EX1008, 20:5-17: "A user may connect the **USB device** to any computing device and gain access to the functionality of the content of the USB device as well as access to the webportal of the BCM solution." EX1008, 23:9-13: "During the work portion of the user flow, employees use the **sidebar deployed via the plugged in USB device** to collaborate with other employees via the BCM system." EX1008, 24:13-22: "In some embodiments, the **sidebar application is provided on or via the USB device**."

	 FIG. 4A *See also* EX1008, 126:1-15.
[18.1] a first portion displaying, by a first portion of the program stored on a portable device associated with an employee of the workforce, information related to the status of the occurrence of the event;	*The USB stick includes software with instructions and data for producing the sidebar. The USB stick is loaded on an employee's computing device. The sidebar interface includes multiple portions, one of which is a "status" portion that provides alert status information. An example of the status portion is highlighted in blue below.*  EX1008, FIG. 5I (excerpt, annotated).

	EX1008, 20:5-17: "A user may **connect the USB device to any computing device** and gain access to the functionality of the content of the USB device as well as access to the webportal of the BCM solution." EX1008, 24:13-22: "The employee communications center provided by the **sidebar** application or agent **displays status information**, roll call, instant messaging and directory information." EX1008, 126:10-15: the sidebar "provides **alert status information**, links to the portal and GotoMyPC, and other pre-defined components such an instant messenger application and a softphone." *See also* 137:19-24. EX1008, 138:6-13: "**A mini-application in the Sidebar is called a panel**. In the screen shot shown above there are four panels: **Status**, Roll Call, Tools, and Directory/IM. The specific panels loaded into the Sidebar is an IT configurable option and can be based on the ERT and Manager status of the user." EX1008, 139:2-5: "The **status panel displays the current status of the alert** as supplied by the WFC service. The panel will poll the WFC service once a minute for changes and will update the display as changes occur."
[18.2] a second portion displaying a plurality of business tools available to the employee, each business tool being represented as icon and associated with	*The sidebar includes a portion displaying business tools available to the employee. For instance, as highlighted below in blue, the sidebar includes a portion titled "Tools." The Tools are represented as icons, and include, for instance, GoToMyPC, Emergency Workplace, and My Programs.*

a computing device providing the respective business tool;	 EX1008, FIG. 5I (excerpt, annotated). EX1008, 138:6-13: "**A mini-application in the Sidebar is called a panel**. In the screen shot shown above there are four panels: Status, Roll Call, **Tools**, and Directory/IM. The specific panels loaded into the Sidebar is an IT configurable option and can be based on the ERT and Manager status of the user." EX1008, 139:23-33: "**The Tools panel contains URL links to selected applications**. The main purpose of this panel is to make the GotoMyPC URL link clearly visible and available to the user… The other standard link will be a URL to the home page of the portal for the current emergency. **Optionally, links to other tools can be made available here**. Additional tool entries will be under the control of the WFC service. **Each optional tool entry will specify an icon image, a button name, a short description, and a URL**. The URL can be coded to point to an application residing on the stick." EX1008, 23:9-13: "During the work portion of the user flow, employees use the **sidebar** deployed via the plugged in USB device to collaborate with other employees via the BCM

	system. In some embodiments, the employee launches **GoToMyPC to use work computer remotely**." EX1008, 25:22-29: "In other embodiments, the user launches a user interface to **access a remote desktop, such as a corporate or office computer, via GoToMyPC services**." EX1008, 24:28-34: "FIG. 5K depicts an embodiment of the **emergency workplace portion of the BCM web portal**. In one embodiment, **a user can access the emergency workplace from the sidebar** or employee communications center…" EX1008, 22:23-25: "The employees receive and [respond] to alert notifications, and **use a client-side sidebar and/or emergency workplace portion of the portal 25 to work** during the Emergency situation." *The tools are associated with a computing device providing the respective business tool because, when the USB stick is loaded on the computing device, the computing device provides the tools to the user. The tools are also associated with a remote computing device that is accessed remotely via the Tools (e.g., GotoMyPC, My Programs).* EX1008, 20:5-17: "A user may connect the **USB device** to any computing device and gain access to the functionality of the content of the USB device as well as access to the webportal of the BCM solution." EX1008, 23:9-13: "During the work portion of the user flow, employees use the **sidebar deployed via the plugged in USB device** to collaborate with other employees via the BCM system." EX1008, 24:13-22: "In some embodiments, the **sidebar application is provided on or via the USB device**." EX1008, 5:27-34: "The WFC server 194 comprises **any type of server, appliance, or computing device** for providing any portion of the services, functionality, operation, logic and/or

integration of the business and workforce continuity services and functionality described herein. In some embodiments, the WFC server 194 provides **a web based user interface for accessing the functionality and operations** of the services described herein. In one embodiment, the WFC server 194 provides **a portal web-site** or service."

EX1008, 22:1-5: "A displaced worker may be able to **obtain access to his or hers corporate computer via GoToMyPC** or to a remote desktop computing environment via Citrix Presentation Server." *See also* 22:11-12.

EX1008, 141:25-29: "A **GoToMyPC short-cut will be provided from the WFC service to the Sidebar**. A "short-cut" is a URL pointing to the gotomypc.com website and includes an encoded string that tells the website 1) the user requesting the connection, and 2) **the host computer the user wishes to connect to**."

EX1008, 25:22-29: "FIG. 5N depicts an embodiment of a user interface to access the user's application and data… For example, the user clicks the **my programs user interface element** as depicted in FIG. 5N…"

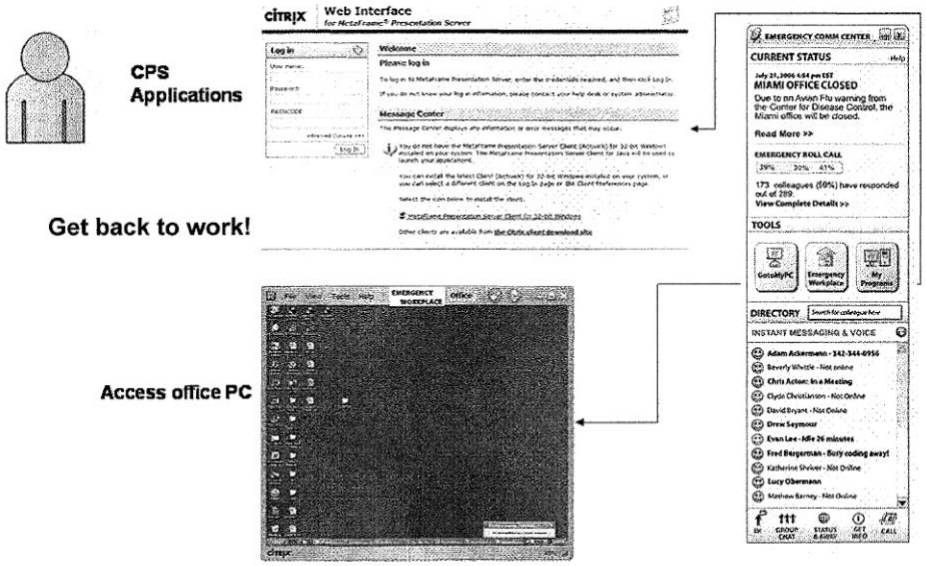
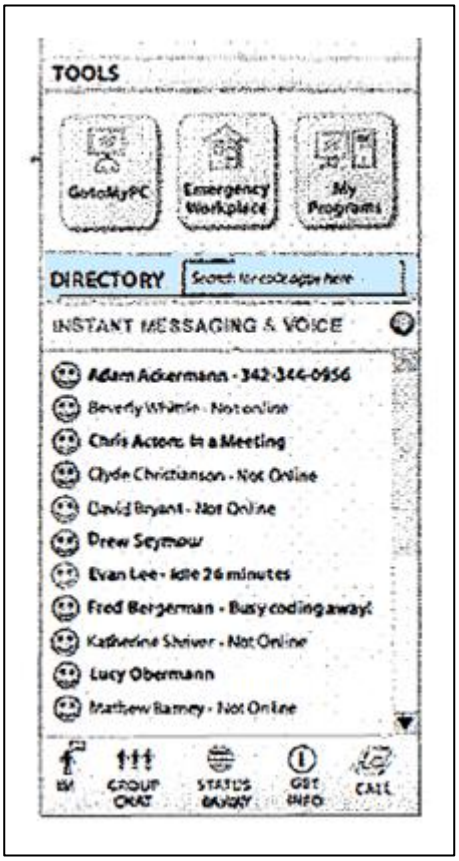
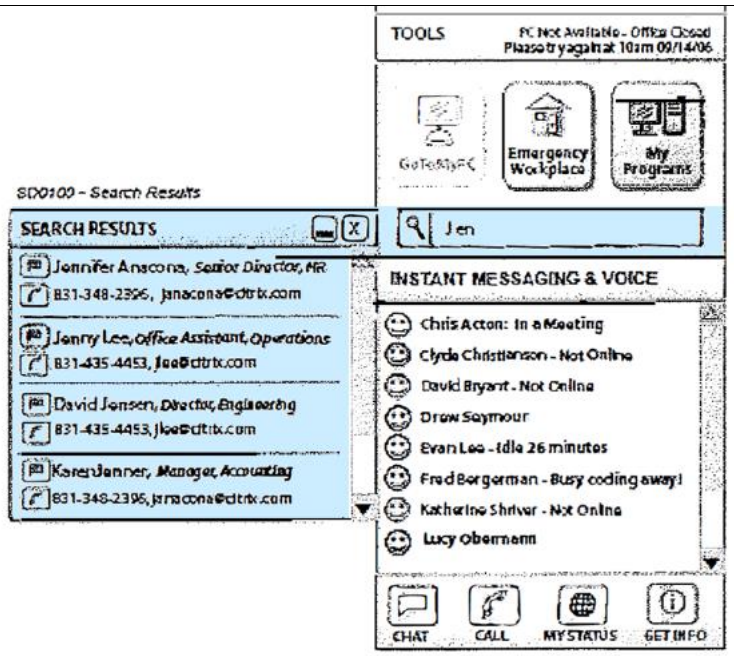


FIG. 5N

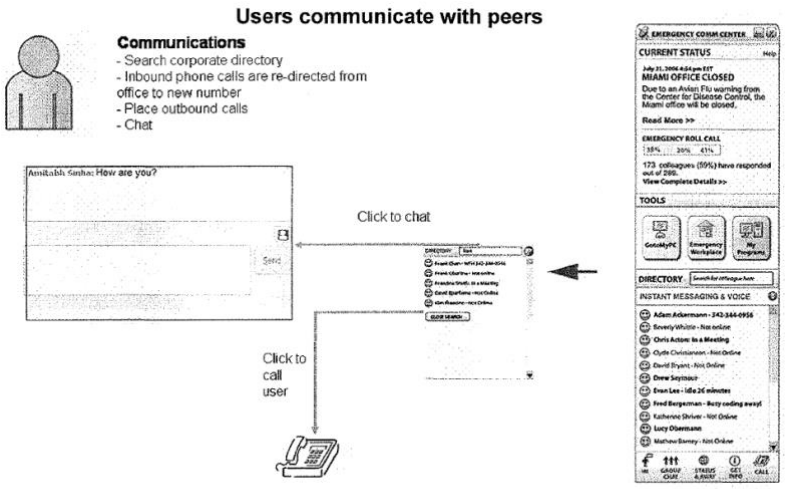
EX1008, FIG. 5N

[18.3] a third portion providing a directory service to the employee, the directory service associated with directory information of the workforce; and	*The sidebar interface includes a third portion for providing a directory service to the employee. For instance, the directory portion is highlighted blue below. As shown, the directory portion enables the user to search for a person in the directory via the search field. The directory service is associated with directory information of the workforce because the directory contains the names and abbreviated contact information of everyone in the organization.* **EX1008, 24:13-22**: "The employee communications center provided by the **sidebar** application or agent **displays** status information, roll call, instant messaging and **directory information**."  EX1008, FIG. 5I (excerpt, annotated), *see also* FIG. 5M.

	 EX1008, FIG. 6B (excerpt, annotated). **EX1008, 24:13-22**: "The employee communications center provided by the **sidebar** application or agent **displays** status information, roll call, instant messaging and **directory information**." **EX1008, 25:10-21**: "FIG. 5M is an embodiment of a user interfaces for users to communicate with peers. Via the emergency communication center, users can search the corporate **directory** for contact information, including updated or emergency contact information…" **EX1008, 139:39-140:3**: "The **directory** contains the names and abbreviated contact information of everyone in the organization…**On start-up the panel will look to see if a local copy of the directory is on the stick**. If the directory is not on the stick the panel will download the entire directory from the WFC service."
[18.4] a fourth portion displaying a list	*The sidebar includes a fourth portion for displaying a list of at least a portion of the employees of the work force and a status related to each of the employees. For instance, as shown*

of at least a portion of the employees of the work force and a status related each of the employees listed and a providing a mechanism for establishing at least one of an audio communications session and an instant messaging session.	*highlighted in blue below, the fourth portion is titled "Instant Messaging and Voice, and inlcudes a list of employees and corresponding statuses (e.g., Not Online, In a Meeting, etc.).* EX1008, FIG. 5I (excerpt, annotated). EX1008, 24:13-22: "The employee communications center provided by the **sidebar** application or agent **displays** status information, roll call, **instant messaging** and directory information." EX1008, 140:7-141:5: "The **IM component** connects to a Kent configured LCS server via a VPN connection to a Gateway server. The logon credentials will be provided by the WFC service. **The preconfigured buddy names and groups for this user will be obtained from the WFC service** and temporarily combined with the user's buddies already on the LCS server."

	The fourth portion of the sidebar provides a mechanism for establishing at least one of an audio communications session and an instant messaging session. For instance, the fourth portion enables users to place "outbound calls" and to "chat or instant message their peers." EX1008, 25:10-21: "FIG. 5M is an embodiment of a user interfaces for users to communicate with peers…. Via the emergency communication center, the user can place **outbound calls**…. In yet another embodiment, the emergency communication centers enables user to **chat or instant message their peers**." EX1008, 140:13-15: "**Users can exchange text messages and start voice conversations** with single or groups of buddies in their list. Users can also dial-out to any phone number to create PC to phone voice conversations." EX1008, 25:30-26:2: "FIGs. 6A-6C depict embodiments of a plurality of user interfaces for the sidebar or WFC client. **The sidebar user interfaces of the emergency communication center may display**… **the logged in user's status** and info and contact information 7) peer information, 8) **chat** session, 9) chat archive, 10) **softphone** calling, 11) softphone call in progress status, and 12) call history."

	 FIG. 5M EX1008, FIG. 5M. EX1008, 140:8-141:5: "Users can exchange text messages and start voice conversations with single or groups of buddies in their list."

XVII. CONCLUSION

242. 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 cross-examination is required, I will appear for cross-examination within the United States during the time allotted.

243. 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 26th day of February 2024 in Westmount, Quebec.

Jeremy Cooperstock, Ph.D.