

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE LLC,  
SAMSUNG ELECTRONICS CO., LTD., and  
SAMSUNG ELECTRONICS AMERICA, INC.  
Petitioners,

v.

MULLEN INDUSTRIES LLC,  
Patent Owner.

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Case No. IPR2025-00019  
Patent No. 9,204,283

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**DECLARATION OF DAVID H. WILLIAMS**

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|---------------------------------------------------------|
| Google Exhibit 1003<br>Google v Mullen<br>IPR2025-00019 |
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I, David H. Williams, declare:

[0001] I have been retained by Wolf, Greenfield & Sacks, P.C., counsel for Petitioner Google LLC, to assess claims 1-20 (the “challenged claims”) of U.S. Patent No. 9,204,283 (“the ’283 patent”) (EX1001). I am being compensated for my time at my standard rate of \$485.00 per hour, plus actual expenses. My compensation is not dependent in any way upon any outcome in the *inter partes* review of the ’283 patent.

## **I. PERSONAL AND PROFESSIONAL BACKGROUND**

[0002] I have over thirty years of industry experience in the field of location-based services (LBS), including experience designing, implementing, and managing numerous LBS applications for mobile social networking, family tracking, local search, and mobile research management. I have extensive expertise in all aspects of LBS delivery across the wireless location ecosystem, including enabling network, map data, geospatial platform, chipset, data management, device, and location determination infrastructure and integration providers.

[0003] I have summarized in this section my educational background, work experience, and some of my other relevant qualifications. My curriculum vitae, which I understand has been designated EX1004, further describes my background and experience.

**[0004]** I earned a Bachelor of Science in Electrical Engineering degree (BSEE), with an emphasis on digital system design, from Purdue University in 1983. In 1987, I earned a Master of Business Administration degree (MBA), with a focus on information systems management, from The University of Texas at Austin.

**[0005]** From 1983 to 1985, I worked at Hughes Aircraft Company as an electrical engineer, where I focused on microcomputer and digital system design on the F-15 fighter radar system, including interfacing with systems for fighter location determination (absolute and relative to ground and sea locations), as well as fighter target identification, acquisition, and targeting.

**[0006]** After completing my MBA, I worked for Deloitte Consulting (originally Touche Ross) as a Senior Manager from 1987 to 1991. At Deloitte, I provided consulting services for technology-intensive companies in developing and implementing business and product strategies.

**[0007]** From 1991 to 1993, I worked as a Senior Associate in the Information Technology Practice of Booz Allen & Hamilton, providing consulting services for communications industry and information technology-intensive companies.

**[0008]** From 1993 to 2002, I worked at Accenture as an Associate Partner in the Communications and High-Technology Strategy and Information

and Technology Strategy groups. At Accenture, I led the development of business, technology, and product strategies for numerous communications and technology-centric companies looking to enter new markets. I specialized in new product design, development, and implementation, as well as network infrastructure design needs to support next generation, high bandwidth-consuming digital media content and associated infrastructure.

**[0009]** As an example of my work with Accenture, as an Associate Partner in their Communications and High-Technology Strategy group, from 1998 to 2000 I led the development of Nextel's (now part of Sprint/T-Mobile) Location-Based Services (LBS) product strategy, identifying future location-based products and specifying their requirements for Nextel's entry into the LBS market. This effort also included leading the development of the Information Technology and Network architectures that would be needed to support the LBS Product Strategy. Many of these LBS products were multi-user products that required the sharing of location information among multiple users.

**[0010]** In 2002, I founded E911-LBS Consulting, which was later renamed E911-LBS Forensics Engineering ("E911-LBS"), of which I am President. Services provided by E911-LBS span the entire wireless value chain, particularly with respect to technology and business strategic planning and product design, development, implementation, and ongoing management and operations.

In the name “E911-LBS,” “E911” refers to “enhanced 911,” which is a system for emergency dialing in which the caller’s location is automatically determined and provided to the emergency dispatcher. “LBS” refers to location-based services.

**[0011]** I have worked on a wide variety of matters as a consultant through E911-LBS. For example, in the mid-2000s I led the development of the site map and primary content for the NAVTEQ (now HERE) Network for Developers (N4D) LBS web ecosystem. Specifically, I was responsible for designing and managing the site map and overall content, identifying key contributors and materials, and utilizing a variety of fragmented information to develop broad and deep technical, digital media and business content to assist various expertise levels of application developers and business management to become intimately familiar with map data, Geographical Information System (GIS) platforms, and LBS applications and underlying technologies and to provide the information and guidance to successfully develop and launch their LBS applications, including tools enabling multi-user applications involving sharing of location information. Also, in the mid-2000s I provided E911 consulting expertise in support of new spectrum regulatory approval and technical implementation issues for a startup carrier, and managed the design, collection, and analysis of E911 infrastructure deployment of the western region of a major wireless carrier.

**[0012]**        Additionally, from 2007 to 2010 I worked for AT&T Mobility, first in a consulting role as a Consumer LBS Product Realization Manager, then as a Senior Product Manager – Enterprise LBS. At AT&T Mobility, my work included design, troubleshooting, and implementation of AT&T location-related network, application, user interface, digital media and content delivery, and privacy infrastructure and associated issues such as accuracy and privacy. I also managed products including telematics, fleet/vehicle management, asset/freight management, and mobile resource management GPS/LBS apps on a variety of platforms such as Telenav, and played a key role in design of company-wide location services product and implementation roadmap. Many of these applications involved the sharing of location information among multiple users, such as the AT&T FamilyMap application enabling location sharing among family members.

**[0013]**        I have written a number of books on wireless location including: The Definitive Guide to IoT Sensors and IoT Use Cases (In Development), The Definitive Guide to GPS, RFID, Wi-Fi, and Other Wireless Location-Based Services (2005/2009 versions, new version in development), The Definitive Guide to Wireless E911, and (co-authored) The Definitive Guide to Mobile Positioning and Location Management.

**[0014]** I am the inventor or a co-inventor of ten issued U.S. patents and numerous pending applications. These include:

**[0015]** “Method and apparatus for providing mobile social networking privacy.” (U.S. Patent Number 8,613,109, Issued December 17, 2013).

**[0016]** “Systems and methods of using wireless location, context, and/or one or more communication networks for monitoring for, preempting, and/or mitigating pre-identified behavior.” (U.S. Patent Number 10,477,342, Issued November 12, 2019).

**[0017]** “Systems and methods for monitoring for and preempting pre-identified restriction violation-related behavior(s) of persons under restriction.” (U.S. Patent Number 10,497,242, Issued December 3, 2019).

**[0018]** “Systems and methods for providing location-based security and/or privacy for restricting user access.” (U.S. Patent Number 10,555,112, Issued February 4, 2020).

**[0019]** “Systems and methods for developing, monitoring, and enforcing agreements, understandings, and/or contracts.” (U.S. Patent Number 10,853,897, Issued December 1, 2020).

**[0020]** “Systems and methods for monitoring for and preempting pre-identified restriction violation-related behavior(s) of persons under restriction.” (U.S. Patent Number 10,861,307, Issued December 8, 2020).

**[0021]** “Systems and methods for monitoring for and lowering the risk of addiction-related or restriction violation-related behavior(s).” (U.S. Patent Number 11,388,546, Issued July 12, 2022).

**[0022]** “Systems and methods for monitoring for and preempting the risk of a future occurrence of a quarantine violation.” (U.S. Patent Number 11,412,353, Issued August 9, 2022).

**[0023]** “Dynamic and adaptive systems and methods for rewarding and/or disincentivizing behaviors” (U.S. Patent Number 11,636,941, Issued April 25, 2023).

**[0024]** “Systems and Methods for Conducting/Defending Digital Warfare or Conflict” (U.S. Patent Number 12,096,308, Issued September 17, 2024).

**[0025]** As demonstrated above and (discussed further below), I have at least two years of experience with wireless networks and devices, such as cell phones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as GPS or triangulation. In fact, as demonstrated by the examples below, as of 2002, I had over eight years of industry experience with wireless networks and devices, such as cell phones and PDAs, as well as wireless positioning technologies, such as GPS or triangulation. I have a further 22 years of industry experience with wireless networks and devices, such as cell phones and

PDA's, as well as wireless positioning technologies, such as GPS or triangulation, from 2002 to the present. For example:

**[0026]**        1983-1985 – Designed the analog-to-digital converter as part of the digitalization of the F-15 radar. Design included interfacing to location determination and navigation systems associated with navigating the F-15 fighter, providing absolute and relative location using triangulation and other technologies using wireless networks to ground, air, and sea-based entities and associated systems and device, as well as provide the F-15 with the ability to identify (and locate), acquire (and track), and target weapon systems at hostile targets.

**[0027]**        1993-1998 – Worked extensively with communications carriers such as (then) Bell Atlantic, AT&T, and GTE to develop new communications strategies, products and services and underlying Information Technology and networking requirements. Efforts included forecasting and specifying strategies and requirements for the transition of communications networks from predominately wireline to wireless, and its implications on end-user devices including cell phones and PDA's.

**[0028]**        1995-2001 – Was responsible for the development of Accenture's wireless location practice to capitalize on opportunities from The 1996 Telecommunications Act. I led development of business, technology, and product strategies for numerous communications and technology-centric companies

looking to enter new markets. I specialized in new wireless and wireline product design, development, and implementation as well as Information Technology and wireless network design for various established and start-up companies, including specifying requirements for end user devices such as cell phones and PDAs.

**[0029]**        1998-2000 – For example, I led the development of Nextel’s (now part of Sprint/T-Mobile) Location-Based Services (LBS) product strategy, identifying future location-based products and specifying their requirements for Nextel’s entry into the LBS market. This effort also included leading the development of the Information Technology and wireless network architectures that would be needed to support the LBS Product Strategy, as well as specifying wireless device/cell phone design requirements to support the LBS product strategy.

**[0030]**        2003-2004 – As President of E911-LBS, I led the development of part of AT&T Wireless’s E911 infrastructure, including the development of systems, processes, and reporting infrastructure to manage and track the deployment of time difference of arrival-based location determination technologies. I managed the testing and Federal Communications Commission reporting of network location inaccuracies, with a particular focus on detecting and troubleshooting out-of-norm technology deployment and inaccurate location conditions.

**[0031]**        2004-2006 - Worked with NAVTEQ (now called HERE)—the leading provider of map data and services essential to creating LBS applications—to develop the company’s web developer website content and tools. Specifically, I designed and managed the site map and overall content, including the development of comprehensive technical and business web content for all NAVTEQ map product and service lines. Through the developer site, application developers and business managers became intimately familiar with map data, Geographical Information System (GIS) platforms, and location-based services to successfully develop and launch their LBS applications.

**[0032]**        2007-2010 – Led design finalization and implementation of several of AT&T’s first generation of location-based services, as well as design of underlying location enabler network. Became the only non-employee inventor on U.S. Patent Number 8,613,109, Method and Apparatus for Mobile Social Networking Privacy (issued December 17, 2013).

**[0033]**        2010-Present – Worked on patent cases involving over 200 patents involving wireless networks, wireless positioning technologies such as GPS and triangulation, and end user devices such as cell phones, PDAs, and other mobile devices.

**[0034]**        2015-Present – Worked on over 50 criminal and civil forensics cases involving wireless networks, wireless positioning technologies such as GPS

and triangulation, and end user devices such as cell phones, PDAs, and other mobile devices.

**[0035]** The above-summarized experience is also set forth in my curriculum vitae, a copy of which is provided as EX1004 and which further describes my detailed qualifications and professional experience.

## **II. MATERIALS REVIEWED AND CONSIDERED**

**[0036]** My findings, as explained below, are based on my years of education, research, experience, and background in the field of wireless networks and devices, such as cell phones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as GPS or triangulation, as well as my investigation and study of relevant materials for this declaration. When developing the opinions set forth in this declaration, I assumed the perspective of a person having ordinary skill in the art (“POSA”), as set forth in Section IV below. In forming my opinions, I have studied and considered the materials identified in the list below.

| <b>Exhibit</b> | <b>Description</b>                                                 |
|----------------|--------------------------------------------------------------------|
| 1001           | U.S. Patent No. 9,204,283                                          |
| 1002           | Prosecution History of U.S. Patent No. 9,204,283                   |
| 1005           | U.S. Patent No. 7,333,820 (“Sheha”)                                |
| 1006           | U.S. Provisional Patent Application No. 60/305,975 (“Sheha-Prov.”) |
| 1007           | U.S. Patent Application Publication No. 2004/0024846 (“Randall”)   |

|      |                                                                               |
|------|-------------------------------------------------------------------------------|
| 1008 | International Patent Application Publication No. WO 02/17075 (“Randall-WIPO”) |
| 1014 | U.S. Patent No. 6,920,328 (“Wollrab”)                                         |
| 1015 | U.S. Patent No. 6,714,791 (“Friedman”)                                        |
| 1016 | U.S. Patent Application Publication No. 2002/0145561 (“Sandhu”)               |
| 1017 | U.S. Patent No. 6,885,874 (“Grube”)                                           |
| 1018 | U.S. Patent No. 6,716,101 (“Meadows”)                                         |
| 1019 | U.S. Patent No. 7,366,522 (“Thomas”)                                          |
| 1020 | U.S. Patent No. 5,736,960 (“Murphy”)                                          |
| 1021 | U.S. Patent No. 5,923,286 (“Divakaruni”)                                      |
| 1022 | International Patent Application Publication No. WO 01/91486 (“Darling”)      |
| 1023 | U.S. Patent No. 6,084,951 (“Smith”)                                           |
| 1024 | U.S. Patent No. 6,714,793 (“Carey”)                                           |
| 1025 | U.S. Patent No. 6,415,224 (“Wako”)                                            |
| 1026 | U.S. Patent No. 6,993,658 (“Engberg”)                                         |
| 1027 | Korean Patent Application Publication No. 10-2001-0091381 (“Han”)             |
| 1028 | U.S. Patent No. 7,080,124 (“Shankar”)                                         |
| 1029 | U.S. Patent No. 6,456,854 (“Chern”)                                           |
| 1030 | U.S. Patent No. 6,754,665 (“Futagami”)                                        |
| 1031 | U.S. Patent No. 6,292,657 (“Laursen”)                                         |
| 1032 | U.S. Patent Application Publication No. 2003/0097596 (“Muratov”)              |
| 1033 | U.S. Patent No. 5,613,012 (“Hoffman”)                                         |
| 1034 | U.S. Patent No. 7,130,630 (“Enzmann”)                                         |
| 1035 | International Patent Application Publication No. WO 00/22860 (“Degnbol”)      |

### III. MY UNDERSTANDING OF PATENT LAW

[0037] In developing my opinions, I discussed various relevant legal principles with Petitioner Google’s attorneys. Though I do not purport to have prior knowledge of such principles, I understood them when they were explained to me and have relied upon such legal principles, as explained to me, in the course of forming the opinions set forth in this declaration. My understanding in this respect is as follows:

[0038] I understand that “*inter partes* review” (IPR) is a proceeding before the United States Patent & Trademark Office for evaluating the patentability of an issued patent’s claims based on prior-art patents and printed publications.

[0039] I understand that, in an IPR proceeding, including in this proceeding, the petitioner has the burden of proving that the challenged claims of the challenged patent are unpatentable by a preponderance of the evidence. I understand that “preponderance of the evidence” means that a fact or conclusion is more likely true than not true.

[0040] I understand that, in IPR proceedings, claim terms in a patent are given their ordinary and customary meaning as understood by a person of ordinary skill in the art (“POSA”) in the context of the entire patent and the prosecution history pertaining to the patent. If the specification provides a special definition for a claim term that differs from the meaning the term would otherwise

possess, the specification's special definition controls. If a claim element is expressed as a "means" for performing a specified function, I understand that it covers the corresponding structure described in the specification and equivalents of the described structure. I have applied these standards in preparing the opinions in this declaration.

**[0041]** I understand that determining whether a particular patent or printed publication constitutes prior art to a challenged patent claim can require determining the effective filing date (also known as the priority date) to which the challenged claim is entitled. I understand that for a patent claim to be entitled to the benefit of the filing date of an earlier application to which the patent claims priority, the earlier application must have described the claimed invention in sufficient detail to convey with reasonable clarity to the POSA that the inventor had possession of the claimed invention as of the earlier application's filing date. I understand that a disclosure that merely renders the claimed invention obvious is not sufficient written description for the claim to be entitled to the benefit of the filing date of the application containing that disclosure.

**[0042]** I understand that for an invention claimed in a patent to be patentable, it must be, among other things, new (novel—*i.e.*, not anticipated) and not obvious from the prior art. My understanding of these two legal standards is set forth below.

## **A. Anticipation**

**[0043]** I understand that, for a patent claim to be “anticipated” by the prior art (and therefore not novel), each and every limitation of the claim must be found, expressly or inherently, in a single prior-art reference. I understand that a claim limitation is disclosed for the purpose of anticipation if a POSA would have understood the reference to disclose the limitation based on inferences that a POSA would reasonably be expected to draw from the explicit teachings in the reference when read in light of the POSA’s knowledge and experience.

**[0044]** I understand that a claim limitation is inherent in a prior art reference if that limitation is necessarily present when practicing the teachings of the reference, regardless of whether a person of ordinary skill recognized the presence of that limitation in the prior art.

## **B. Obviousness**

**[0045]** I understand that a patent claim may be unpatentable if it would have been obvious in view of a single prior-art reference (e.g., in combination with the POSA’s background knowledge) or a combination of prior-art references.

**[0046]** I understand that a patent claim is obvious if the differences between the subject matter of the claim and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the

relevant field at the time the invention was made. Specifically, I understand that the obviousness question involves a consideration of:

- the scope and content of the prior art;
- the differences between the prior art and the claims at issue;
- the knowledge of a person of ordinary skill in the pertinent art; and
- if present, objective factors indicative of non-obviousness, sometimes referred to as “secondary considerations.” To my knowledge, the Patent Owner has not asserted any such secondary considerations with respect to the patent challenged in this proceeding.

**[0047]** I understand that in order for a claimed invention to be considered obvious, a POSA must have had a reason for combining teachings from multiple prior-art references (or for altering a single prior-art reference, in the case of obviousness in view of a single reference) in the fashion proposed.

**[0048]** I further understand that in determining whether a prior-art reference’s teachings would have been combined with teachings from other prior art or with other information within the knowledge of a POSA, the following are examples of approaches and rationales that may be considered:

- combining prior-art elements according to known methods to yield predictable results;
- simple substitution of one known element for another to obtain predictable results;
- use of a known technique to improve similar devices in the same way;
- applying a known technique to a known device ready for improvement to yield predictable results;
- applying a technique or approach that would have been “obvious to try,” *i.e.*, choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
- some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior-art reference or to combine prior-art reference teachings to

arrive at the claimed invention. I understand that this teaching, suggestion or motivation may come from a prior-art reference or from the knowledge or common sense of one of ordinary skill in the art.

**[0049]** I understand that for a single reference or a combination of references to render the claimed invention obvious, a POSA must have had a reasonable expectation of success in arriving at the claimed invention (e.g., by altering or combining the teachings of the applied references).

#### **IV. PERSON OF ORDINARY SKILL IN THE ART (“POSA”)**

**[0050]** I have been informed and understand that for purposes of assessing whether a prior-art reference discloses every element of a patent claim (thus “anticipating” the claim) and/or whether prior-art references would have rendered the claim obvious, the patent and the prior-art references must be assessed from the perspective of a person having ordinary skill in the art (“POSA”) to which the patent is related, based on the understanding of that person at the time of the patent claim’s priority date. I have been informed and understand that a POSA is presumed to be aware of all pertinent prior art and the conventional wisdom in the art, and is a person of ordinary creativity. I have applied this standard throughout my declaration.

**[0051]** The '283 patent involves technology in the field of location-based services—including specifically “systems and methods for determining a device’s location” and “[m]ore particularly,...systems and methods for remotely determining a device’s location.” EX1001, 1:17-20. I have been asked to provide my opinions as to the state of the art in this field by March 2002. I use this timeframe because the face of the '283 patent indicates an earliest claimed priority date of March 25, 2002. Whenever I offer an opinion in this declaration about the knowledge of a POSA, the manner in which a POSA would have understood the claims of the '283 patent or its description, the manner in which a POSA would have understood the prior art, or what a POSA would have been led to do based on the prior art, I am referencing the early-2002 timeframe, even if I do not say so specifically in each case.

**[0052]** I understand that the Patent Owner may attempt to prove that the alleged invention recited in the challenged claims was conceived at some time prior to the earliest claimed priority date on the face of the patent. At the time of this declaration, I am unaware of the Patent Owner having alleged any earlier conception date or produced any evidence to establish any earlier conception date.

**[0053]** In my opinion, a person of ordinary skill in the art in the early-2002 timeframe (“POSA”) would have had a bachelor’s degree in computer science, computer engineering, electrical engineering, or a similar degree, with one

or two years of experience with wireless networks and devices, such as cellphones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as GPS or triangulation. More education could compensate for less practical experience, and vice versa. This person would have been capable of understanding and applying the teachings of the challenged patent and the prior-art references discussed in this declaration.

**[0054]** By 2002, I held a Bachelor of Science in Electrical Engineering, and I had well more than two years of experience with wireless networks and devices, including cellphones and PDAs, as well as with wireless positioning technologies, including GPS and triangulation. Therefore, I was a person of more than ordinary skill in the art during the relevant timeframe. However, I worked with many people who fit the characteristics of the POSA, and I am familiar with their level of skill. When developing the opinions set forth in this declaration, I assumed the perspective of a person having ordinary skill in the art, as set forth above.

## **V. THE '283 PATENT**

**[0055]** The '283 patent is titled “Systems and Methods for Locating Cellular Phones and Security Measures for the Same.” Its Abstract says it provides “[m]ore particularly, systems and methods for providing the location of a requested

user's cellular phone from a requesting user's device (e.g., a second cellular phone) based on access rights defined by the requested user.”

#### **A. Specification Embodiments**

**[0056]** Generally, the '283 patent's specification is addressed to determining and sharing a location of a wireless device, such as via the Global Positioning System (“GPS”). EX1001, 1:18-28. The patent alleges that “GPS systems have been integrated into cellular phones” but “only minimally utilized,” so the patent purports to provide functionality to allow one cellphone user to “locate the position of” another user's cellphone. EX1001, 1:28-43.

**[0057]** Cellphones in the '283 patent can share their locations with a remote system, from which other users can obtain the locations. EX1001, 5:7-29. A user can also restrict access to their location by identifying authorized users or groups, thus specifying which other users may obtain their location information. EX1001, 3:22-30.

**[0058]** Figure 2 (copied below) depicts a method to obtain another user's location, which generally includes receiving a request for the location, determining whether the requesting user is authorized, and, if so, providing the location to the requestor. The location can be displayed on a map. EX1001, 8:1-3.

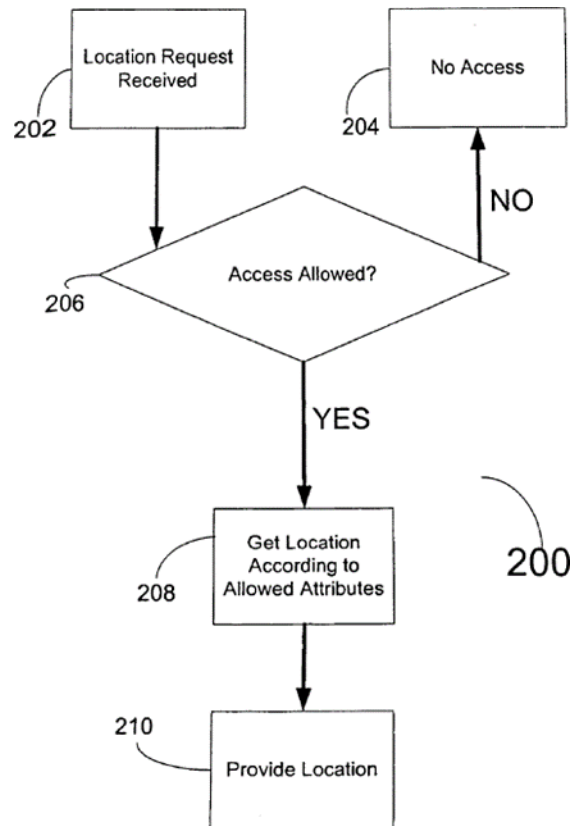


**FIG. 2**

**EX1001, FIG. 2**

**[0059]** Some embodiments mentioned in the '283 patent require a user to enter a login and password, which may then be used to identify the user before the user's profile is updated with their current location and before the user requests other users' locations. EX1001, 2:57-3:8, 3:26-30, 9:39-10:6.

## **B. Prosecution History of the '283 Patent**

**[0060]** During the '283 patent's 5 years of prosecution over 7 office actions, the applicant predominantly argued for patentability based on claimed functionality that the Examiner found to be well known and conventional, such as

displaying lists of users and manual logins, passwords, and selections of users. *See, e.g.*, EX1002, pp. 123-127, 161-165, 201-204, 244-247, 314-316 (Applicant’s remarks); EX1002, pp. 136-137, 175, 215-216, 259-263, 288, 326-329 (Examiner’s remarks). After those arguments and related amendments failed to achieve allowance, the applicant agreed to an Examiner’s amendment that added claim element [1G] (regarding “*assign[ing] location access rights*”). EX1002, pp. 368- 371, 427-428. The Examiner then allowed the application, with the Examiner’s only comment being that the allowed independent claims “possess a unique combination of limitations that is not sufficiently taught or suggested by the prior art” of record in examination. EX1002, p. 371. However, as discussed below, prior art existed that the Examiner did not consider—including the Sheha, Randall, and other references—and that in my opinion renders all of the challenged claims unpatentable.

### **C. The Challenged Claims**

**[0061]** The challenged claims (claims 1-20, which are all claims of the ’283 patent) are reproduced in their entirety in the Claim Appendix at the end of this declaration.

**[0062]** Each of the ’283 patent’s three independent claims (claims 1, 8, and 15) recites a process by which a user selects another user and provides a login and password. A system identifies the user from the login and password,

determines whether the user has access rights to the location information for the selected user, and, if the requesting user does have access rights to the location information, the system provides the location information to the requesting user's device, where it is displayed.

**[0063]** Each of the dependent claims recites further functionality that was known by POSAs to be routine and conventional before the '283 patent's earliest claimed priority date—including technology, such as GPS and triangulation, which the '283 patent itself admits was well known. EX1001, 1:17-33.

## **VI. CLAIM INTERPRETATION**

**[0064]** In accordance with the standards for interpreting patent claim terms that I discussed above in Section III, I have interpreted the terms in the claims in accordance with their ordinary and customary meaning as understood by a POSA in the context of the patent (including the descriptions in the specification) and its prosecution history.

## **VII. PRIOR-ART REFERENCES**

**[0065]** I briefly introduce in this Section below various prior-art references discussed in this declaration.

**A. Background on Motivation to Combine and Reasonable Expectation of Success in Combining Prior Art**

[0066] The '283 patent purports to have provided a variety of innovations, such as “locat[ing] the position of a different user's cellular phone (e.g., a requested user) based upon requestor assigned access rights[,]” EX1001, 1:38-42, and more broadly, “provid[ing] systems and methods which better utilize the information about a device's location,” EX1001, 1:31-33.

[0067] It is my opinion that not only were the purported inventions known to POSAs prior to 2002, the 1990s federal mandate to update wireless devices and carrier network location-based technologies and services spurred innovation in this field years before the patents were filed.

[0068] It is my understanding, and was the understanding of a POSA, that the 1996 Telecommunications Act, and in particular FCC orders (the “911 Mandate”) that came from it dramatically changed the telecommunications industry in the United States, particularly for the wireless industry in general and even more so the development and deployment of wireless location technologies and associated location-based services (“LBS”). The Act and 911 Mandate required action on every part of the wireless ecosystem: devices, carriers, end users, application providers, equipment makers and service providers, providing much of the groundwork for subsequent location-related services in the United States, including transportation/transit applications.

**[0069]** The 911 Mandate was rooted in part in the inability of 911 dispatchers to locate mobile phone callers, which set off a subsequent FCC order process that resulted in a mandate by the FCC requiring wireless carriers to be able to locate cell phones for 911 emergency purposes. Federal Communications Commission. “Third Report and Order.” October 6, 1999. <https://transition.fcc.gov/Bureaus/Wireless/Orders/1999/fcc99245.pdf> (last checked 09-030-2024). The original mandate had a target of 5 years for completion (by December 2001, later revised to the end of 2005), with a variety of interim milestone targets to be met. The mandate required that carriers be able to determine and deliver to Public Safety Answering Points (PSAPs, e.g., 911 dispatchers) the location of a cell phone within a specific range of accuracy.<sup>1</sup>

**[0070]** Thus, well before Mr. Mullen purportedly invented the ideas described in the challenged patents, the U.S. E911 mandate requiring the locating devices and sharing that location with other systems (and in turn other users) had been in existence for several years, where much of the wireless industry (particularly wireless carriers and their suppliers) had been actively working for years to meet the original mandate milestones, to avoid multi-million dollar fines,

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<sup>1</sup> For handset-based solutions: 50 meters for 67 percent of calls, 150 meters for 95 percent of calls; For network-based solutions: 100 meters for 67 percent of calls, 300 meters for 95 percent of calls. See [https://transition.fcc.gov/pshs/services/911-services/enhanced911/archives/factsheet\\_requirements\\_012001.pdf](https://transition.fcc.gov/pshs/services/911-services/enhanced911/archives/factsheet_requirements_012001.pdf) at p.3 (last checked 09-30-2024).

and to enable applications that could monetize the extensive (many millions of dollars) infrastructure investments that the mandate necessitated.

[0071] Further, a variety of location information sharing innovations were occurring by that time, stimulated by the coming ubiquity of cell phone location capabilities and further buoyed by the elimination in May 2000 of the GPS system's "Selective Availability," which had deliberately distorted GPS signals so they would be inaccurate up to 100 meters.<sup>2</sup> As the White House's press release said at the time:<sup>3</sup>

**GPS IS A CRITICAL TECHNOLOGY FOR INDIVIDUALS AND BUSINESSES AROUND THE GLOBE. GPS is a dual-use system, providing highly accurate positioning and timing data for both military and civilian users. There are more than 4 million GPS users world wide, and the market for GPS applications is expected to double in the next three years, from \$8 billion to over \$16 billion. Some of these applications include: air, road, rail, and marine navigation, precision agriculture and mining, oil exploration, environmental research and management, telecommunications, electronic data transfer, construction, recreation and emergency response.**

[https://clintonwhitehouse4.archives.gov/WH/New/html/20000501\\_2.html](https://clintonwhitehouse4.archives.gov/WH/New/html/20000501_2.html).<sup>4</sup>

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<sup>2</sup> Specifically, up to 100 meters vertically, and up to 50 meters horizontally.

<sup>3</sup> That Selective Availability would likely be discontinued was known as early as the 1996 Telecommunications Act.

See <https://ieeexplore.ieee.org/document/838346> (last checked 09-30-2024).

<sup>4</sup> I have added all emphasis in this declaration unless I have specified otherwise.

**[0072]** These new applications and enhancement of existing applications looked to capitalize on the additional capabilities and associated benefits that having location as part of the data set/app functionality would provide. These include improving efficiencies and costs of mobile resources deployment and utilization, new revenue potential from new and more tailored apps, personalizing/customizing functionality based on location, improved convenience, improved privacy and security, providing real-time status based on/including current location, collecting historical location for after-the-fact analysis and forward-looking projections of location-related resources, in enabling more custom data presentation based on/utilizing a user's (device) location, enabling new use cases, and enhancing particular use case(s) and overall application customer experience.

**[0073]** For example, a Google Patent search for “location services” and “sharing” prior to March 25, 2002 yields over 136,000 results.<sup>5</sup> Over 129,000 of those results<sup>6</sup> appear for between May 1, 2000 and March 25, 2002, indicating at least in part the widespread recognition of the benefits from the improved accuracy resulting from removal of Selective Availability, the utility/benefits of sharing

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<sup>5</sup> <https://patents.google.com/?q=location+services&q=sharing&before=priority:20020325> (last checked 9/17/2024).

<sup>6</sup> <https://patents.google.com/?q=location+services&q=sharing&q=cost+reduction,improve+efficiencies&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

location information, and more generally the growing awareness of the potential for location-based services around the turn of the century. Further, over 95,000 results remain when further filtered by adding “cost reduction” or “improved efficiencies.”<sup>7</sup> Similarly, a search for “location services” and “sharing” and “new revenue” yielded over 15,000 results.<sup>8</sup> Replacing the search of “new revenue” with “improved user interface” yielded over 84,000 results,<sup>9</sup> and “navigation” instead of “new revenue” yielded over 25,000 results.<sup>10</sup> Thus, by the time of the patent priority date, the potential benefits of location services involving the sharing of information like location were well known, including services involving navigation and better user interface capabilities. In addition, a POSA would also recognize the multitude of technology capabilities and varied user interface challenges associated with location-related technology and data, and seek out ways to improve a user’s ability to utilize and interact with such (often large amounts of) location data via meaningful and efficient mechanisms.

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<sup>7</sup> <https://patents.google.com/?q=location+services&q=sharing&q=cost+reduction,improve+efficiencies&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

<sup>8</sup> <https://patents.google.com/?q=location+services&q=sharing&q=new+revenue&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

<sup>9</sup> <https://patents.google.com/?q=location+services&q=sharing&q=improved+user+interface&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

<sup>10</sup> <https://patents.google.com/?q=location+services&q=sharing&q=navigation&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

**[0074]** It is my opinion, and was the understanding of a POSA, that the LBS field rapidly grew in the late 1990s and early 2000s as the wireless industry strived to satisfy the U.S. E911 mandate and innovators recognized the potential of LBS, particularly with Selective Availability removed. Further, it is my opinion that the general advances in the LBS field would have motivated a POSA to combine the asserted references as I describe in more detail below.

**B. Sheha (EX1005)**

**[0075]** Sheha is titled “System and Method for Providing Routing, Mapping, and Relative Position Information to Users of a Communication Network.” Sheha “is directed to a system and method for providing real-time position information of one party to another party” such that “a party may locate the position of another party” and “retrieve routing instructions or maps for traveling to or from each other.” Sheha, Abstract.

**[0076]** According to the face of the document, Sheha (EX1005) is a United States patent issued on February 19, 2008 as Patent No. 7,333,820 from an application filed on July 11, 2002 as Application No. 10/194,518. That application claimed priority to a provisional application filed on July 17, 2001 as Provisional Application No. 60/305,975. I have been informed that EX1006 is a copy of the Sheha provisional application as available from the website of the United States Patent and Trademark Office.

[0077] By comparing EX1005 to EX1006, I have observed that the written description and figures of Sheha (the non-provisional publication) (EX1005) are substantively identical to those of the Sheha provisional application (EX1006).

[0078] Based on comparing claim 1 of Sheha (EX1005) to the written description in the Sheha provisional application (EX1006), it is also my opinion that the Sheha provisional application provides written description support for claim 1 of Sheha, as shown in the table below:

**Table 1: Claim Chart comparing Claim 1 of Sheha (EX1005) to Sheha’s Provisional Application (EX1006)**

| <b>Sheha (EX1005) Claim 1 Limitation</b>                                                                                          | <b>Sheha’s Provisional Application Support in EX1006</b>                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| 1. A method of providing position information of a caller using a telecommunication network, said method comprising the steps of: | <p>“It is another object of the present invention to provide <b>a method for...the purpose of determining position information associated with the telephone number</b> by searching a networked database.” 4:6-10.<sup>11</sup></p> <p><i>See also</i> 4:11-18; 4:21-25 (“<b>the position information to a caller</b> is displayed”); 11:3-27 (caller uses a “telephone network,” which is “<i>a telecommunication network</i>”); 12:30-32 (supported telecommunication</p> |

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<sup>11</sup> Citations are to the native page numbering of the provisional application’s specification within EX1006, rather than to the PDF page numbers of EX1006. For example, 4:6-10 occurs at lines 6-10 of native page 4 of the specification, which is on page 8 of the PDF of EX1006.

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|                                                                                                                                                                                                                                                                              | networks include “CDMA, TDMA, or GSM”).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| receiving caller information, said caller information being associated with a telecommunication event that is initiated by the caller, said caller information including at least one of a caller identification information and the phone number information of the caller; | <p><b>“The act of dialing the telephone number to another remote landline telephone [<i>a telecommunication event</i>]”,</b> such as a residential telephone, triggers the transfer of position information, such as in the form of a map, to either one or both of the local and/or remote telephone devices.” 6:13-17.</p> <p>“In one embodiment the display unit on the destination telephone 8 [<i>i.e.</i>, the device receiving the caller information] can <b>display the caller’s name [<i>caller identification information</i>], telephone number</b>, address, and can provide a map illustration of varying resolutions configured by the user through the telephone network 2.” 11:28-31.</p> <p>“The ODAS 3 is preferably notified that <b>a telephone call is being established</b> by the telephone network 2 [<i>a telecommunication event that is initiated by the caller</i>’]. Included in this notification is the <b>telephone number and user identification information for both the originating and destination telephone numbers.</b>” 13:9-13.</p> <p>“After the system has verified that the destination telephone number user is signed-on, the ODAS 3 sends a notification to the device 6 that the user is signed-on.” 13:29-31.</p> |

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|                                                                                                                                                                                                                                                                               | <p>“In this embodiment, the notification appears on the user’s display device 6 just prior or during the ringing or notification that the telephone has an <b>incoming telephone call</b>. In one embodiment, the display 24 of the user’s device shows that he or she is signed-on and can have numerous miscellaneous window(s) 25 open at the time the Map Caller-ID notification is activated. The Map Caller-ID notification window 26 typically contains only the <b>originating user identification and telephone number</b>, but may also contain map information of varying resolution.” 14:6-13.</p>                                                                                                                                                                                                    |
| <p>accessing caller privacy information, said caller privacy information identifying a caller user group consisting of a plurality of group members pre-defined by said caller, each group member of the caller user group being a user of the telecommunication network;</p> | <p>“In this case, <b>users who are initiating or receiving the telephone calls</b> [<i>‘users of the telecommunication network’</i>] have their local telephone numbers stored into a database that resides on a secure network.” 6:21-23.</p> <p>“In another embodiment, the destination remote mobile device receiving the telephone call obtains the <b>position information</b> from the calling local mobile device, <b>based on permission settings of the calling local mobile device</b> [<i>‘caller privacy information’</i>], for the performance of various operations, such as mapping and calculating driving directions.” 7:19-23.</p> <p>“In another embodiment, each device has <b>privacy settings</b> that allow the device to <b>prevent or limit other calling devices from obtaining</b></p> |

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|                                                                                                                                                                                                                                       | <p><b>position information</b> [<i>‘caller privacy information’</i>].” 8:14-16.</p> <p>“In another embodiment, <b>users can define a group of specific users that have access to this information</b> [<i>‘identifying a caller user group consisting of a plurality of group members pre-defined by said caller’</i>]. This is also accomplished by <b>utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information</b> [<i>‘identifying a caller user group consisting of a plurality of group members pre-defined by said caller’</i>].” 18:30-19:1.</p>                                                                                                                                                                                                             |
| <p>receiving receiver information, said receiver information being associated with said telecommunication event initiated by the caller, said receiver information including a unique identification information of the receiver;</p> | <p>“This invention relates to location and navigational systems and to the determination of local and remote position information in ad-hoc landline and wireless systems, including the utilization of <b>unique identification addresses, such as telephone numbers or Internet Protocol (IP) addresses</b> [<i>‘unique identification information’</i>], for such purposes as providing real-time location information, maps, routing, and direction finding.” 1:6-11.</p> <p>“It is yet another object of the present invention to provide a method for entering a <b>unique identification token</b> [<i>‘unique identification information’</i>], <b>such as an e-mail address</b>, that can be used on a networked server system utilizing authentication and authorization procedures, in order to determine position information and to</p> |

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|  | <p>pass that information between a plurality of unique users or applications on various devices.” 4:11-16.</p> <p><b>“The act of dialing the telephone number to another remote landline telephone [‘a telecommunication event’], such as a residential telephone, triggers the transfer of position information, such as in the form of a map, to either one or both of the local and/or remote telephone devices.”</b> 6:13-17.</p> <p>“In order to determine the position information of a remote landline or wireless device in order to obtain driving directions to that device or other related information about that device, in one embodiment, a user can initiate a position request by entering a unique identification token, such as an e-mail address.” 8:1-5.</p> <p><b>“Therefore, in this embodiment, when a telephone 8 dials a destination standard telephone 5 [‘said telecommunication event initiated by the caller’], the destination telephone number is sent over the dedicated landline connection 9b to the telephone network 2 [‘unique identification information’]. The ODAS 3 is sent both the originating and destination telephone numbers via the telephone network connection 10. In another embodiment, accompanying information, such as user identification information associated with each telephone</b></p> |
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|                                                                             | <p><b>number is also sent to the ODAS 3.”</b><br/>13:1-7.</p> <p><b>“The ODAS 3 receives both the originating and destination telephone numbers, users’ account information, and position information for both mobile devices 18b and 18c [‘receiving receiver information, said receiver information being associated with said telecommunication event initiated by the caller, said receiver information including a unique identification information of the receiver’]”</b> 17:29-31.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p>verifying whether the receiver is a member of the caller user group;</p> | <p>“A mobile or landline device can also request position information of another mobile or landline device by only specifying a telephone number, without having to initiate a telephone call. For a landline-to-landline position request, the specified telephone number is correlated to its position information using telephone information from a known database or sets of databases. In one embodiment, the online database that contains this information only includes users that do not have unlisted telephone numbers. In another embodiment, <b>users can define a group of specific users that have access to this information.</b> This is also accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information. When a mobile device's position information is requested, the system, based on privacy settings,</p> |

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|                                                                                                                            | <p>responds with the appropriate position information to the requesting user's device. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of a landline device.” 18:23-19:6.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>retrieving a caller position information, said caller position information indicating a location of the caller; and</p> | <p>“It is another object of the present invention to provide a <b>method for...the purpose of determining position information associated with the telephone number</b> [<i>‘retrieving a call position information ... indicating a location of the caller’</i>] by searching a networked database.” 4:6-10.</p> <p>“It is yet another object of the invention to provide an alternative form of Caller-ID (Map Caller-ID) to a local computing telephone device for display of <b>the caller’s position information</b> .... This position information transfer is done utilizing authentication and authorization procedures or telephone-to-position information correlation procedures for caller identification.” 4:19-28.</p> <p><i>See also</i> 5:5-11 (“acquire local or remote position information through the methods described above”); 6:13-17 (“The act of dialing the telephone number to another remote landline telephone, such as a residential telephone, triggers <b>the transfer of position information</b>, such as in the form of a map, <b>to either one or both of the local and/or remote telephone devices.</b>”); 7:19-23 (“In another</p> |

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|  | <p>embodiment, the destination remote mobile device receiving the telephone call <b>obtains the position information from the calling local mobile device</b> [<i>retrieving a call position information ... indicating a location of the caller</i>], based on permission settings of the calling local mobile device, for the performance of various operations, such as mapping and calculating driving directions.”); 11:21-24 (“Map Caller-ID includes additional position information fields of various formats, and can include <b>map information</b> at varying resolutions <b>of both the originating and destination telephone number’s locations.</b>”); 14:21-25 (“In one embodiment, this new information window 30 is a detailed Map Caller-ID information window of varying resolution <b>displaying the originating position information, such as a map location 33 of the caller,</b> and the user’s location position information, such as a map location 34 of the destination telephone number.”); 18:15-22 (“The mobile devices 18b and 18c <b>continually send their updated position information to the ODAS 3,</b> when the position information has changed significantly as compared to the positioning error probability and as determined by the positioning technology or network configuration. The ODAS 3 <b>periodically updates each mobile device with the other’s position information,</b> thus providing real-time driving directions and route information. In another embodiment, the position information transfer can be</p> |
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|                                                                                                                                   | sent in a peer-to-peer configuration, thus circumventing the ODAS 3.”)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| transmitting to the receiver the caller position information if the receiver is verified to be a member of the caller user group, | <p>“The mobile devices 18b and 18c <b>continually send their updated position information to the ODAS 3</b>, when the position information has changed significantly as compared to the positioning error probability and as determined by the positioning technology or network configuration. The ODAS 3 <b>periodically updates each mobile device with the other’s position information</b> [<i>“transmitting to the receiver the caller position information”</i>], thus providing real-time driving directions and route information. In another embodiment, the position information transfer can be sent in a peer-to-peer configuration, thus circumventing the ODAS 3.”</p> <p>18:15-22.</p> <p>“A mobile or landline device can also request position information of another mobile or landline device by only specifying a telephone number, without having to initiate a telephone call. For a landline-to-landline position request, the specified telephone number is correlated to its <b>position information</b> using telephone information from a known database or sets of databases. In one embodiment, the online database that contains this information only includes users that do not have unlisted telephone numbers. In another embodiment, <b>users can define a group of specific users that have access to this information</b> [<i>‘receiver is verified to be a member of the caller user</i></p> |

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|                                                                                                                                                                              | <p><i>group’</i>]. This is also accomplished by <b>utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information</b> [<i>‘receiver is verified to be a member of the caller user group’</i>]. When a mobile device's position information is requested, the system, based on privacy settings, <b>responds with the appropriate position information to the requesting user's device</b> [<i>“transmitting to the receiver the caller position information if the receiver is verified to be a member of the caller user group”</i>]. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of a landline device.” 18:23-19:6.</p> |
| <p>wherein the transmission of the caller position information is associated with the telecommunication event and occurs after the telecommunication event is initiated.</p> | <p><b>“The act of dialing the telephone number to another remote landline telephone</b> [<i>‘a telecommunication event’</i>], such as a residential telephone, <b>triggers the transfer of position information</b>, such as in the form of a map, <b>to either one or both of the local and/or remote telephone devices</b> [<i>i.e., ‘the transmission of the caller position information is associated with the telecommunication event and occurs after the telecommunication event is initiated’ because the transfer is triggered by the telecommunication event</i>].” 6:13-17.</p> <p>“In another embodiment, <b>users can define a group of specific users that have access to this information.</b> This</p>                                                                                                        |

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|  | <p>is also accomplished by utilizing a <b>group database and authorization and authentication protocols to identify users that are permitted to access this information. When a mobile device's position information is requested [i.e., 'after the telecommunication event is initiated']</b>, the system, based on privacy settings, <b>responds with the appropriate position information to the requesting user's device</b> [<i>'transmitting to the receiver the caller position information if the receiver is verified to be a member of the caller user group'</i>]. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of a landline device." 18:30-19:6.</p> |
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**[0079]** Because Sheha's disclosure is substantively identical to that of its provisional application, and because the provisional application's disclosure provides written-description support for at least one of Sheha's claims (e.g., Sheha's claim 1 as I demonstrated above), I have been informed by counsel that Sheha qualifies as prior art to the '283 patent based on the filing date of Sheha's provisional application.

**[0080]** As discussed in Sections VIII.A-C below, in my opinion a POSA would have understood that Sheha, in combination with other references,

renders obvious all claims of the '283 patent. *See also infra* §VIII.A.1 (additional discussion of Sheha).

**C. Randall (EX1007)**

**[0081]** Randall is titled “Method of Enabling a Wireless Information Device to Access Data Services.” Randall relates to “enabling a wireless information device to access data from several data services providers...using an extensible framework which handles data passing to and from several applications resident on the device, the framework being shared by each of the applications resident on the device and also being shared by each of the data services providers.” Randall, Abstract. “As an example,...a user might choose to subscribe to a service which allowed others to track his or her location” and “show the position of the user” on “digital maps.” Randall, [0021].

**[0082]** According to the face of the document, Randall (EX1007) is a published U.S. patent application, published on February 5, 2004 as Publication No. 2004/0024846 from an international patent application that was filed on August 22, 2001 as PCT (WIPO) Application No. PCT/GB01/03788 and entered the U.S. national stage as U.S. Application No. 10/362,109. I have been informed by counsel that Randall qualifies as prior art to the '283 patent based on Randall's international filing date. I have also compared the WIPO publication of Randall (EX1008) to the U.S. publication of Randall (EX1007) and I have observed that

they are substantively identical. In Table 2 below, I have listed the paragraphs in the U.S. publication of Randall that appear on each page of the WIPO publication of Randall. Thus, although in this declaration I cite to the U.S. publication of Randall (EX1007) for ease of reference, each citation to the U.S. publication has a substantively identical citation in the WIPO publication of Randall at the corresponding page shown in the following table:

**Table 2: Comparison of PCT Application No. PCT/GB01/03788 (EX1008)  
and U.S. Publication No. 2004/0024846 (EX1007)**

| <b>Randall PCT</b> | <b>Randall US</b> |        |                  |
|--------------------|-------------------|--------|------------------|
| Pg. 1              | [0001 - 0004]     | Pg. 43 | [0303 - 0312]    |
| Pg. 2              | [0005 - 0007]     | Pg. 44 | [0313 - 0336]    |
| Pg. 3              | [0008 - 0009]     | Pg. 45 | [0337 - 0354]    |
| Pg. 4              | [0009 - 0012]     | Pg. 46 | [0354 - 0354]    |
| Pg. 5              | [0012 - 0015]     | Pg. 47 | [0355 - 0362]    |
| Pg. 6              | [0015 - 0020]     | Pg. 48 | [0362 - 0367]    |
| Pg. 7              | [0020 - 0022]     | Pg. 49 | [0368 - 0377]    |
| Pg. 8              | [0022 - 0026]     | Pg. 50 | [0377 - 0384]    |
| Pg. 9              | [0027 - 0032]     | Pg. 51 | [0385 - 0394]    |
| Pg. 10             | [0033 - 0046]     | Pg. 52 | [0395 - 0400]    |
| Pg. 11             | [0046 - 0050]     | Pg. 53 | [0401 - 0409]    |
| Pg. 12             | [0051 - 0054]     | Pg. 54 | [0409 - 0417]    |
| Pg. 13             | [0055 - 0059]     | Pg. 55 | [0418 - 0420]    |
| Pg. 14             | [0060 - 0063]     | Pg. 56 | [0420 - 0426]    |
| Pg. 15             | [0063 - 0067]     | Pg. 57 | [0427 - 0434]    |
| Pg. 16             | [0067 - 0069]     | Pg. 58 | [0435 - 0443]    |
| Pg. 17             | [0069 - 0073]     | Pg. 59 | [0443 - 0450]    |
| Pg. 18             | [0073 - 0074]     | Pg. 60 | [0451 - 0457]    |
| Pg. 19             | [0075 - 0081]     | Pg. 61 | [0458 - 0468]    |
| Pg. 20             | [0081 - 0086]     | Pg. 62 | [0468 - 0472]    |
| Pg. 21             | [0087 - 0097]     | Pg. 63 | [0473 - 0481]    |
| Pg. 22             | [0098 - 0107]     | Pg. 64 | [0482 - 0486]    |
| Pg. 23             | [0108 - 0115]     | Pg. 65 | [0487 - 0495]    |
| Pg. 24             | [0116 - 0127]     | Pg. 66 | [0495 - 0499]    |
| Pg. 25             | [0127 - 0130]     | Pg. 67 | [0499 - 0500]    |
| Pg. 26             | [0130 - 0139]     | Pg. 68 | [0501 - Table 1] |
| Pg. 27             | [0140 - 0147]     | Pg. 69 | [Table 1 - 506]  |
| Pg. 28             | [0147 - 0153]     | Pg. 70 | [0507 - 0509]    |
| Pg. 29             | [0153 - 0162]     | Pg. 71 | [0510 - Table 2] |
| Pg. 30             | [0163 - 0171]     | Pg. 72 | [0512 - 0514]    |
| Pg. 31             | [0172 - 0181]     | Pg. 73 | [0515 -Table 4]  |
| Pg. 32             | [0181 - 0190]     | Pg. 74 | [Table 4]        |
| Pg. 33             | [0191 - 0196]     | Pg. 75 | [Table 4]        |
| Pg. 34             | [0197 - 0209]     | Pg. 76 | [Table 4]        |
| Pg. 35             | [0210 - 0224]     | Pg. 77 | [Table 4]        |
| Pg. 36             | [0225 - 0239]     | Pg. 78 | [Table 4]        |
| Pg. 37             | [0240 - 0249]     | Pg. 79 | [Table 4]        |
| Pg. 38             | [0250 - 0257]     | Pg. 80 | [Table 4]        |
| Pg. 39             | [0257 - 0261]     | Pg. 81 | Appendix 1       |
| Pg. 40             | [0262 - 0279]     | Pg. 82 | Appendix 1       |
| Pg. 41             | [0280 - 0292]     | Pg. 83 | Appendix 1       |
| Pg. 42             | [0293 - 0303]     | Pg. 84 | Appendix 1       |
|                    |                   | Pg. 85 | Appendix 1       |
|                    |                   | Pg. 86 | Appendix 1       |

**[0083]** As discussed in Sections VIII.D-F below, in my opinion a POSA would have understood that Randall, alone or in combination with other references, renders obvious all claims of the '283 patent. *See also infra* §VIII.D.1 (additional discussion of Randall).

**D. Smith (EX1023)**

**[0084]** Smith is titled “Iconized Name List” and relates to “a directory with graphical icons representing characteristics of the entries for a communication device.” Smith, Abstract. According to the face of the document, Smith (EX1023) is a United States patent issued on July 4, 2000 as Patent No. 6,084,951 from an application filed on April 23, 1997 as Application No. 08/842,036. I have been informed by counsel that Smith qualifies as prior art to the '283 patent based on both Smith’s issue date and its filing date. *See also infra* §VIII.A.2 (additional discussion of Smith).

**E. Carey (EX1024)**

**[0085]** Carey is titled “Method and System for Instant Messaging Across Cellular Networks and a Public Data Network.” Carey illustrates well-known user-interface design and functionality for inputting login and password. Carey, FIG. 8. According to the face of the document, Carey is a United States patent issued on March 30, 2004 as Patent No. 6,714,793 from an application filed on March 6, 2000 as Application No. 09/519,525. I have been informed by

counsel that Carey qualifies as prior art to the '283 patent based on Carey's filing date. *See also infra* §VIII.A.3 (additional discussion of Carey).

**F. Wako (EX1025)**

[0086] Wako is titled "Display Method and Apparatus for Navigation System" and relates to "displaying information necessary for guiding a driver of a vehicle." Wako, Abstract. According to the face of the document, Wako is a United States patent issued on July 2, 2002 as Patent No. 6,415,224 from an application filed on February 6, 2001 as Application No. 09/777,990. I have been informed by counsel that Wako qualifies as prior art to the '283 patent based on Wako's filing date. *See also infra* §VIII.B.1 (additional discussion of Wako).

**G. Engberg (EX1026)**

[0087] Engberg is titled "Use of Personal Communication Devices for User Authentication." Engberg relates to "[a] password setting system for a secure system" that "creates a new password by concatenating a secret passcode that is known to the user" with "a random token" generated by a server. Engberg, Abstract. Engberg illustrates known user-interface design and functionality for inputting login and password on separate display screens. Engberg, FIGs. 2C-2D. According to the face of the document, Engberg is a United States patent issued on January 31, 2006 as Patent No. 6,993,658 from an application filed on March 6, 2000 as Application No. 09/519,829. I have been informed by counsel that

Engberg qualifies as prior art to the '283 patent based on Engberg's filing date.

*See also infra* §VIII.C.1 (additional discussion of Engberg).

## **VIII. THE CHALLENGED CLAIMS ARE UNPATENTABLE IN LIGHT OF THE PRIOR ART**

[0088] I have been asked to provide my opinion concerning whether claims 1-20 of the '283 patent would have been obvious to a POSA in light of the prior-art references discussed below. For the reasons explained below, it is my opinion that each of claims 1-20 would have been obvious to a POSA. The following table summarizes the Grounds I discuss in the sections below:

| <b>Ground Number and Reference(s)</b> |                                                | <b>Claims</b>         | <b>Basis</b> |
|---------------------------------------|------------------------------------------------|-----------------------|--------------|
| 1                                     | Sheha (EX1005), Smith (EX1023), Carey (EX1024) | 1-2, 6-9, 13, 15-17   | Obviousness  |
| 2                                     | Sheha, Smith, Carey, Wako (EX1025)             | 3-5, 10-12, 14, 19-20 | Obviousness  |
| 3                                     | Sheha, Smith, Carey, Engberg (EX1026)          | 18                    | Obviousness  |
| 4                                     | Randall (EX1007)                               | 1-2, 6-9, 13, 15-17   | Obviousness  |
| 5                                     | Randall, Wako                                  | 3-5, 10-12, 14, 19-20 | Obviousness  |
| 6                                     | Randall, Engberg                               | 18                    | Obviousness  |

### **A. Ground 1: Claims 1-2, 6-9, 13, and 15-17 Would Have Been Obvious Over Sheha in View of Smith and Carey**

[0089] As explained in this section below, in my opinion claims 1-2, 6-9, 13, and 15-17 of the '283 patent would have been obvious to a POSA in view of

the combined teachings of Sheha (EX1005), Smith (EX1023), and Carey (EX1024).

# **1. Discussion of Sheha (EX1005)**

**[0090]** Generally, Sheha teaches systems and methods to provide real-time location information (e.g., GPS co-ordinates, routing, maps) of a target user's device (e.g., landline, cell phone, PDA, etc.) to an authorized requesting user via conventional telecommunications systems (e.g., telephone network, mobile communications network, computer network, GPS, etc.). Sheha, Abstract, 1:35-45, 2:60-64, 10:66-11:9. Location information can be exchanged in response to a telephone call being made, but location information can also be shared without a call. Sheha, 11:55-58.

**[0091]** Sheha describes telephone devices – both landline and mobile devices, such as cellphones or PDAs – that share location information with other authorized landline and mobile devices to enable functionality such as mapping, routing, and direction finding. Sheha, 2:60-4:18, 10:66-11:9, 11:55-65. Sheha discloses that the mobile devices may determine their positions, such as by using an integrated GPS receiver or network-assisted position information, and may provide their positions to an online database and application server (“ODAS”) which stores the positions remotely. Sheha, 10:5-16, 10:66-11:51, 7:19-23.

**[0092]** Sheha further discloses that a first user (that I refer to as a “target user”) may authorize other users and groups of users to receive the location of the first user’s device. Sheha, 11:51-12:7. For example, the mobile devices may specify groups of authorized users to the ODAS identifying who may obtain their respective location information. Sheha, 11:55-12:1.

**[0093]** Sheha describes that the remote server (ODAS) periodically updates the requesting user with the target user’s device location information based on the target user’s associated privacy settings and what Sheha describes as authorization and authentication protocols. Sheha, 11:49-12:7. Sheha describes that the location information may include a map illustrating the location of one or both of the target and requesting users’ mobile devices, route information, driving directions, and heading information that may be displayed to the requesting user. Sheha, 9:23-39.

**[0094]** For example, using Sheha’s system, a mobile device may request the location of a target mobile device through a phone call (“call embodiment”) or “without having to initiate a telephone call” (“no-call embodiment”) by “only specifying a telephone number.” Sheha, 11:10-54, 11:55-58; *see also id.*, 12:1-7. If authorized, the requesting device receives the position from the ODAS, including displaying a map illustrating the location of one or both mobile devices and navigational information. Sheha, 9:23-39. Figure 3 (annotated

below) illustrates an exemplary mobile-to-mobile system, showing connections between two mobile devices 18b-18c, such as cell phones or PDAs, and the ODAS, via a wireless network 22. Sheha, 10:66-11:35, FIG. 3.

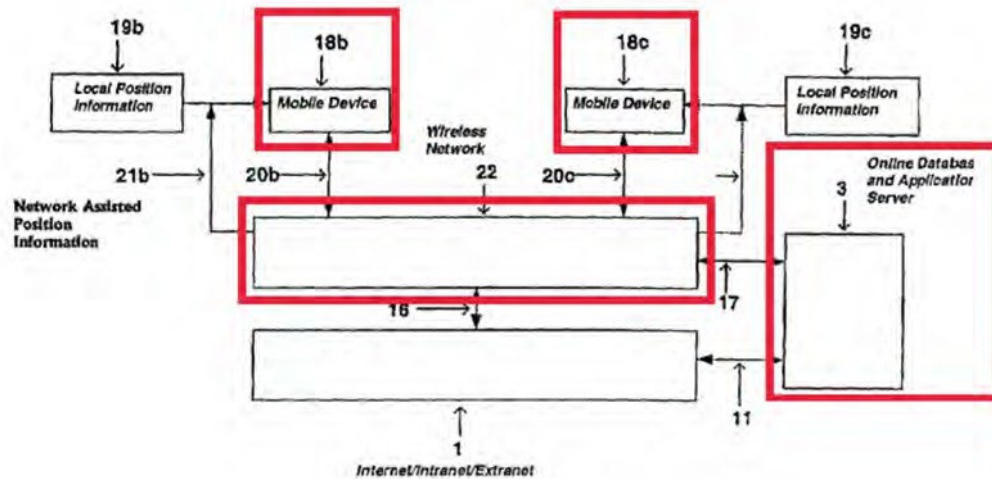


**FIG. 3**  
**Sheha, FIG. 3 (annotated)**

## 2. Discussion of Smith (EX1023)

[0095] Smith discloses a system to provide a user interface for a cellphone, including contact list functionality that provides electronic business cards (“EBCs”). Smith, 5:15-18, 6:65-7:3, 7:41-49, 10:55-60. An example of this routine and conventional functionality is shown in Figure 15A:

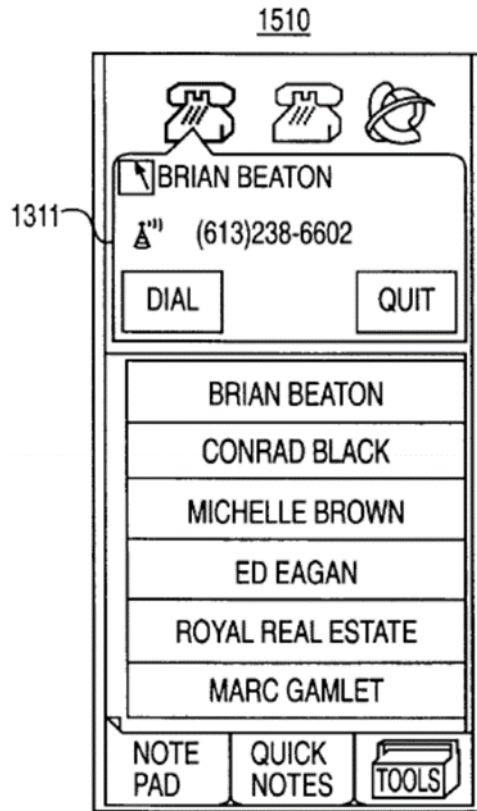
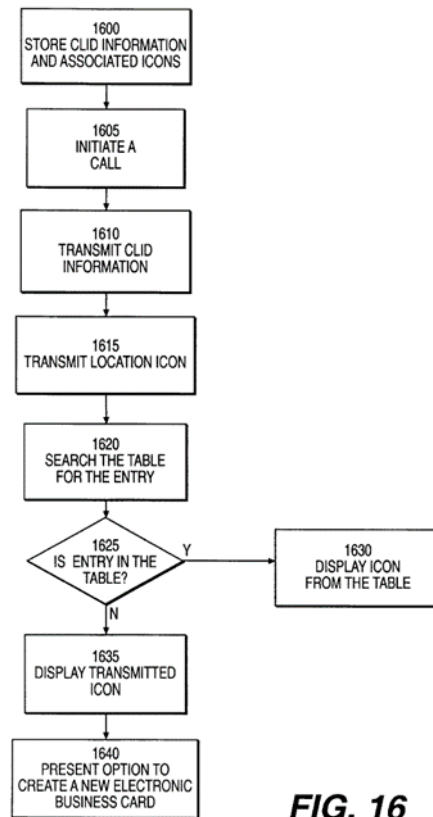


**FIG. 15A**

Smith, FIG. 15A

[0096] Smith's EBC can include a wide variety of information about the corresponding contact, including location information such as GPS information. Smith, 10:29-11:4. Smith allows a user to store detailed information for individual contacts. Smith, 6:53-7:3. In addition, the user interface provides for a location icon; "[t]he location icon provides visual assistance to the receiver in quickly determining the location or the type of device of the caller." Smith, 10:61-63. "[T]he user may be presented with more precise GPS information about the caller's location by touching the location icon." Smith, 11:2-4.

**FIG. 16****Smith, FIG. 16**

### 3. Discussion of Carey (EX1024)

[0097] Carey describes a system to enable instant messaging between different users using a mobile wireless device, such as a conventional cellular phone. Carey, Abstract, 1:8-12. A user can access an application to access an instant-messaging service on their cellphone, log into the application, and gain access to their address book to allow them to select and exchange instant messages with other users who are also signed into the instant-messaging service. Carey, 3:18-34, 4:6-33; 5:5-28, 7:65-8:16, FIGs. 8-14 (Figures 8-10 and 14 are copied below). As was conventional practice by the early 2000s, Carey's device provides

a screen to receive the user's login and password for authentication. Carey, FIG. 8, 7:67-8:10.

**[0098]** Carey's service for "instant message communication in a wireless and non-wireless environment" requires a user to log into their account using a username and password. Carey, 1:62-63, 4:15-19. More specifically, the Carey system allows a user to enter the "user's screen name 202 and password 204" and then access an "instant message name list window 220" to select the user who will receive the instant message. Carey, 8:2-3, 8:17-19.

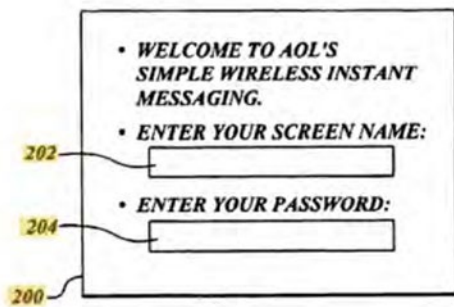


*Fig. 8*

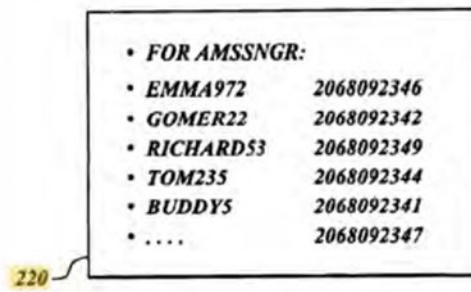


*Fig. 9*



*Fig. 10*



*Fig. 14*

Carey, FIGs. 8, 9, 10, 14.

#### 4. Discussion of Sheha-Smith-Carey Combination

[0099] As discussed in Section V above, the '283 patent is related to wireless devices and using those wireless devices to determine locations of selected users. Further, the claims of the '283 patent relate to processes for selecting a user from a list of users, inputting login and password, obtaining location information for the selected user, and displaying the location. As discussed above in Sections VIII.A.1-3, each of Sheha, Smith, and Carey is directed to mobile devices and/or applications for mobile devices (e.g.,

positioning). As I discussed above in Section VII.A, a POSA would have had a general motivation to combine references, such as Sheha, Smith, and Carey based on the 1990s Federal mandate to update wireless devices and carrier network location-based technologies and services years and the possibility of monetizing their heavy investments. As I discussed above in Section VII.A, the device and wireless-network carriers had reason to capitalize on the additional capabilities and associated benefits that I discussed in that section of having location as part of the data set/app functionality would provide.

**[0100]** With respect to Smith's teachings (*supra* §VIII.A.1), a POSA would have understood that the mobile devices in Sheha include wireless telephones that would typically have included common features and conventional functionality such as contact lists and manual input devices such as buttons to interact with the device and the contact-list functionality. These features were typically found in wireless telephones before the priority date of the '283 Patent, such as those discussed in Smith. Smith, 7:41-49, 9:42-61, 10:7-16, FIGs. 14, 15A. In addition, because such functionalities were routine and conventional in the kinds of wireless devices used in the Sheha system, a POSA would have had a reasonable expectation of success in incorporating such functionality into the Sheha wireless devices.

**[0101]** As I discussed above in Section VIII.A.3, Carey provides conventional ways for a user to sign-in to an online service using a wireless device, such as a cellphone. In particular, Carey describes how a user can sign into an instant messaging service by entering a username and password. Carey, 3:18-34, 4:6-33; 5:5-28, 7:65-8:16, FIGs. 8-14. Such login functionality was conventional before the priority date of the '283 Patent, and Carey also illustrates some example implementations, as I discussed above (§VIII.A.3).

**[0102]** A POSA would have been motivated to incorporate such login functionality into the Sheha system. Sheha can require a user to log in to their online services with a username and password, which the user would need some way to provide. Sheha, 8:40-53. A POSA would have understood that the mobile devices in Sheha include wireless telephones that could provide users with added functionality, such as location services, that might require a user to enter authorization information to use such added functionality, as described in Sheha. Thus, a POSA considering how to implement functionality to allow a user to enter user authentication to access added functionality on a mobile device would have looked to a reference like Carey that describes functionality executing on wireless devices, such as cellular phones, and how authentication information conventionally could be entered. It would have been obvious for a POSA to incorporate functionality to enable a user to enter such login and password

information, as described in Carey, and there are only a limited number of ways to obtain that information from a user of a mobile device. Thus, a POSA would have been motivated to combine Sheha with Carey. And because such functionality was routine and conventional at the time and would have required minimal software development to request and receive that information from a user, a POSA would have had a reasonable expectation of success. Because Sheha describes using a location service involving user authentication, similar to the authentication process used in Carey to access its instant-messaging functionality, a POSA would have had a reasonable expectation of success when attempting to incorporate teachings of authentication functionality from Carey into Sheha.

**5. Mapping of Sheha-Smith-Carey Combination to Claims 1-2, 6-9, 13, and 15-17**

**[0103]** As explained in the section below, in my opinion a POSA would have understood that the Sheha-Smith-Carey Combination meets all limitations of claims 1-2, 6-9, 13, and 15-17 of the '283 patent, and therefore renders those claims obvious.

**a. Claim 1**

**[0104]** As explained in this section below, in my opinion a POSA would have understood that the Sheha-Smith-Carey Combination meets all limitations of claim 1 of the '283 patent, and therefore renders claim 1 obvious.

**i. Preamble [1PRE]: A method comprising:**

**[0105]** Claim 1’s preamble recites “A method comprising.” I understand that the preamble is not necessarily limiting. In this case, whether or not it is limiting does not affect my opinion as Sheha discloses the preamble. Sheha discloses methods that enable a user of a telephone device, whether landline or wireless, to provide access information, such as a username and password, to determine and share their own location with other telephone devices, and to request and obtain location information for other users’ mobile devices. Sheha, Abstract; *see also* §VIII.A.1 above (discussing Sheha). As I will discuss below, it is my opinion that Sheha in view of Smith and Carey meets all limitations of claim 1.

**ii. Element [1A]: displaying on a first wireless telephonic device a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices;**

**[0106]** Sheha discloses a system with wireless telephonic devices that can determine their own locations and provide those locations to a remote system. Sheha, Abstract, 10:66-11:9. In addition, Sheha describes that one mobile wireless device (e.g., 18b) can request the location of another mobile wireless device (e.g., 18c) (or vice-versa) via a wireless network. Sheha, 10:66-11:51. Figure 3 shows a mobile-to-mobile type of a configuration of the Sheha system: it includes two mobile devices, which are identified as mobile devices 18b and 18c, that both

communicate with Sheha's Online Database and Application Server, or the "ODAS" 3, via a wireless network, labeled as wireless network 22, with which the mobile devices 18b-18c communicate via their respective wireless connections 20b-20c. Sheha, 10:66-11:35.

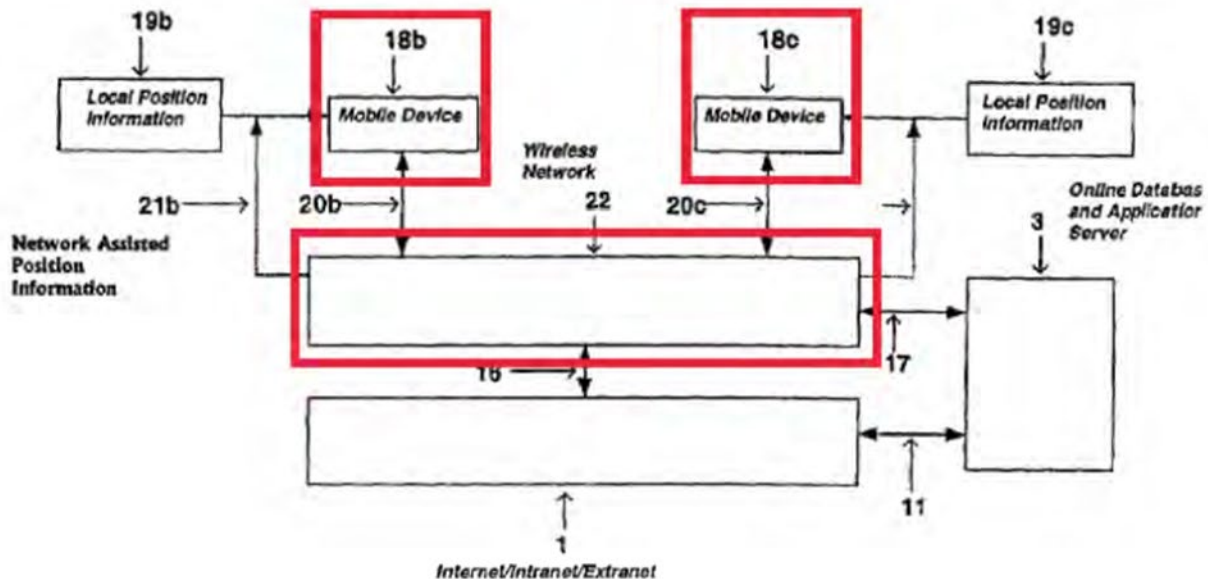


**FIG. 3**

**Sheha, FIG. 3 (annotated)**

[0107] Sheha describes that “a plurality of unique users” are “on various devices,” which can be “wireless” “telephone” devices. Sheha, 3:8-10, 4:3-7. Each mobile device has its associated “users’ account information.” Sheha, 11:20-23, 8:25-53. Thus, each one of a plurality of users is associated to a different one of a plurality of wireless telephonic devices, as element [1A] recites.

**[0108]** Because Sheha describes that a user can request the location of another mobile device, it also includes functionality to select that other mobile device. One way Sheha describes to do so is to input or dial another mobile device's telephone number to obtain its location. Sheha, 10:66-11:9, 11:55-12:7.

**[0109]** Another way to select another mobile device that was well-known in the art before the priority date of the '283 Patent was to access a list of contacts stored in the user's mobile device, by displaying the contacts list on the wireless device, and scroll through the available contacts to a desired contact. This functionality was standard on mobile wireless devices, such as cellular telephones, before the priority date for the '283 Patent. For example, the Smith reference shows an example of this conventional functionality. In Figures 15A-B, Smith provides an example of one kind of contact list that can be displayed by a mobile wireless device, such as those in Sheha. Smith, 5:15-18, 9:42-55, FIGs. 15A-15B.

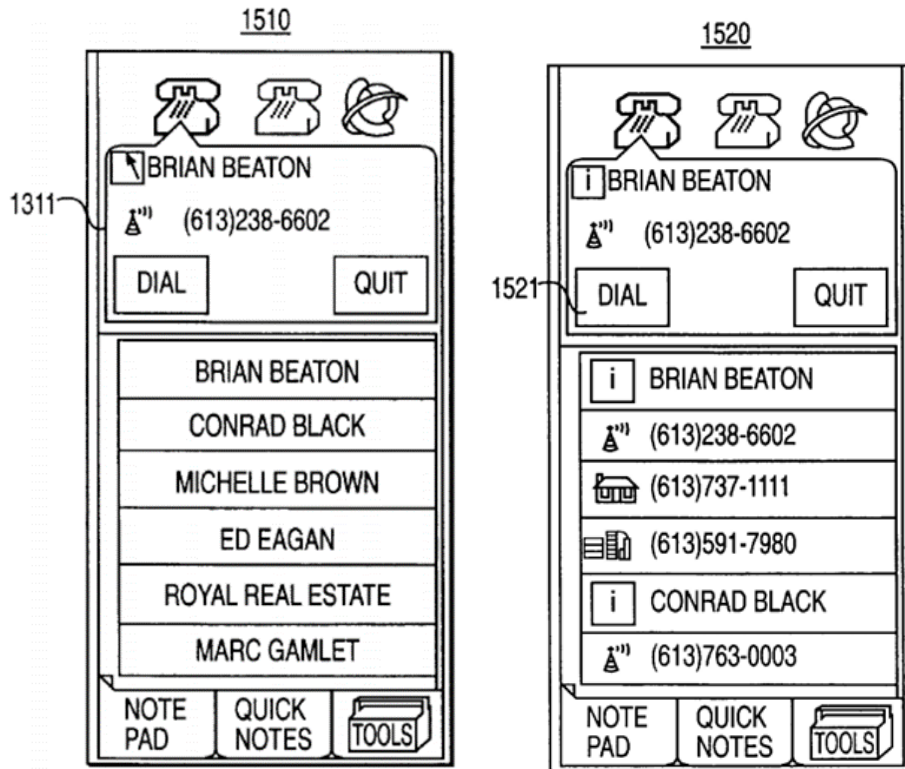


**FIG. 15A**

**FIG. 15B**

**Smith, FIGs. 15A-B**

[0110] Smith describes that a user can scroll through the contact list to identify a particular person’s contact card, which it calls an “electronic business card” or “EBC.” Smith, 6:53-7:3, 9:42-61. The user can scroll through the EBCs stored in their mobile device to find a contact of interest and their contact information, such as a telephone number. An example of how this would be presented to the user is shown above in Figures 15A and 15B.

[0111] It would have been obvious to a POSA to incorporate the standard feature of displaying a contact list, like the one shown in Smith, into the mobile devices in the Sheha system to allow users to easily identify, select, and

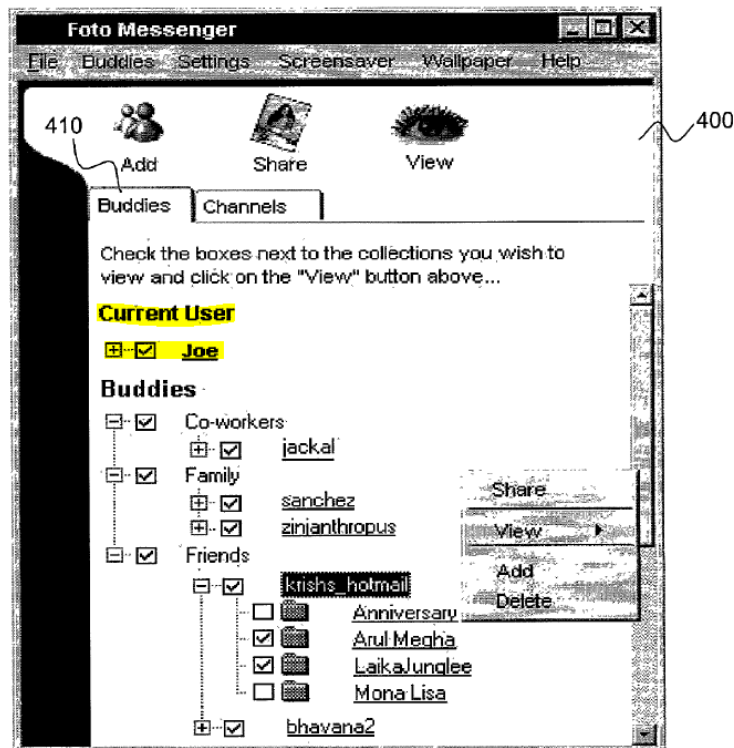
retrieve a contact of interest to locate from among multiple saved contacts.

Further, as I mentioned above, user interfaces in a mobile wireless device, like a cellular telephone, to allow selection of a contact were conventional before the priority date of the '283 patent.

[0112] Thus, it is my opinion that Sheha-Smith-Carey meets Element [1A].

[0113] To the extent the *plurality of users* displayed in Element [1A] must include the *first wireless telephonic device's* user, implementing Sheha-Smith-Carey's contacts list to display an entry for the wireless device's own user in addition to that user's contacts would have been an obvious, known design choice. A POSA would have been motivated to display an entry for the wireless device's user to provide the user a convenient way of accessing the user's own contact information (e.g., when the user needs to remember or share the user's own information or when providing an electronic business card), with reasonable expectation of success.

[0114] My opinion that displaying an entry for the wireless device's own user in addition to that user's contacts was background knowledge for POSAs is corroborated by Shankar (EX1028). Shankar provides for a "digital media resource messaging system" that enables users to share photos with buddies on their "buddy list." Shankar, 3:31-51, 6:65-7:3.



**Shankar, FIG. 4 (annotated)**

[0115] As shown in Shankar’s Figure 4 (reproduced above), Shankar provides for a buddy list “organized into collections using a hierarchical directory structure.” Shankar, 7:3-5. FIG. 4 shows a graphical user interface that displays the buddy list for the current user Joe, and the buddy list includes the current user Joe (annotated in yellow above) along with Joe’s buddies (e.g., “jackal,” “sanchez”). Shankar, 7:34-36. Shankar teaches that a user can display their own “list of collections” because the user’s own name is in the “buddy tab” (e.g., the “Current User” “Joe” is in the buddy tab). Shankar, 7:44-46, 7:30. By including the user’s own name in a “buddy tab,” a user can also elect to share their own list

of collections with buddies (e.g., by “right-click[ing] on a particular file or folder,” like a file or folder under the user’s own name). Shankar, 7:58-8:4.

[0116] Though Shankar is in the context of a displaying a buddy list for photo sharing, a POSA would have understood that the same concept of displaying a user and their buddies in the user’s buddy list would apply in any similar use case, such as a user having a contacts list on a wireless telephone in which the contacts list includes the user and the user’s contacts and where the user and contacts are all sharing data.

[0117] Thus, Shankar corroborates my opinion that it was well-known in a POSA’s background knowledge and an obvious, known design choice to display in a user’s list of contacts an entry for the user themselves.

**iii. Element [1B]: receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users;**

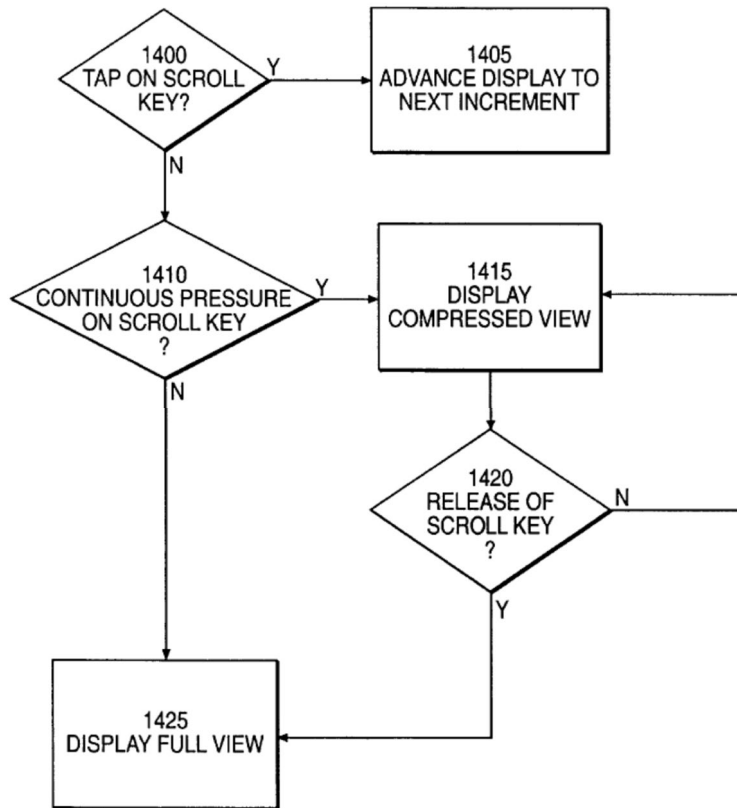
[0118] Sheha explains that its wireless devices have input devices to allow a user to enter telephone numbers, such as by using numeric or alphanumeric input devices. Sheha, 2:64-3:3. It is my opinion that a POSA would have understood these numeric or alphanumeric input devices to typically and conventionally be physical buttons provided on the devices. In addition, these types of input devices were entirely standard features of telephone devices before

the priority date of the '283 Patent, including on mobile wireless devices, like cellular telephones.

**[0119]** As I mentioned above (§VIII.A.5.a.ii), mobile wireless devices conventionally included contact list functionality, like that described in Smith. In addition, input devices were included to allow a user to view different contacts and select a contact of interest. These input devices were typically physical buttons and may have been dedicated buttons to navigate information, like a contact list, or they may have been the numeric or alphanumeric buttons used to dial phone numbers. Smith describes various examples of input devices, including a keypad with buttons, an on-screen keyboard, or using handwriting recognition. Smith, 7:12-20. And it would have been obvious to use the numeric or alphanumeric keys described by Sheha to navigate a contact list and select a contact, as discussed in Smith.

**[0120]** In addition, Smith describes a process for scrolling through a contact list, shown in Figure 14 below. The flowchart illustrates a process that allows a user to scroll through the contact list using physical or graphical buttons. Smith, 9:42-61, 10:67-11:3, FIG. 14. The user can use the process to scroll to a desired contact and ultimately select a contact to call. Smith, 9:42-61, 10:67-11:3, FIG. 14. A POSA incorporating such scrolling functionality would have also included an option for a user to select a contact to locate to take advantage of

Sheha's ability to request location. It would have been obvious to a POSA to include such functionality for the same reasons I discussed in Section VIII.A.5.a.ii above with respect to Element [1A].



**Smith, FIG. 14**

**[0121]** Additionally, it would have been obvious to implement Sheha's wireless device to receive manual input selecting a contact of interest from a displayed contacts list to request that contact's location information. This is because manually selecting another user from a displayed contacts list was well-known in POSAs' background knowledge as a suitable option with reasonable

expectation of success for selecting a contact of interest, including to access their location.

**[0122]** My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below:

**[0123]** Han (EX1027) describes "a position tracking service system and method using wireless communication and Internet." Han, [0002]. Han discloses a display screen from which a user "selects the target for which he intends to receive position tracking service via the registration window output on the screen of the computer." Han, [0033]. Therefore, Han corroborates that a user manually selecting to receive position information of a target that is selected from a list of targets was within a POSAs' background knowledge as a suitable option for selecting a contact of interest, including to access their location and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0124]** Meadows (EX1018) describes a monitoring system that "monitor[s] the geographical location of individuals within a geographical region from a remote location." Meadows, 2:29-32. As shown in Meadows's FIG. 4A (reproduced below), Meadows describes that a user is "presented with a list of names of persons" and from that list the user can manually "select[] which of the individuals to monitor" for their location information. Meadows, 5:30-47.

Therefore, Meadows also corroborates that a user manually selecting individuals to receive location information for from a displayed contacts list in a graphical user interface was within a POSAs' background knowledge as a suitable option for selecting a contact of interest, including to access their location and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**WELCOME TO THE WORLD WIDE WATCHER**

**ACCESS CODE: 1582**

|            |                | <u>STATUS</u> |
|------------|----------------|---------------|
| 1. DEBORAH | (301) 663-9580 | ACTIVE        |
| 2. MARCIA  | (410) 222-3344 | ACTIVE        |
| 3. BRIAN   | (301) 663-9301 | ACTIVE        |
| 4. ADAM    | (301) 494-5000 | ACTIVE        |

**PLEASE SELECT INDIVIDUALS TO MONITOR**

①   ②   ③   ④   ALL

**FIG. 4a**

**Meadows, FIG. 4a**

[0125] Darling (EX1022) describes “facilitating flexible communication between users...using mobile equipment” (Darling, 1:44-45) to “enable a user to determine the location of another user” (Darling, 2:10). Darling describes that a user can, using their mobile equipment, “scroll through the list of

people that they are allowed to view locations for and find out where they are.”

Darling 41:1-5; *see also* Darling, 41:6-15. Therefore, Darling also corroborates that a user manually selecting a person to retrieve location information from a list of contacts that they are allowed to locate was within a POSA’s background knowledge as a suitable option for selecting a contact of interest, including to access their location and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0126]** Thus, it is my opinion that Sheha-Smith-Carey meets Element [1B].

**iv. Element [1C]: receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password;**

**[0127]** Sheha describes that users may have accounts established with the ODAS 3 discussed above with respect to Figure 3 and that “every telephone account user has a username and password for the ODAS.” Sheha, 7:22-23, 8:25-53, 11:20-23 (ODAS receives “users’ account information...for both mobile devices” in mobile-to-mobile embodiment as in landline-to-landline embodiment), 11:55-12:7. The example discussed in column 8 relates to a wireline telephone; however, it refers to the ODAS, which is also shown in the wireless embodiment of Figure 3. In addition, the ODAS is capable of operating with any of the different combinations of wireline and wireless devices discussed in Sheha. Sheha,

FIGs. 1-3 (each showing the same ODAS 3). Sheha also explains that authorization and authentication protocols can be used in the mobile context in the same way they are used in the landline context. Sheha, 12:4-7; *see also* Sheha, 8:25-53. Thus, it would have been clear to POSAs that Sheha expects a user to provide a username and password to access the location functionality provided by the ODAS, and that Sheha makes this a necessary step for the user to access their account and make use of the ODAS location functionality, for which a user would have used the numeric or alphanumeric buttons that Sheha describes. Sheha, 2:64-3:3.

**[0128]** POSAs would have known that it was conventional before the '283 patent's priority date to manually enter a login and password using Sheha's numeric or alphanumeric keys, such as disclosed in Carey's Figure 8 and the corresponding description. To illustrate this conventional process, Carey shows an example GUI that allows a user to enter a screen name, i.e., a username, and password to access instant messaging functionality provided by a remote service. Carey, FIG. 8, 7:67-8:10. By entering their username and password, a user would gain access to their account in Carey in the same way that a user would enter their username and password to access Sheha's ODAS. A POSA would have immediately appreciated the need to enter username and password information on Sheha's wireless devices as a way to access the location services provided by the

ODAS. In addition, a POSA would have known to use the available input devices to enter that information, e.g., the numeric or alphanumeric buttons, in the same way as described in Carey.

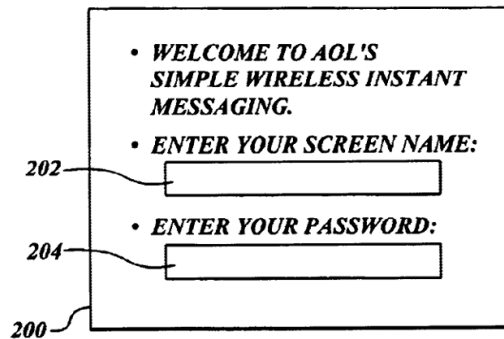


*Fig. 8*

Carey, FIG. 8

[0129] Thus, it is my opinion that Sheha-Smith-Carey meets Element [1C].

- v. **Element [1D]: determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users,**

[0130] Sheha describes a system where one user can request the location of another user's wireless device, so long as the requesting user has permission to receive the location. Sheha, 4:58-5:20, *see also* Sheha, 12:1-7 ("When a mobile device's position information is requested, the system, based on privacy settings, responds with the appropriate position information to the

requesting user’s device.”). In particular, the ODAS determines whether a user has permission to access the location of another user. Sheha, 10:66-11:9.

**[0131]** Sheha provides various teachings for a user to establish permissions for other users to access the user’s location. For example, Sheha describes that a user can configure “privacy settings” that allow the user to prevent or limit other users from obtaining position information about the user. Sheha, 5:38-46, *see also* 13:65-14:2. Sheha also describes that permissions can be established by the mobile devices’ “privacy information” including “a group database and authorization and authentication protocols” by which a user “can define a group of specific users that have access to” the user’s location information. Sheha, 11:55-12:7, 4:59-5:20. The ODAS uses this privacy information to determine whether the target device has authorized the requesting device to obtain its location information. Sheha, 3:4-14, 3:22-28; 4:8-18; 5:21-46, 8:42-53, 9:59-10:4. A POSA would have understood Sheha’s description of “privacy settings” and “privacy information” to comport with Sheha’s overall teachings of a user with configurable privacy settings regarding the user’s location provided to others.

**[0132]** The above description that privacy information in Sheha includes setting privacy information for a group of specific users in a mobile embodiment is further corroborated by Sheha’s claims. Sheha, 13:65-14:2, 14:54-

61, 19:9-13. For example, claim 1 recites, among other limitations, “accessing caller ***privacy information***, said caller privacy information identifying a caller user ***group*** consisting of a plurality of group members pre-defined by said caller, each group member of the caller user group being a user of the telecommunication network.” Sheha, 13:65-14:2. Sheha’s claims 11-12 claim an embodiment where the caller is on a wireless telephone. Sheha, 14:54-61. Those claims depend from claim 1, which recites that the caller specifies “privacy information” in the form of a pre-defined group of users. Thus, Sheha’s claims 11-12 further support my opinion that Sheha’s group-based permissions are a type of “privacy” information and apply in a mobile embodiment. Sheha’s claim 47 recites, among other limitations, “accessing ***privacy information*** of the second user, said privacy information of the second user identifying an ***authorized user group***, said authorized user group consisting a plurality of user group members pre-defined by the second user.” Sheha, 19:9-13. Sheha’s claims corroborate my opinion that a POSA would have understood that when Sheha refers to “privacy,” Sheha is talking generally about ways to restrict how much of a user’s location information is accessible to other users. So when Sheha discusses “privacy settings” (as in 12:1-7), a POSA would understand those privacy settings can include the mobile device not letting anybody access its location (as in 13:65-14:2 and 5:39-41), and that the privacy settings can also include the mobile device user’s group settings,

which identify which specific users have access to the device's location and which users do not. In other words, Sheha's group specifications are not unrelated to "privacy settings." Rather, Sheha's "privacy" information includes both the target device's local settings and the group designations of groups of authorized users. Thus, a POSA would understand that when Sheha talks about "privacy" information, Sheha is referring to a set of information that includes the group specifications discussed in Sheha, 11:55-12:7, as well as other types of "privacy settings" that Sheha discusses.

**[0133]**        Thus, because Sheha describes that a wireless device's position will be sent based on established permissions, it is my opinion that Sheha meets "determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users."

**[0134]**        I have been informed by counsel that Mullen argued in a prior proceeding that Sheha discloses four discrete embodiments: landline-to-landline phone calls, landline-to-mobile phone calls, mobile-to-mobile phone calls, and no phone calls. I further understand that Mullen argued that Sheha's description of defining a group of specific users that have access does not include for use with mobile devices and requires initiating a phone call. I disagree. It is my opinion that a POSA would understand that Sheha's disclosures regarding defining a group

of specific users that have access to a user's location information is also disclosed for use with mobile devices and without initiating a phone call. Sheha discloses that the mobile embodiment may employ "authorization and authentication protocols...similarly to" the landline embodiment. Sheha, 12:4-7. Also, as I discussed above, my opinion regarding the POSA's understanding is further corroborated by Sheha's claims, which recite "determining **whether the first user is a member of the authorized user group**" as part of "accessing privacy information" for the location of a "**mobile telephone.**" Sheha, 18:47-19:46.

[0135] Alternatively, even if Sheha did not explicitly disclose using the group database in mobile-to-mobile no-call embodiments, doing so would have been an obvious variation in view of POSAs' background knowledge that allowing a mobile user to specify a group of other mobile users to have access to the user's location (or to provide access on an individual-user basis) without initiating a phone call was well-known as a beneficial option and a POSA would have had a reasonable expectation of success in doing so in a system like Sheha's. My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed below.

[0136] For example, Sandhu (EX1016) describes "[a] method and system whereby two mobile units can locate each other." Sandhu, Abstract. A user who registers with Sandhu's system "can access the location of all other users

who are registered with the system.” Sandhu, [0024]. A user can also “limit the data exchange to a sub-group of users, such as friends, coworkers, and family” by “defining a distribution group in the user profile.” Sandhu, [0024]. Sandhu therefore corroborates that it was within a POSA’s background knowledge to use a group database in a mobile embodiment and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0137]** Sandhu also discloses sending an “announcement to all users in the distribution group,” where the “announcement[] sent can contain a location stamp indicating the current location of the sender.” Sandhu, [0031]. Transmitting Sandhu’s announcements does not require initiating a phone call with any of the intended recipients. Thus, Sandhu also corroborates that it was within a POSA’s background knowledge to exchange location information between mobile devices without initiating a phone call and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0138]** By way of another example, Randall (EX1007) describes a user of a mobile device that can track the location of other mobile devices. Randall, Table 4, p. 24 (“People tracking” application, “New buddy finder” application, “Old buddy finder” application). Randall’s system allows a user to assign access rights to individuals or groups. Randall, [0070] (“Access rights can be associated with individual entities, and can also be associated with groups of entities.”).

Randall describes using a database for storage of such access rights. Randall, [0052] (“In ADS, a user can also specify the remote database access rights given to different people or groups: an arbitrary group of entities may be stored as an attribute which gives access permissions to data in the database.”); *see also* Randall, [0136], [0144]-[0148]. Further, Randall describes that users sharing their location can occur outside of a phone call. Randall, Table 4, p. 24 (“People tracking” application in which a user tracks the location of a user by polling a server). Randall therefore also corroborates that it was within a POSA’s background knowledge to use a group database in a mobile embodiment and to exchange location information between mobile devices without initiating a phone call and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0139]**        Thus, it is my opinion that Sheha-Smith-Carey meets Element [1D].

- vi.    Element [1E]: wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login and**

**[0140]**        This claim element essentially describes a login process using a login and password. As I discussed above with respect to Elements [1C] (§VIII.A.5.a.iv) and [1D] (§VIII.A.5.a.v), Sheha describes that a user provides a

username and password to access location services provided by the ODAS of the Sheha system, which involves determining whether the username and password are correct for that user. The Sheha system can use the authentication and authorization protocols discussed with respect to Element [1D] to identify the user and determine that the user is authorized to access the system and has permission to access the requested location information. Sheha, 8:40-53, 12:1-7. “[E]very telephone account user has a username and password” from which the ODAS determines which “particular user is signed-on to the system” and whether the “user is genuine.” Sheha, 8:40-53. Thus, the *determination includes identifying said user from said plurality of users using said login and determining said password is associated with said login* as claimed. Sheha also discloses that the “authentication and authorization protocols” use the username and password to “verify the level of authority [that particular] user is granted, such as for differentiating services provided by the ODAS.” Sheha, 8:40-50. This includes the ODAS determining whether that user has permission to obtain the location of a requested device. Sheha, 5:21-46, 11:63-12:7.

**[0141]** I have been informed by counsel that Mullen argued in a prior proceeding that Element [1E] does not encompass verifying user identity at the time of sign-in. In my opinion, a POSA would understand that there is no such temporal restriction in the claim, and that Sheha’s ODAS employs authentication

and authorization protocols as part of the process of ensuring a user that requests the location of another user has the appropriate permissions to access the location information, as I discussed above.

[0142] Thus, it is my opinion that Sheha-Smith-Carey meets Element [1E].

**vii. Element [1F]: determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device,**

[0143] As I discussed above with respect to Element [1E] (§VIII.A.5.a.vi), Sheha’s system can identify a user based on their provided username and password. After determining that a user has entered the correct username and password, the ODAS determines whether the user is permitted to access the target device’s location information. Sheha, 5:21-46, 12:1-7.

[0144] As discussed above with respect to Element [1D] (§VIII.A.5.a.v), Sheha’s “users can define a group of specific users that have access to” the location of the user who defined the group; this is “accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information.” Sheha, 11:63-12:1. This can be done for landline-to-landline position requests, landline-to-mobile position requests, mobile-to-landline position requests, and/or mobile-to-mobile position requests—i.e., when “[a] mobile or landline device...request[s] position

information of another mobile or landline device.” Sheha, 11:55-56. “When a mobile device’s position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user’s device. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly [sic] to requesting the position of a landline device” in landline embodiments. Sheha, 12:1-7. POSAs would have understood this description in Sheha to teach that in mobile-to-mobile embodiments, when a mobile device’s position information is requested, the system can use the same “authorization and authentication protocols” that Sheha discussed at 11:63-12:1 for utilizing the group database, to determine whether to respond with the appropriate position information to the requesting user’s device, similarly to when a landline device’s position is requested. *See also* Sheha, 3:4-14, 3:22-25, 4:8-18, 4:58-5:46.

**[0145]** I have been informed by counsel that Mullen argued in a prior proceeding that Sheha does not disclose one device user assigning rights exclusively to another device user. I understand that Mullen argued that the ’283 patent’s claim 1 (and claims 8 and 15) requires the “access rights” provided to the “user of said first wireless telephonic device” to be exclusive to that device. But that is not what the claims recite. Claim 1, for example, nowhere recites “exclusively” or anything similar, and does not exclude the “access rights for said

location information” from being provided to other devices as well. I further understand that Mullen identified portions of the ’283 patent’s specification – 1:49-59, 1:66-2:2, 3:8-26, 4:56-65, 5:12-17, 6:63-7:4, 8:10-15, 8:64-9:2, 9:3-7, 11:45-50 – as alleged support for its argument that all instances of providing permissions in the ’283 patent consist of assigning rights to a specific user. I understand from counsel that it is improper to attempt to import limitations from a specification’s embodiment into claims that do not recite those limitations, even if the specification only describes a single embodiment. Moreover, the ’283 patent at 12:56-58 explicitly discloses that “a user may organize his/her user list into groups *and assign access rights to that group* (e.g., family member user group close friend user group),” just as Sheha does. *See also* EX1001, 12:53-58, 3:22-24.

[0146] Alternatively, even if claim 1 required providing access rights to an individual user, Sheha renders this obvious in my opinion because POSAs would have known that “defin[ing] a group” (Sheha, 11:63-65) can include defining a group having only one member, even if other defined groups have multiple members. For example, a “best friend” group may have just one person in it and that person might periodically change. In another example, an “emergency contact” might function similarly. As another example, a person could have a group for friends or business associates at particular companies or in particular locations (e.g., different cities), some of which have only one person they know at

a particular company or in a particular city. Similarly, a “plumber,” “electrician,” etc., group can have only one plumber, one electrician, etc., listed in the respective groups. In yet another example, a “children” group might function similarly if the user has only one child. An additional example can be a “Saturday meetup” group in which only one member may be included when the group is first created (and others may or may not be subsequently added). Further, the “Saturday meetup” example could be the group having multiple people in it but then everyone except one person drops out, leaving only one person in the group.

**[0147]** Alternatively, allowing a user to specify access rights for individuals in addition to groups would have been an obvious variation to a POSA because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. My testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

**[0148]** For example, Randall (EX1007) describes “a user can also specify the remote database access rights given to different people or groups” (Randall, [0052]) and “can be associated with individual entities, and can also be associated with groups of entities.” Randall, [0070]; *see also* [0136] (“Visible to specific people (or groups)”), [0144] (“The user must be able to switch location information on for a person or group of people”). Randall therefore corroborates

that it was within a POSA's background knowledge to specify access rights for individuals in addition to groups and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0149]** Friedman (EX1015) describes location-based instant messaging in which a user can specify a subset of users in a buddy list that can access the user's positional data. Friedman, 12:60-13:21. POSAs would have understood that a subset of users can include a single user. Friedman corroborates that understanding by describing an example for assigning access rights for a single user: "User A may specify that 'User B' should only receive a measurement of the distance between User A and User B." Friedman, 13:5-7. Friedman therefore also corroborates that it was within a POSA's background knowledge to specify access rights for individuals in addition to groups and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0150]** I have been informed by counsel that Mullen argued in a prior proceeding that only the target mobile device in Sheha, and not the ODAS, determines whether the requesting user has access rights to the target's location because the ODAS transmits the request to the target mobile device and receives the device's response. It is my opinion that Mullen's argument is incorrect for either of two reasons. First, claim 1 does not require Element [1F] to be performed entirely by the server. Indeed, the '283 patent's specification says determining the

requesting device's access rights can be performed "as a direct call to the requested device/user" (EX1001, 11:45-52), just as Mullen said Sheha does. Second, it is my opinion that Mullen's characterization of Sheha is incorrect. A POSA would have understood Sheha to teach that additionally and/or alternatively to the target mobile device, the ODAS determines whether the requesting user has access rights to the target's location. Sheha teaches embodiments in which the ODAS implements the "authorization and authentication protocols" and the "group database" described in 11:63-12:7 for determining whether the requesting user has access rights. *See* Sheha, 3:4-14 ("networked server system utilizing authentication and authorization procedures"), 4:8-18 ("online database and/or networked authentication and authorization connection server"), 7:22-23 ("online database and application server (ODAS)"), 8:42-53 ("ODAS 3 us[es] authentication and authorization protocols" to "verify the level of authority each user is granted"), 9:61-10:4.

**[0151]** Alternatively, implementing the group database and its utilization at the server would have been an obvious variation to a POSA in my opinion because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's. My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0152] Randall (EX1007) describes interactions between mobile devices and a database at a server. Randall, [0029]-[0030] (“An application resident on the device queries and receives data from the remote, extensible database.”). Randall also describes that a database hosted by a server can be used for determining whether a requesting user has access rights. Randall, [0046] (“internet servers hosting extensible databases”), [0047] (“[t]he database can define which entities can read different fields; Alice can therefore give Bob rights to read only certain fields in her database.”), [0052] (“[t]he ADS system includes additional access control mechanisms, such as checking the identity of the calling device at the server”). Randall discloses that the “ADS System [] includes an entire contacts database, referred to as a ‘Universe,’” which “is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]. For example, if Alice has an i-Group “business 1,” “someone in the business 1 group might see the Table 3 information in their contacts application,” which shows information about Alice that is available to contacts in “business 1.” Randall, [0513]. “The user interface” of a wireless device will include some way to indicate “the freshness of the data (whether it has recently been updated from the i-Server).” Randall, [0514]. A POSA would understand that other users would have their own group database designated in their own “Universe” that is utilized from Randall’s i-Server. Randall therefore

corroborates that it was within a POSA's background knowledge to implement a group database and utilize it at a sever and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0153]** Friedman (EX1015) describes a server monitoring a location of a user. Friedman, 12:60-65. Friedman also describes that a user can store their access right preferences on the server. Friedman, 13:10-21 ("User A's preferences with respect to location tracking may be stored in User A's configuration profile 1012 on the portal server 110..."). Friedman therefore also corroborates that it was within a POSA's background knowledge to implement a group database and utilize it at a sever and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

**[0154]** Sandhu (EX1016) describes a user setting up a user profile in a service provider (Sandhu, [0023], [0026]), to limit location data access to a sub-group of users by "defining a distribution group in the user profile." Sandhu, [0024], *see also* [0025]. Sandhu describes that the "[s]ervice provider 8 may be a computer or a server linked to data network 4." Sandhu, [0027]; Sandhu, [0028]-[0029] ("user profile database" may be stored in various formats). Sandhu therefore also corroborates that it was within a POSA's background knowledge to implement a group database and utilize it at a sever and that a POSA would have

had a reasonable expectation of success doing so in the Sheha-Smith-Carey combination.

[0155] Thus, it is my opinion that Sheha-Smith-Carey meets Element [1F].

**viii. Element [1G]: and said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device;**

[0156] As I have discussed above with respect to Elements [1D] (§VIII.A.5.a.v), [1E] (§VIII.A.5.a.vi), and [1F] (§VIII.A.5.a.vii), Sheha allows users to establish which other users and devices may access their location information, and that the device’s user can configure these settings. Sheha, 5:38-46, 10:17-26, claim 47. Sheha also discloses that configuring a device’s privacy permissions can include “defin[ing] a group of specific users that have access” to the device’s location. Sheha, 11:63-12:7; *see also id.*, 13:57-14:61, 18:47-19:46 (corroborating that “privacy information” includes information “identifying an authorized user group” that is “pre-defined” by a “mobile telephone” user). Any device that can provide its location to the ODAS can establish location access rights; thus, a mobile device whose position is requested can provide permission for a requesting device to access its location

information, and the requesting device can also establish permissions for other devices to access its location. Sheha, 5:3-9, 11:10-54, 11:55-12:7.

**[0157]** For example, Sheha describes that in the case of one device calling another device, the called device can request location permission of the calling device and the calling device's location can be provided, "based on permission settings of the calling local mobile device." Sheha, 5:3-9. In another example, Sheha describes two mobile devices continuously exchanging location in real-time. Sheha, 11:10-54. In addition, Sheha also explains that its users can establish groups of specific users that can have access to position information. Sheha, 11:55-12:7. Because the Sheha system employs privacy settings that can be established by the wireless devices themselves, Sheha discloses that a user can use their wireless device to establish location access rights for other wireless devices, including a particular wireless device selected from a contact list, as discussed above.

**[0158]** As I discussed above for Element [1F] (§VIII.A.5.a.vii), claim 1 does not require assigning rights exclusively to a single individual device or user; and even if claim 1 required assigning access rights to an individual device/user, Sheha renders this obvious because POSAs would have known that "defin[ing] a group" (Sheha, 11:63-65) can include defining a group having only one member

and, alternatively, allowing a user to assign access rights to individuals would have been an obvious variation.

**[0159]** Therefore, it is my opinion that Sheha-Smith-Carey meets Element [1G].

**ix. Element [1H]: transmitting said location information from a server to said first wireless telephonic device;**

**[0160]** Sheha describes that when a wireless device requests the location of another wireless device, the ODAS (“online database and application *server*”) provides the location to the requesting wireless device. Sheha, 7:22-23 (defining the “ODAS” acronym), 10:66-12:7, FIG. 3. For example, the ODAS can request the location from the target wireless device before relaying it to the requesting wireless device, or the wireless devices can update the ODAS with their positions. Sheha, 11:10-51.

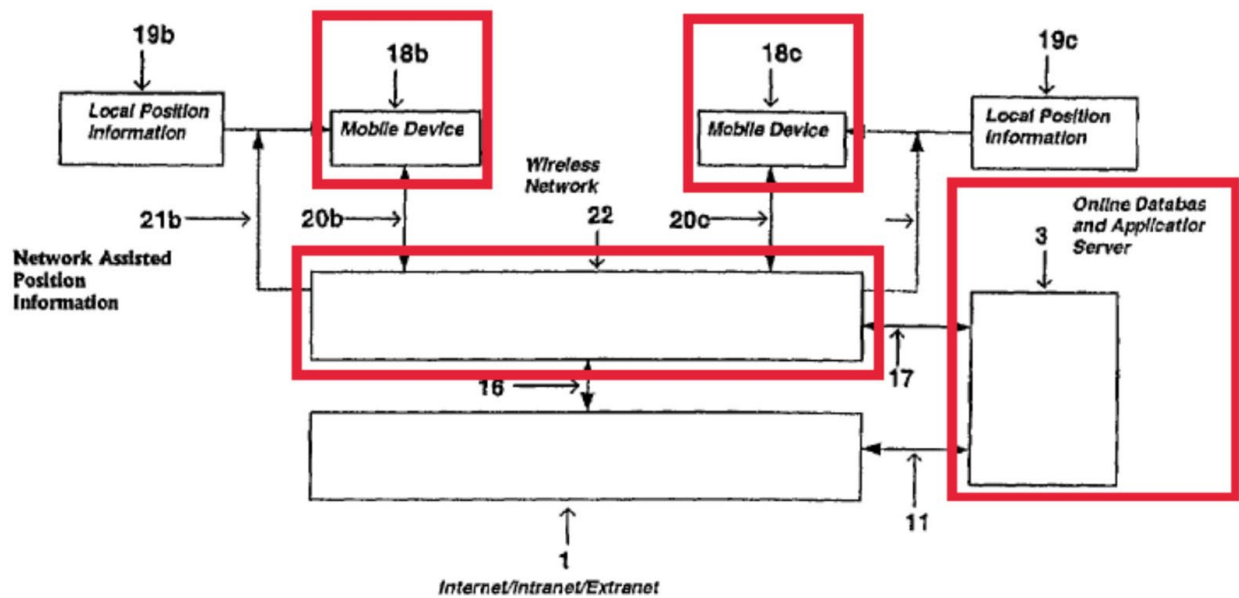


**FIG. 3**

**Sheha, FIG. 3 (annotated)**

[0161] Therefore, it is my opinion that Sheha discloses Element [1H].

**x. Element [1I]: and displaying said location information on said first wireless device.**

[0162] Sheha discloses that its mobile devices can provide or display a map with the location of the target wireless device displayed on that map: “If the mobile telephone is connected to a position determination system, the mobile telephone would be able to provide navigational information, such as route information in the form of real-time driving directions, or else a map and address of the destination telephone number can be displayed on the mobile telephone.”

Sheha, 4:22-26, 4:52-58, 9:23-39, FIG. 5 (which I have annotated below identifying labels 33 and 34).

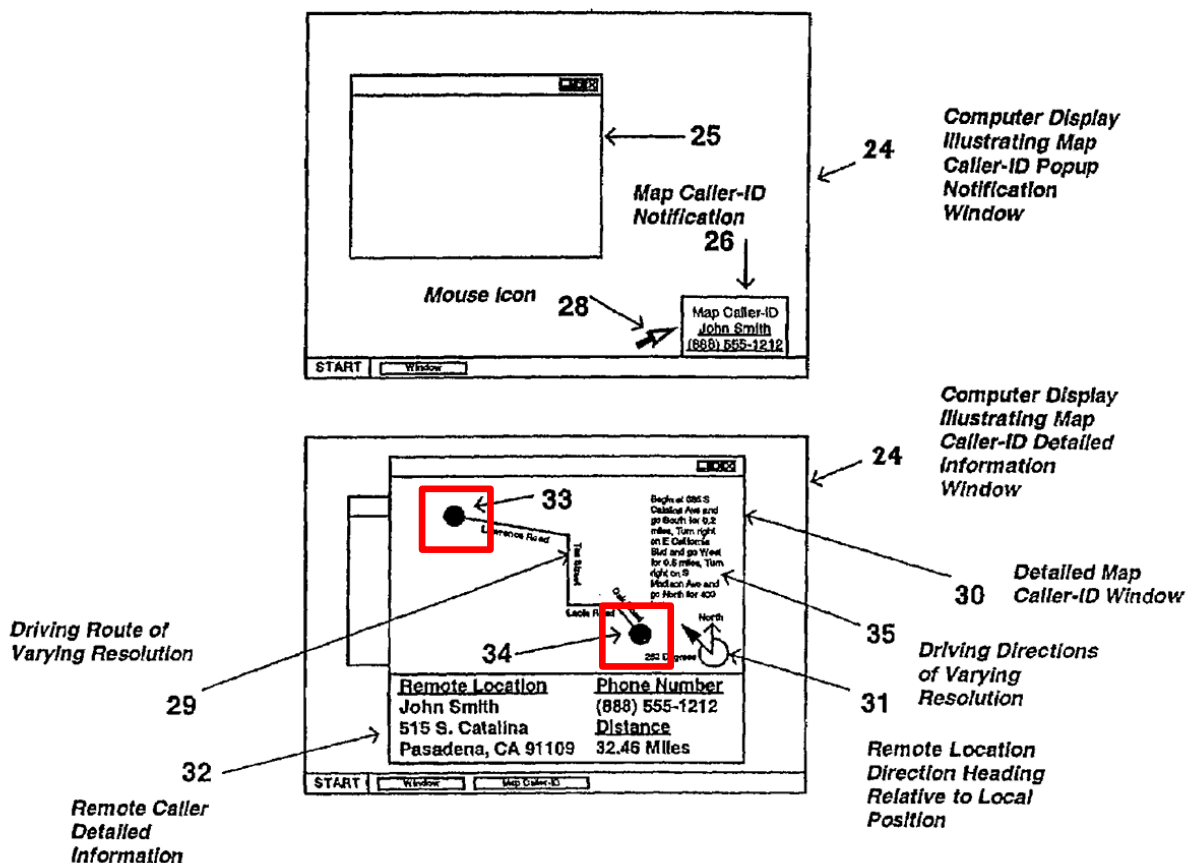


**FIG. 5**

Sheha, FIG. 5 (annotated)

[0163] Further, Sheha discloses that both the requesting and the target mobile device can display maps showing the locations of both devices. Sheha, 4:52-58, 11:10-51. While I understand that Sheha's Figure 5 and 4:43-58 are

presented in the context of examples involving a landline-to-mobile example, a POSA would have understood that they also equally apply in the mobile-to-mobile context. Sheha, 4:13-18, 4:52-58. That disclosure equally applies in the mobile-to-mobile context because Sheha explains it is “similar to a landline-to-mobile application.” Sheha, 4:59-5:11, 4:13-18; *see also id.*, 4:52-58, 11:36-12:7. In addition, Sheha also discloses that both the requesting and the target mobile device can display maps with respect to the positions of both device and showing the locations of both devices. Sheha, 4:52-58, 11:10-51. *See also* Sheha, 11:42-44 (“both the originating and destination mobile device receive the Map”). Moreover, as I discuss below with corroboration (*infra* §VIII.A.5.h.vii), even if Sheha did not itself expressly acknowledge it, implementing Sheha to display location information on a mobile device (e.g., using a map on the requesting wireless device with a marker representative of the location of the target wireless device) would have been an obvious variation in view of POSAs’ background knowledge of that convenient option and a POSA’s reasonable expectation of success in doing so.

**[0164]**        Thus, it is my opinion that Sheha-Smith-Carey meets Element [1I].

- b. **Claim 2: The method of claim 1, wherein a positioning system is utilized to provide said location information.**

[0165] Sheha discloses that the wireless devices in its network can determine their own locations using GPS (“Global *Positioning System*”). Sheha, 1:35-38, 10:5-16. Sheha also describes the use of other network-assisted approaches in which the network determines the location of the wireless devices, or combinations of GPS and network assisted approaches. Sheha, 10:5-16.

[0166] Thus, it is my opinion that Sheha-Smith-Carey meets claim 2.

- c. **Claim 6: The method of claim 1, further comprising receiving a third manual input, wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device and said third manual input modifies said location access rights.**

[0167] Sheha teaches that a mobile device can “terminate” the location access of another mobile device “abruptly due to manual intervention” (i.e., a third manual input), which meets claim 6. Sheha, 5:14-15, 5:34-38.

[0168] Additionally, as I discussed above with respect to Elements [1D]-[1G] (§§VIII.A.5.a.v- VIII.A.5.a.viii), Sheha discloses that a user may assign location access rights using their wireless device. Because Sheha allows a user to assign location access rights, a POSA understands that a user can also modify previously assigned access rights. For example, a user could revoke another user’s

access rights. In addition, because Sheha describes that different types of access rights may be granted, a POSA understands that a user can change the type of access right granted to another user. Sheha, 5:38-46. In a system like Sheha's, where access rights are fundamental to whether a requesting user can obtain location information or not, Sheha's system would naturally allow a user to make modifications to previously granted access rights to enable a user to control access to their location information.

**[0169]** Further, as I discussed above with respect to Elements [1D]-[1F] (§§VIII.A.5.a.v- VIII.A.5.a.vii), Sheha discloses that users may identify authorized users to the Sheha system. As I discussed above with respect to Element [1A] (§VIII.A.5.a.ii), it would have been obvious to use conventional contact list functionality, such as shown in Smith. Smith, 5:15-18, 9:42-55, FIGS. 15A-15B. For example, Smith describes that a user may make changes to contacts within their contact list using manual inputs, such as to add phone numbers, email addresses, or other information. Smith, 10:7-16, 6:53-6:61. Sheha similarly provides manual input devices, like numeric and alphanumeric keys, which a user would expect to use to grant or modify access rights, to specify which users are authorized to obtain permission information. Sheha, 2:64-3:3, 5:14-38, 4:58-5:20; 11:55-12:7. The contact list is where a user would expect to find information about different contacts, and would expect to be make changes to privacy settings

with respect to those contacts using the contact list. It would have been obvious to allow a user to modify which users are able to access its location using the numeric or alphanumeric buttons on the Sheha mobile device to ensure that the user has control over their privacy permissions. Sheha, 2:64-3:3, 5:14-38; *see also supra* §VIII.A.4. Further, it would have been obvious to provide such functionality after selecting a user in a contact list. *See also supra* § VIII.A.4. This is because the contact list is where aggregated information about other users is accessed, which a POSA would expect to also include privacy permissions establishing whether a particular user can access location information. *See also supra* § VIII.A.4.

[0170] Thus, it is my opinion that Sheha-Smith-Carey meets claim 6.

**d. Claim 7: The method of claim 1, wherein a triangulation process is utilized to provide said location information.**

[0171] As I discussed above with respect to claim 2 (§VIII.A.5.b), Sheha uses GPS to provide said location information. POSAs would have known that GPS uses *a triangulation process* as claimed and discussed in the '283 patent. The '283 patent corroborates this knowledge because the '283 patent's only mention of "triangulation" admits that it was "background" knowledge that GPS uses it. EX1001, 1:14-28. My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0172] For example, Sandhu (EX1016) describes that a position of a receiver is determined using triangulation. Sandhu, [0004] (“A **GPS** receiver retrieves the positioning information from the GPS satellites and **triangulates the information** to obtain the position of the receiver.”), [0020] (“Processor 16-i **uses triangulation to convert the GPS code sequences to preliminary location data**”).

[0173] In another example, Thomas (EX1019) describes using GPS to determine a location of a mobile unit by obtaining “distances [of the mobile unit] to a plurality of global positioning satellites or can be a determined location from processing of the distances.” Thomas, 3:26-29. POSAs would have understood that determining a location using distances from a mobile unit to a plurality of global positioning satellites would have been performed using the type of triangulation discussed and claimed in the ’283 patent, as discussed above in Sandhu. Sandhu, [0004], [0020].

[0174] As another example, Murphy (EX1020) discloses that GPS uses “multiple satellites [to] transmit position and time information which is ... processed to determine the time and location at the user station.” Murphy, 1:9-13. As I noted above, POSAs would understand that processing would include the type of triangulation discussed and claimed in the ’283 patent, as discussed above in Sandhu.

[0175] As another example, Divakaruni (EX1021) discusses as background information that GPS receivers receive transmissions from multiple satellites from which location information is computed “using known **triangulation** techniques.” Divakaruni, 1:29-59.

[0176] Alternatively, Sheha’s mobile devices may use “network-assisted position information” such as “Time-Of-Arrival (TOA) algorithm techniques” (Sheha, 10:5-16), and it was a well-known, obvious design choice to use those or another type of *triangulation process* as an alternative to (and/or in addition to) GPS to provide the *location information* Sheha provides, as demonstrated below.

[0177] My testimony regarding the POSA’s background knowledge in this regard is corroborated, for example, by Enzmann (EX1034), which discloses a “location query service for use with a wireless network that tracks the location of network devices” and “provides requestors with the locations” of a target network user’s wireless devices. Enzmann, 2:13-41. Enzmann corroborates that it was “background” knowledge that “[u]nder the FCC rules,” “wireless network and wireless handheld devices will provide the location of callers using a network-based location system (**e.g., triangulation**), **global positioning systems (GPSs)** within the handheld devices, or a combination of the two systems.” Enzmann, 1:30-40. Enzmann relies on conventional “methods of determining location as part

of the wireless network” using, for example, “**triangulation** across cell sites or cell sectors” or “**GPS**.” Enzmann, 4:25-38, 5:13-20 (“locating mechanism...determines locations of network devices 104 using various technologies (e.g., **GPS**, **triangulation**, radio signal delay, and cell sector) and combinations thereof.”).

[0178] As another example, Degnbol (EX1035) discloses a system for transmitting data between wireless communication units and determining “the position of one or more units” using conventional positioning techniques, “such as **triangulation methods**, **GPS**, AOA, TDOA,” etc. Degnbol, 5:7-11. *See also* Degnbol, 27:18-19 (claiming “determination of the positions of one or more units” using “a triangulation method”), 31:1-2 (same).

[0179] And because using triangulation techniques was well-established and common in the prior art, as demonstrated above, a POSA would have had a reasonable expectation of success incorporating those techniques in a system like Sheha’s.

**e. Claim 8**

[0180] As explained in this section below, in my opinion a POSA would have understood that the Sheha-Smith-Carey Combination meets all limitations of claim 8 of the ’283 patent, and therefore renders claim 8 obvious.

**i. Preamble [8PRE]: A method comprising:**

**[0181]** Like claim 1, claim 8’s preamble only recites “A method comprising.” *See supra* §VIII.A.5.a.i. Thus, Sheha meets [8PRE] for the same reasons I discussed in relation to [1PRE] (*see supra* §VIII.A.5.a.i). As with claim 1, I understand that the preamble is not necessarily limiting. In this case, whether or not it is limiting does not affect my opinion as Sheha discloses the preamble. Claim 8 recites a method that includes essentially the same limitations as recited in claim 1. Thus, it is my opinion that claim 8 is obvious essentially for the reasons given above with respect to claim 1 (*see supra* §§VIII.A.5.a).

**ii. Element [8A]: displaying on a wireless device a first name associated to a first wireless telephonic device and a second name associated to a second wireless telephonic device;**

**[0182]** It is my opinion that Element [8A] is obvious for the same reasons discussed above with respect to Element [1A] (§VIII.A.5.a.ii). While Element [1A] recites “displaying on a first wireless telephonic device a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices,” Element [8A] specifically identifies a first user and a second user, rather than generally referring to a “plurality of users.” Element [8A] also specifically recites displaying names of the first and second users. My discussion above with respect to Element [1A] includes a contact list that displays names of a plurality of users. Thus, it is my opinion that Sheha-

Smith-Carey meets Element [8A] for the same reasons Sheha-Smith-Carey meets Element [1A], as discussed above (§VIII.A.5.a.ii).

**iii. Element [8B]: accepting a selection of said first name on said wireless device;**

**[0183]** While Element [1B] recites “receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users,” Element [8B] recites accepting that selection on the wireless device. Thus, it is my opinion that Sheha-Smith-Carey meets Element [8B] for the same reasons Sheha-Smith-Carey meets Element [1B], as discussed above (§VIII.A.5.a.iii).

**iv. Element [8C]: receiving manual input entered into said wireless device that includes a login and a password;**

**[0184]** Element [1C] recites “receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password,” while Element [8C] only recites generically “receiving manual input ... that includes a login and password.” Because Element [1C] is more specific than Element [8C], and because Element [1C] is met as discussed above, it is my opinion Sheha-Smith-Carey meets Element [8C] for the same reasons Sheha-Smith-Carey meets Element [1C], as discussed above (§VIII.A.5.a.iv).

**v. Element [8D]: determining whether to transmit location information associated to said first wireless telephonic device from a server to said wireless device,**

**[0185]** Both Elements [1D] and [8D] involve conditionally accessing or transmitting location information based on a determination. And while Element [8D] recites a server, which Element [1D] does not address, Sheha describes such a server that transmits the location information associated with a wireless device to other wireless devices (e.g., the ODAS - “online database and application *server*”), as I discussed above for Element [1H] (§VIII.A.5.a.ix). *See, e.g.*, Sheha, 7:22-23, 10:66-12:7, FIGs. 1-3. Therefore, it is my opinion that Sheha-Smith-Carey meets Element [8D] for the same reasons discussed above that Sheha-Smith-Carey meets Element [1D] (§VIII.A.5.a.v) and Element [1H] (§VIII.A.5.a.ix).

**vi. Element [8E]: wherein said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device**

**[0186]** Element [1E] recites “wherein said determination includes identifying...using said login and determining said password is associated with said login” while Element [8E] recites generically “wherein said determining includes performing an identification process....” Because Element [1E] is more specific than Element [8E], and because Element [1E] is met as discussed above, it is my opinion that Sheha-Smith-Carey meets Element [8E] for the same reasons Sheha-Smith-Carey meets Element [1E], as discussed above (§VIII.A.5.a.vi).

- vii. Element [8F]: and determining whether said first wireless telephonic device has provided access rights for said location information for said identified user**

**[0187]** Element [8F] recites substantially the same functionality as recited in Element [1F] but refers to “*said first wireless telephonic device*” and “*said identified user*” rather than “*one of said plurality of users*” and “*said user of said first wireless telephonic device.*” Thus, it is my opinion that Sheha-Smith-Carey meets Element [8F] for the same reasons Sheha-Smith-Carey meets Element [1F], as discussed above (§VIII.A.5.a.vii).

- viii. Element [8G]: and said server is located remotely from said wireless device, said first wireless telephonic device, and said second wireless telephonic device,**

**[0188]** While Element [8G] recites the location of a server, which claim 1 does not recite, Sheha’s ODAS (“*said server*”) is located remote across network 22 from the wireless devices operating in the Sheha system. *See, e.g.,* Sheha, FIGs. 1-3, Abstract, 10:66-11:51. Thus, it is my opinion that Sheha-Smith-Carey meets Element [8G].

- ix. Element [8H]: and said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device;**

**[0189]** Element [8H] recites substantially the same functionality as recited in Element [1G] but refers to “*said wireless device*” and “*said first wireless*

*telephonic device*” rather than “*said first wireless telephonic device*” and “*said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users.*” Thus, it is my opinion that Sheha-Smith-Carey meets Element [8H] for the same reasons Sheha-Smith-Carey meets Element [1G], as discussed above (§VIII.A.5.a.viii).

**x. Element [8I]: transmitting said location information to said wireless device based on said determination;**

**[0190]** Element [8I] recites substantially the same functionality as recited in Element [1H] except [8I] does not itself recite that a server transmits the location information (Element [8D] recites transmitting location information from a server). Thus, it is my opinion that Sheha-Smith-Carey meets Element [8I] for the same reasons Sheha-Smith-Carey meets Element [1H], as discussed above (§VIII.A.5.a.ix).

**xi. Element [8J]: and displaying said location information on said wireless device.**

**[0191]** Element [8J] recites substantially the same functionality as recited in Element [1I] but refers to “*said wireless device*” rather than “*said first wireless device.*” Thus, it is my opinion that Sheha-Smith-Carey meets Element [8J] for the same reasons Sheha-Smith-Carey meets Element [1I], as discussed above (§VIII.A.5.a.x).

- f. Claim 9: The method of claim 8, wherein a positioning system is utilized to provide said location information.**

**[0192]** Claim 9 recites substantially the same functionality as recited in claim 2. Thus, it is my opinion that Sheha-Smith-Carey renders claim 9 obvious for the same reasons Sheha-Smith-Carey renders claim 2 obvious, as discussed above (§VIII.A.5.b).

- g. Claim 13: The method of claim 8, further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device and said third manual input modifies said location access rights.**

**[0193]** Claim 13 recites substantially the same functionality as recited in claim 6 but refers to “*said wireless device*” and “*said first wireless telephonic device*” rather than “*said first wireless telephonic device*” and “*said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users.*” Thus, it is my opinion that Sheha-Smith-Carey renders claim 13 obvious for the same reasons Sheha-Smith-Carey renders claim 6 obvious, as discussed above (§VIII.A.5.c).

- h. Claim 15**

- i. Preamble [15PRE]: A method comprising:**

**[0194]** Like claim 1, claim 15’s preamble only recites “A method comprising.” As with claim 1, I understand that the preamble is not necessarily

limiting. In this case, whether or not it is limiting does not affect my opinion as Sheha discloses the preamble. Claim 15 recites a method that includes essentially the same limitations as recited in claim 1. Thus, Sheha meets [15PRE] for the same reasons I discussed in relation to [1PRE] (*see supra* §VIII.A.5.a.i). As explained in this section below, in my opinion a POSA would have understood that the Sheha-Smith-Carey combination meets all limitations of claim 15 of the '283 patent, and therefore renders claim 15 obvious.

**ii. Element [15A]: accepting on a first wireless device a manual selection representative of a second wireless device from a list representative of a plurality of wireless devices;**

[0195] Element [15A] recites substantially the same functionality recited in Elements [1A] (which recites “displaying on a first wireless telephonic device *a plurality of users, wherein each one ... is associated to a different one of a plurality of wireless telephonic devices*”) and [1B] (which recites “*receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users*”). Thus, it is my opinion that Sheha-Smith-Carey meets Element [15A] for the same reasons Sheha-Smith-Carey meets Elements [1A]-[1B], as discussed above (§§VIII.A.5.a.ii-VIII.A.5.a.iii).

**iii. Element [15B]: locating said second wireless device;**

[0196] Sheha discloses a system that employs wireless devices whose locations can be determined and provided to a remote system. Sheha, Abstract,

10:66-11:9. In Sheha, when one wireless device submits a request for the location of another wireless device, the ODAS determines the location of the other wireless device, which may have already been received or determined. Sheha, 10:5-16, 10:66-11:7. It may do so by sending a request to the wireless device for its location or retrieving a location for the wireless device from memory. Sheha, 10:66-11:51.

**[0197]** A mobile-to-mobile configuration is illustrated in Figure 3, where both mobile devices 18b-18c communicate with the wireless network 22 via their respective wireless connections 20b-20c. Moreover, both devices determine and provide their locations to the ODAS, or Sheha can use network-assisted location techniques to locate the devices. Sheha, 10:5-16, 10:66-11:51.

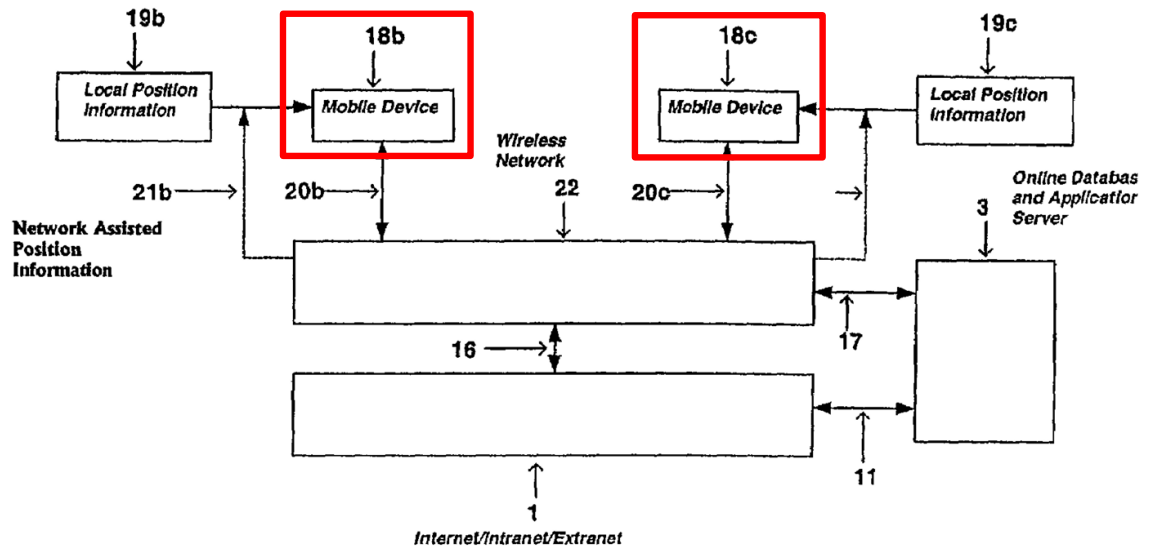


**FIG. 3**

Sheha, FIG. 3 (annotated)

[0198] Thus, it is my opinion that Sheha-Smith-Carey meets Element [15B].

- iv. **Element [15C]: determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login, that identifies the user of said first wireless device from a plurality of users, and password received by said first wireless device that is associated with said login and determining whether said user is associated with said permission,**

[0199] Element [15C] recites substantially the same functionality collectively recited in Elements [1C] (“***receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password***”), [1D] (“***determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users***”), [1E] (“***wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login***”), and [1F] (“***determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device***”). For the reasons discussed above for [1C]-[1F] (§§VIII.A.5.a.iv-VIII.A.5.a.vii), the ODAS (*server*) in Sheha performs the “*determining*” recited in Element [15C]. Thus, it is my opinion that Sheha-Smith-Carey meets Element [15C] for the same reasons Sheha-Smith-Carey meets Elements [1C]-[1F], as discussed above (§§VIII.A.5.a.iv-VIII.A.5.a.vii).

- v. **Element [15D]: and said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device;**

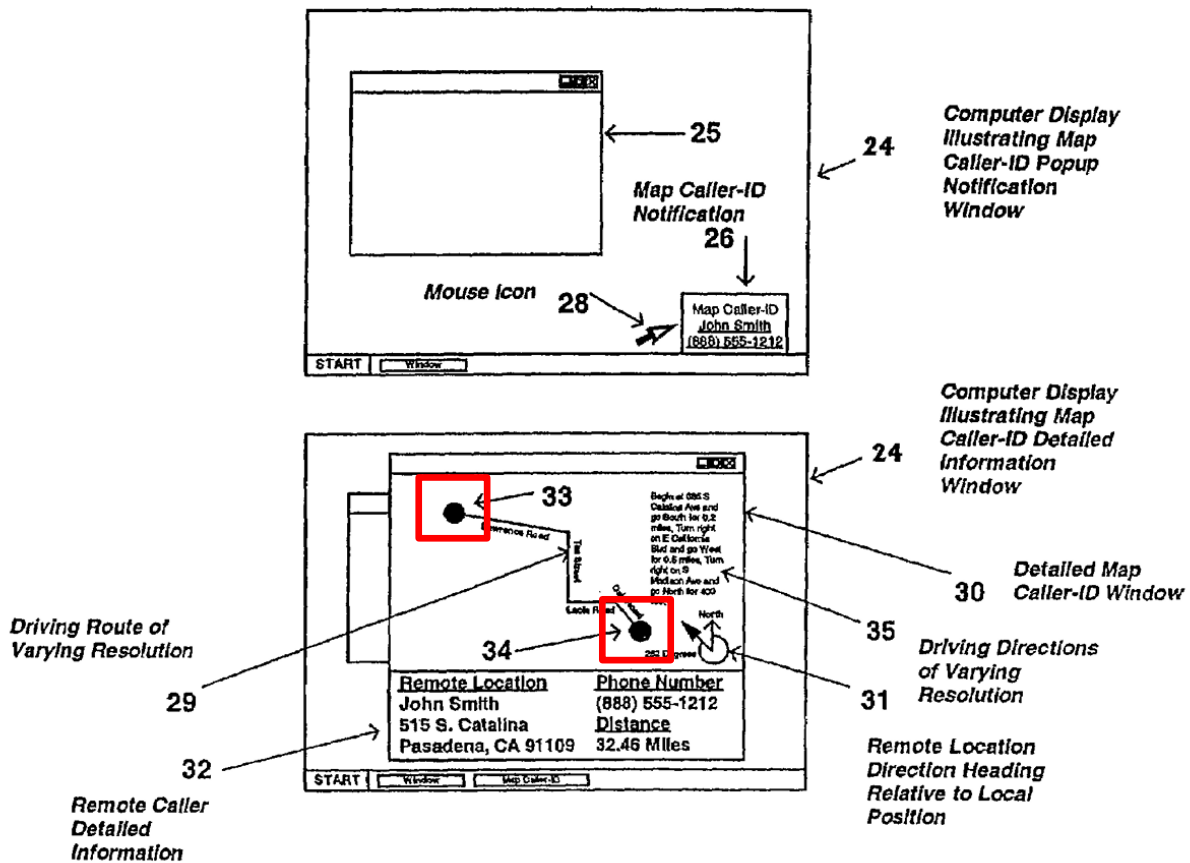
[0200] Element [15D] recites substantially the same functionality recited in Element [1G] but recites “*said first wireless device*,” “*said second wireless device*,” and “*second permissions ... for obtaining second location information*” rather than “*said first wireless telephone device*,” “*said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users*,” and “*location access rights ... for obtaining a location*.” Thus, it is my opinion that Sheha-Smith-Carey meets Element [15D] for the same reasons Sheha-Smith-Carey meets Element [1G], as discussed above (§VIII.A.5.a.viii).

- vi. **Element [15E]: providing location information to said first wireless device based on said determination;**

[0201] Element [15E] recites substantially the same functionality recited in Element [1H]. *See also supra* §VIII.A.5.h.iv ([15C], discussing the “*determin[ation] by a server*” upon which providing the location information is based). Thus, it is my opinion that Sheha-Smith-Carey meets Element [15E] for the same reasons Sheha-Smith-Carey meets Element [1H], as discussed above (§VIII.A.5.a.ix).

**vii. Element [15F]: and displaying a map on said first wireless device with a marker representative of the location of said second wireless device.**

**[0202]** Element [15F] recites substantially the same limitations as Element [1I] (*see supra* §VIII.A.5.a.x), but adds using “*a marker representative of the location of said second wireless device.*” Sheha discloses displaying a “map and address of the destination telephone number...on the mobile telephone,” and teaches that such a map can include a marker representative of a location of another wireless device, such as shown in Figure 5. Sheha, 4:52-58, 6:51-56 (“FIG. 5. illustrates an example of a Map Caller-ID indicator and a display window detailing a plurality of various possible features utilizing the position and/or address location information of the remote caller and local device or person that is called.”), 9:23-39 (map displays “map location 33 of the caller” and “map location 34 of the destination telephone number”), FIG. 5 (annotated below to identify the markers representing locations 33 and 34 of both devices).



[0203] I have been advised by counsel that Mullen argued in a prior proceeding that Sheha’s “map” displayed “on the mobile telephone” at 4:52-58 is somehow not a graphical map like FIG. 5 and cannot be received without a phone call. It is my opinion that these assertions were wrong. FIG. 5 is the only type of “map and address” (Sheha, 4:52-58) display illustrated in Sheha, and a POSA

would have understood that nothing in Sheha suggests that the “map” discussed at 4:52-58 would be anything other than graphical. While Sheha (12:8-41) explains that *some* embodiments use an “accompanying device” that “is better suited for navigational displays and computations” than a “typical mobile navigational device” which may be “not optimal for navigational purposes,” *other* embodiments can still display the “map...on the mobile telephone” as discussed at 4:52-58 of Sheha. And Sheha teaches that the no-call embodiment only differs from the phone-call embodiment in how the device “request[s] position information” (Sheha, 11:55-12:7), not in how that information is displayed.

**[0204]** Alternatively, even if Sheha did not itself expressly acknowledge it, implementing Sheha to display a map on the requesting wireless device with a marker representative of the location of the target wireless device would have been an obvious variation in view of POSAs’ background knowledge of that convenient option and a POSA’s reasonable expectation of success in doing so. For example, compared to a textual description of a location, displaying a location marker would typically consume less screen real estate, which was a finite resource on some mobile devices, thus motivating POSAs to display a location marker. My testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

**[0205]** Randall (EX1007) describes an application for mobile devices (e.g., “radio telephones, smart phones,” Randall, [0002]) in which a user’s friends or parents can track the user by “add[ing] a ‘map’ application to their own devices, which could show their position on digital maps and also, by using the location attribute of the user’s data object, it could also show the position of the user.” Randall, [0021], p. 85.

**[0206]** Sandhu (EX1016) concerns mobile units (e.g., PDAs, wireless phones, mobile units, Sandhu, Abstract) and describes “provid[ing] user 14-i [using mobile unit 10-i] with a map showing the location of user 14-2 relative to the location of user 14-i.” Sandhu, [0027].

**[0207]** Wollrab (EX1014) describes “translat[ing] remote sensing location coordinates into a graphic map image, e.g. a .jpg or .gif file, depicting the relative locations of all members/PDA devices within a family.” Wollrab, 3:28-31. For example, mobile devices like “PDA device 14-1 through 14-5 can display a map image via display device 15-5 through 15-5 depicting the relative locations of all members/PDA devices within a family. Wollrab, 4:43-58. The maps and location markers for different users displayed on a PDA device are illustrated, for example, in Wollrab’s FIG. 4B. *See also* Wollrab, FIGs. 1-4C.

**[0208]** Grube (EX1017) describes displaying, on mobile devices (Grube, 4:38-57, 5:13-17), maps of tracked vehicles, and the maps displaying icons

to represent the current locations of the tracked vehicles. Grube, 6:59-7:6, *see also* Grube, 6:14-27. Grube's FIG. 2, for example, "shown an example map display that may be provided to a user of a communication unit" that shows the "the current location of" vehicles "by respective vehicle icons." Grube, 6:59-65.

**[0209]** Meadows (EX1018) describes "monitoring the geographical location of a subscriber's mobile cellular telephone, and for providing the location information to an authorized user through the world wide web." Meadows, 2:2-7. The authorized user can access the location information through various media including a "wireless handheld device 20b." Meadows, 3:59-67. Meadows describes the location information can be displayed on a map. Meadows, 5:48-57, FIG. 4B.

**[0210]** Thus, the above references corroborate my opinion that displaying a map on the requesting wireless device with a marker representative of the location of the target wireless device was within a POSAs' background knowledge and that a POSA's reasonable expectation of success in doing so in Sheha-Smith-Carey.

**[0211]** Thus, it is my opinion that Sheha meets Element [15F] for the same reasons given above with respect to Element [1I] (§VIII.A.5.a.x) and the reasons given above in this section.

- i. **Claim 16: The method of claim 15, wherein a positioning system is utilized to provide said location information.**

[0212] Claim 16 recites substantially the same limitations as claim 2.

Thus, it is my opinion that Sheha-Smith-Carey renders claim 16 obvious for the same reasons Sheha-Smith-Carey renders claim 2 obvious, as discussed above (§VIII.A.5.b).

- j. **Claim 17: The method of claim 15, wherein said password is received on a first display screen.**

[0213] As discussed above with respect to Element [1C]

(§VIII.A.5.a.iv), Sheha discloses that “every telephone account user has a username and password for the ODAS 3” and that the ODAS verifies that users are signed on to access various available services using authorization and authentication protocols. Sheha, 8:40-53; *see also* Sheha, 11:55-12:7. Moreover, it was conventional before the priority date of the '283 Patent to manually enter a login and password, including as shown in Figure 8 and described in the corresponding description of Carey. Carey, 7:67-8:10.

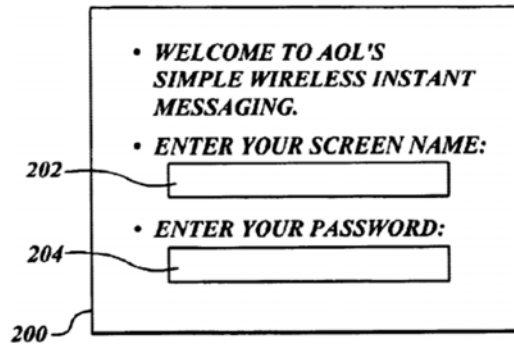


*Fig. 8*

Carey, FIG. 8

[0214] As illustrated above, Carey's *password is received on a first display screen*. Carey, FIG. 8. Thus, a POSA had reason to include such a display screen to enable a user of Sheha's system to input their username and password. *See supra* §VIII.A.4.

[0215] Thus, it is my opinion that Sheha-Smith-Carey meets claim 17.

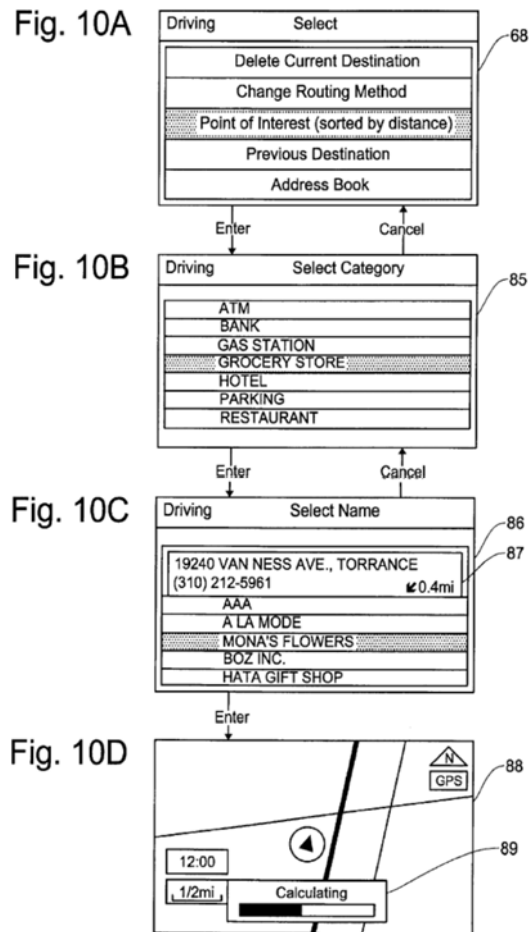
**B. Ground 2: Claims 3-5, 10-12, 14, 19, and 20 Would Have Been Obvious over Sheha in View of Smith, Carey, and Wako**

[0216] As explained in this section below, in my opinion claims 3-5, 10-12, 14, 19, and 20 of the '283 patent would have been obvious to a POSA in view of the combined teachings of Sheha (EX1005), Smith (EX1023), Carey (EX1024), and Wako (EX1025).

[0217] Above, I provided discussions of Sheha (§VIII.A.1), Smith (§VIII.A.2), and Carey (§VIII.A.3).

## **1. Discussion of Wako (EX1025)**

**[0218]** Wako discloses a navigation system for displaying information necessary for guiding a driver of a vehicle. Wako, Abstract. The Wako system allows a user to select a desired destination in numerous ways, including by selecting predetermined points of interest or addresses saved in an address book. Wako, 10:28-13:14, FIGs. 10A-D (copied below), FIGs. 11A-C, FIGs. 12A-C. Wako illustrates conventional user interface screens desirable in a navigation system for receiving the user's selections, processing to obtain the requested information, and displaying maps, routes, and other useful navigation information. Wako, FIGs. 5-12.



**Wako, FIGs. 10A-D.**

## 2. Discussion of Sheha-Smith-Carey-Wako Combination

[0219] Sheha allows a user to submit requests for location information and receive a response, and thus would have included a user interface including display screens to provide requests for information to the user and output any responses. In addition, other user interface features were typical before the priority dates of the '283 Patent. For example, it was (and remains) common practice to provide a display screen while a request is pending to inform the user that a request is being processed. This can ensure that the user is aware that action is being

taken, but has not yet completed. A POSA familiar with Wako would have been motivated to incorporate display screens from Wako that show a route being calculated and to adapt them to indicate that a mobile device is being located. *See, e.g., Wako, FIG. 12c.*

**[0220]** Similarly, users of the Sheha system would have expected typical GUI options to make selections of functionality provided by those systems. Thus, a POSA would have been motivated to provide GUI options in the Sheha system, such as those shown in Wako, to allow a user to select an option to obtain a route to a received location. *See, e.g., Wako, FIG. 12B.* Sheha provides an explicit discussion about using one of its wireless telephones to obtain “driving directions” while traveling in a vehicle, which are navigation capabilities such as described in Wako. *See, e.g., Sheha, 3:29-49.* Thus, after requesting another wireless device’s location, a user would need an option to obtain a route to reach that location to make use of the Sheha navigational functionality. Sheha thus provides an explicit motivation to look to navigation systems like Wako’s for a user interface and a user of Sheha’s system would expect to have a user interface option to obtain a route to a requested location, such as shown in Wako. A POSA would have had a reasonable expectation of success in adding such an option because it would have been a typical user interface option in a navigation system to

provide navigation system functionality (such as requesting a route to a specified location) and a relatively simple programming task to add.

**3. Mapping of Sheha-Smith-Carey-Wako Combination to Claims 3-5, 10-12, 14, 19, and 20**

**[0221]** As explained in this section below, in my opinion a POSA would have understood that the Sheha-Smith-Carey-Wako Combination meets all limitations of claims 3-5, 10-12, 14, 19, and 20 of the '283 patent, and therefore renders those claims obvious.

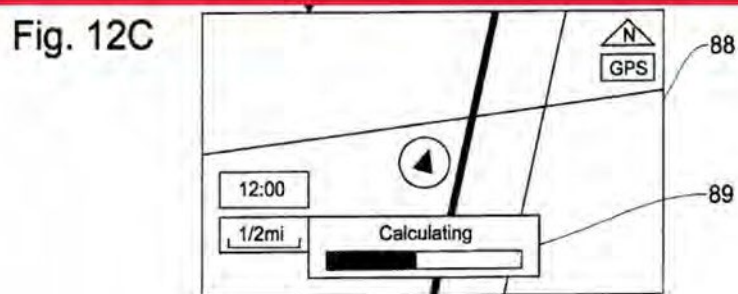
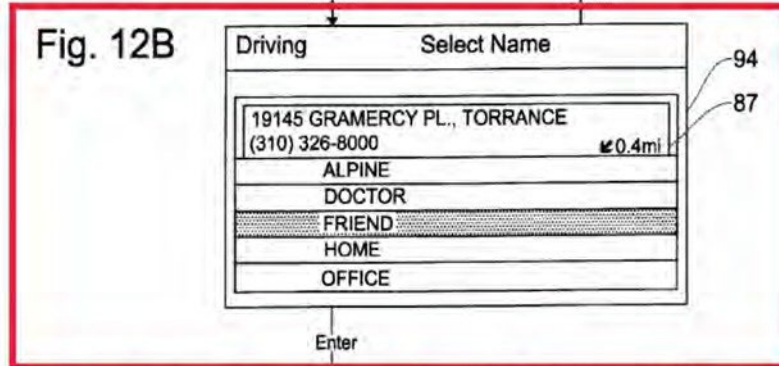
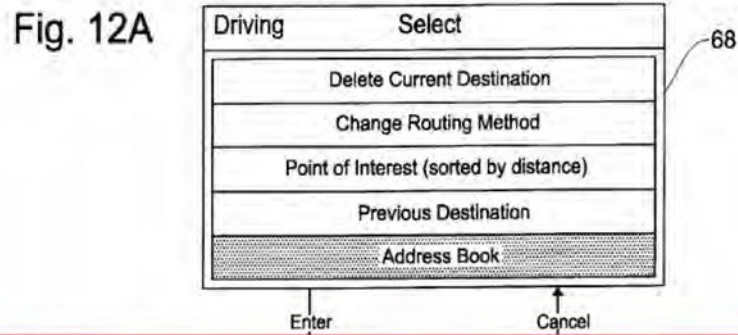
**a. Claim 3: The method of claim 1, wherein said selection occurs on a first display screen and a second display screen is provided on said first wireless telephonic device during said determination.**

**[0222]** As I discussed above with respect to Element [1A] (§VIII.A.5.a.ii), Sheha and Smith describe the use of contact lists that a user of a wireless device can use to select a particular contact to obtain location for a particular other user's wireless device. For example, Smith provides an example of a conventional contact list where a user may select a contact, which is provided in a first display screen. Smith, FIG. 15A. In addition, it was standard practice before the priority date for the '283 Patent to provide a user with some indication that a request issued by the user is being processed. This was commonly done by displaying an entirely different screen to the user or by presenting information overlaid on the display screen where the user issued the request. While I believe

this practice was so routine that no additional proof should be required, I do note that the Wako reference illustrates a typical selection and request operation on one display screen followed by another display screen indicating that the user's request is being processed.

**[0223]** For example, Figure 12B (annotated below) in Wako shows a user selecting, within a GUI, a particular contact (e.g., a friend) whose location they wish to navigate to and to obtain driving directions to the friend's address. Waco, FIG. 12B. Such functionality is also expressly contemplated by Sheha, which explains that "[i]t is a further object of this invention to provide the calculation of position and route information, such as driving directions, as well as the ability to provide azimuth, elevation, altitude, altitude difference, line-of-sight (LOS) distance, and curved earth LOS distance measurements, between the local and remote positions calculated from the position information obtained using the methods previously described." Sheha, 3:29-36.

**[0224]** Wako's Figure 12B shows a display screen for selecting such an option:



### Wako, FIGs. 12A-C (annotated)

[0225] After the user has made their selection, Wako then presents the user with a screen to indicate that a route to the selected location is being calculated, which is a display screen informing the user that a location is being accessed, which is shown in Wako's Figure 12C (annotated below).

Fig. 12A

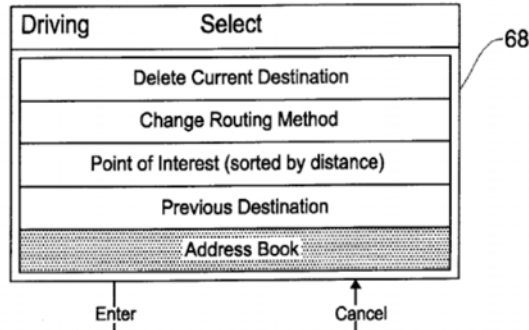


Fig. 12B

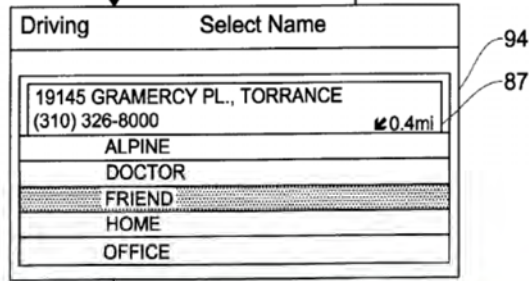
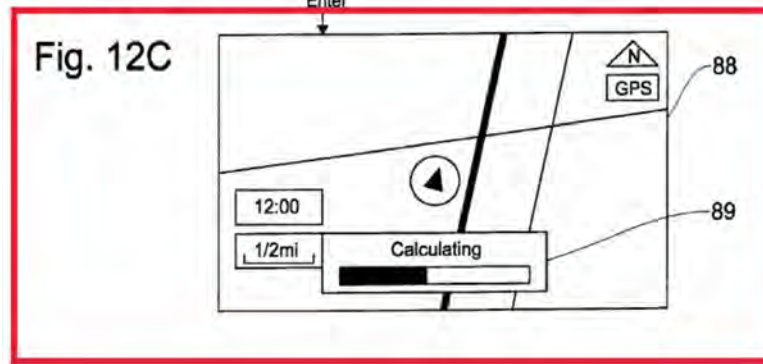


Fig. 12C



### Wako, FIGs. 12A-C (annotated)

[0226] And while Wako is calculating a route, the same technique is equally applicable in the context of requesting a location from a remote device. Each process requires some time for the request to be processed. Thus, a POSA would have had motivation and a reasonable expectation of success to provide a similar *second display screen* (which a POSA would have understood could display “Processing” or “Working” just as easily as display Wako’s “Calculating”), such as described by Wako, *during said determination* of whether the selected

friend's location is accessible—for example, to let the requesting user know that progress is being made and help avoid user impatience, or avoid the user thinking the system had frozen. A *second display screen* like that was routine before the '283 patent was filed, as I explained above. My testimony as to the POSA's background knowledge in this regard is further corroborated by Hoffman (EX1033), which displayed a message on an LCD screen that said "I'm talking to DPC Central" while the user's access rights were being determined. Hoffman, 21:58-61.

[0227] Thus, it is my opinion that, while it is obvious to include a second display screen as recited in claim 3 in the Sheha system based solely on the common knowledge of a POSA before the priority date for the '283 Patent, the combination of Sheha, Smith, Carey, and Wako meets claim 3.

- b. **Claim 4: The method of claim 1, wherein said selection occurs on a first display screen, a second display screen is provided on said first wireless telephonic device during said determination, and a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device.**

[0228] I note the claim 4 recites the same limitations as claim 3, but claim 4 adds "a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device."

For the reasons discussed *supra* §VIII.B.3.a (claim 3), Sheha-Smith-Carey-Wako meets those repeated portions of claim 4.

**[0229]** Regarding the “*third display screen*,” Sheha discloses that it displays requested location information after it is received. Sheha, 4:22-26, 4:52-58, 9:23-39, FIG. 5 (labels 33 and 34). This additional display screen displaying the received location, which occurs after the location information is transmitted to the wireless telephonic device, meets the claimed third display screen. Sheha, 4:52-58. Moreover, it would be obvious to a POSA that, after the requested location information is transmitted to the requesting wireless device, an additional display screen to show the requested location would be presented. Sheha, 4:52-58. A POSA would have been motivated to incorporate such display screens into the Sheha system to provide the typical notification to the user that a request is being processed and then to provide the requested information.

**[0230]** Thus, it is my opinion that Sheha-Smith-Carey-Wako meets claim 4.

- c. **Claim 5: The method of claim 1, wherein said selection occurs on a first display screen, a second display screen is provided on said first wireless telephonic device during said determination, a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device, and a fourth display screen is provided that includes an option to obtain directions from said first wireless telephonic device to said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users.**

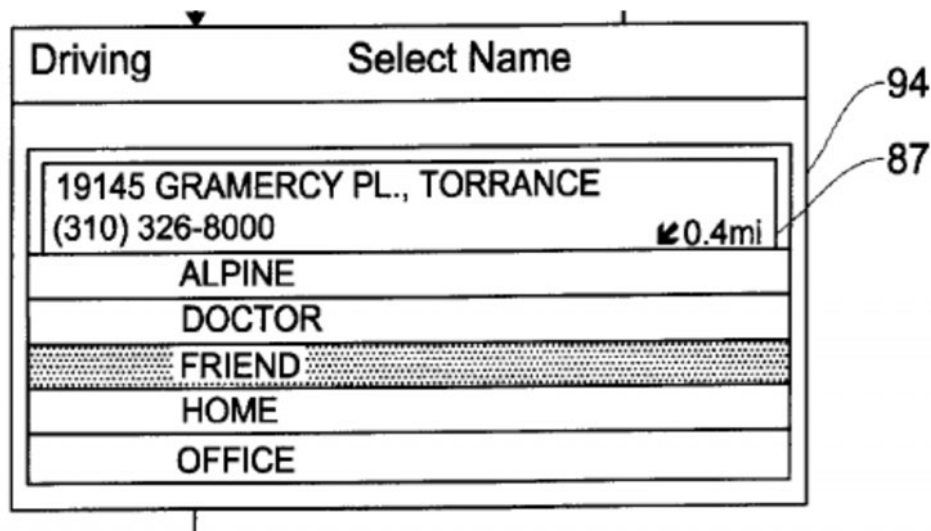
[0231] I note that claim 5 recites the same limitations as claim 4, but claim 5 also recites that “a fourth display screen is provided that includes an option to obtain directions from said first wireless telephonic device to said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users.” For the reasons discussed *supra* §VIII.B.3.b (claim 4), Sheha-Smith-Carey-Wako meets those repeated portions of claim 5.

[0232] Regarding the “*fourth display screen*,” Sheha describes providing a map or a driving route to the received location, such as after a user selects an option to view more detailed information about a user’s location. Sheha, 3:29-36, 4:52-58, 9:10-16, 9:23-39. For example, as I discussed above (§VIII.A.1), Sheha describes that one of its goals is to provide driving directions to the location of another wireless device:

It is a further object of this invention to provide the calculation of position and route information, such as driving directions, as well as the ability to provide

azimuth, elevation, altitude, altitude difference, line-of-sight (LOS) distance, and curved earth LOS distance measurements, between the local and remote positions calculated from the position information obtained using the methods previously described.

Sheha, 3:29-36. One of skill in the art would have recognized that to obtain and display driving directions to the location received from another wireless device as described in Sheha, a user of the wireless device would expect an option to request driving directions. Sheha, 3:29-36, 4:52-58, 9:10-16, 9:23-39. A user would expect an option to obtain a route to a location by interacting with a further display screen after receiving a location, such as disclosed in Wako. Wako, FIG. 12B-C, 12:35-13:37; Sheha, 9:10-16, 9:23-39, 13:32-44. Wako shows a display screen in Figure 12B (below) to request driving directions to a particular location:



**Wako, FIG. 12B**

Wako further teaches to “include[] an information box 78 which shows a distance to the final destination and an anticipated time to reach the final destination” in

“the route guidance screen 76 in FIG. 7.” Wako, 9:8-22. A POSA would have been motivated to combine the teachings of Sheha with Wako to allow the user to make use of the received location for navigation and to estimate both distances to another device and times of arrival. *See also supra* §VIII.B.2 (discussing Sheha-Smith-Carey-Wako combination).

[0233] In my opinion, it would have been obvious to include a further display screen to the wireless devices in Sheha, after showing the requested location, to allow the user to select an option to obtain driving directions from the user’s location to the location of another wireless device, such as the selected wireless device, such as by presenting a display screen as shown in Wako.

[0234] Therefore, it is my opinion that Sheha-Smith-Carey-Wako meets claim 5.

**d. Claim 10: The method of claim 8, wherein said selection occurs on a first display screen and a second display screen is provided on said wireless device during said determination.**

[0235] Claim 10 recites substantially the same functionality as recited in claim 3 but refers to “*said wireless device*” rather than “*said first wireless telephonic device*.” Thus, it is my opinion that Sheha-Smith-Carey-Wako renders claim 10 obvious for the same reasons Sheha-Smith-Carey-Wako renders claim 3 obvious, as discussed above (§VIII.B.3.a).

- e. **Claim 11: The method of claim 8, wherein said selection occurs on a first display screen, a second display screen is provided on said wireless device during said determination, and a third display screen is provided on said wireless device after said location information is transmitted to said wireless device.**

[0236] Claim 11 recites substantially the same functionality as recited in claim 4 but refers to “*said wireless device*” rather than “*said first wireless telephone device*.” Thus, it is my opinion that Sheha-Smith-Carey-Wako renders claim 11 obvious for the same reasons Sheha-Smith-Carey-Wako renders claim 4 obvious, as discussed above (§VIII.B.3.b).

- f. **Claim 12: The method of claim 8, wherein said selection occurs on a first display screen, a second display screen is provided on said wireless device during said determination, a third display screen is provided on said wireless device after said location information is transmitted to said wireless device, and a fourth display screen is provided that includes an option to obtain directions from said wireless telephonic device to said first wireless telephonic device.**

[0237] Claim 12 recites substantially the same functionality as recited in claim 5 but refers to “*said wireless device*” and “*to said wireless telephonic device*” rather than “*said first wireless telephonic device*” and “*to said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users*.” Thus, it is my opinion that Sheha-Smith-Carey-Wako renders

claim 12 obvious for the same reasons Sheha-Smith-Carey-Wako renders claim 5 obvious, as discussed above (§VIII.B.3.c).

- g. Claim 14: The method of claim 3, further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device, said third manual input modifies said location access rights, and determining a travel time between said wireless device and said first wireless telephonic device.**

**[0238]** I note that claim 14 recites the same limitations as recited in claim 13, but claim 14 adds “and determining a travel time between said wireless device and said first wireless telephonic device.” For the reasons discussed *supra* §VIII.A.5.g (claim 13), Sheha-Smith-Carey-Wako meets those repeated portions of claim 14.

**[0239]** As to the “*determining a travel time*,” Sheha discloses determining and displaying routing and driving directions, including determining and displaying real-time driving directions and the distance to the target wireless device. Sheha, 3:29-37, FIG. 5.

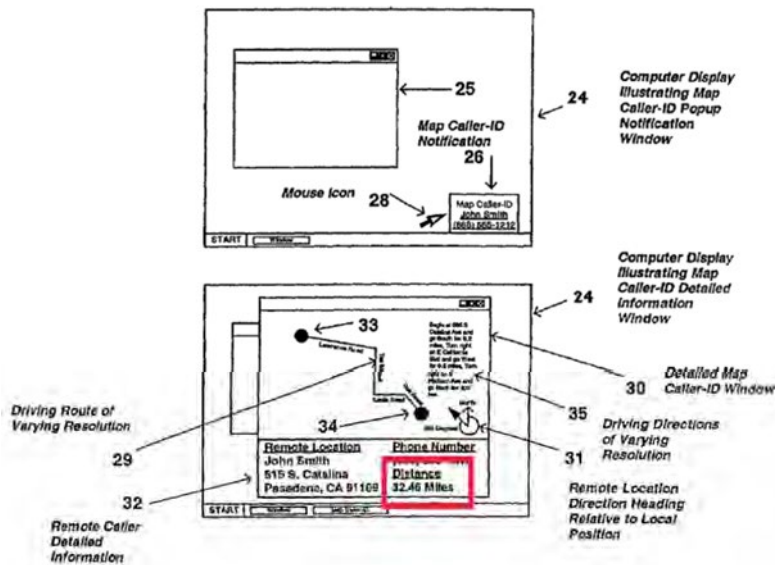


**FIG. 5**

**Sheha, FIG. 5 (annotated)**  
**(showing a distance relative to local position)**

[0240] A POSA would have considered travel time to be an important piece of route information, like distance, before the priority date of the '283 Patent. Indeed, travel time is an important and basic piece of information a person would want to know and would have expected to see when reviewing driving directions and planning to travel to another location. Thus, a POSA would have been motivated to incorporate determining a travel time along a route to a destination into Sheha's system to provide more fulsome travel information to a user.

[0241] For example, a POSA would have looked to Wako, which shows a prior art system that determines an estimated time to reach a final

destination. Wako, FIG. 1B. The Wako system itself determines a travel time along a particular route, such as when it described that a “route to the destination may be determined based on, for example, whether it requires the shortest time, it includes many freeways as possible, or it includes few toll roads as possible, or the like.”

Wako, 11:56-60. Determining a route that requires the shortest time involves determining a travel time between the user’s location, which is the location of the wireless device, and the destination, which is the location of the first wireless telephonic device. In my opinion, therefore, a POSA had reason to modify the Sheha system to determine travel times as a part of determining routes and driving directions and a reasonable expectation of success in doing so. Thus, it is my opinion that Sheha-Smith-Carey-Wako meets claim 14.

**h. Claim 19: The method of claim 15, wherein said manual selection occurs on a first display screen and a second display screen is provided on said first wireless device during said determination.**

[0242] Claim 19 recites substantially the same limitations as claim 3 but refers to “*said first wireless device*” rather than “*said first wireless telephonic device*.” Thus, it is my opinion that Sheha-Smith-Carey-Wako renders claim 19 obvious for the same reasons Sheha-Smith-Carey-Wako renders claim 3 obvious, as discussed above (§VIII.B.3.a).

- i. **Claim 20: The method of claim 15, wherein said manual selection occurs on a first display screen, a second display screen is provided on said first wireless device during said determination, and a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless device.**

[0243] Claim 20 recites substantially the same limitations as claim 4 but refers to “*said first wireless device*” rather than “*said first wireless telephonic device*.” Thus, it is my opinion that Sheha-Smith-Carey-Wako renders claim 20 obvious for the same reasons Sheha-Smith-Carey-Wako renders claim 4 obvious, as discussed above (§VIII.B.3.b).

**C. Ground 3: Claim 18 Would Have Been Obvious Over Sheha in View of Smith, Carey, and Engberg**

[0244] As explained in this section below, in my opinion claim 18 of the '283 patent would have been obvious to a POSA in view of the combined teachings of Sheha (EX1005), Smith (EX1023), Carey (EX1024), and Engberg (EX1026).

[0245] I provided discussions of Sheha, Smith, and Carey in Sections VIII.A.1-3 above.

**1. Discussion of Engberg (EX1026)**

[0246] Engberg is directed to an authentication system that allows a user to enter access credentials to access protected information. Engberg, Abstract. Engberg illustrates different known options for techniques for requesting such

information, such as by requesting both a user ID and password on a single display screen or on successive display screens. Engberg, 4:52-65 (describing Figure 2A as showing a screen that is “similar or identical to standard login screens”), FIGs. 2A-2D. For example, Engberg’s system allows a user to enter a user ID and password, including a secret token, transmitted to the user’s personal communication device Engberg discloses “a system through which user tokens required for user authentication are supplied through personal communication devices such as mobile telephones and pagers.” Engberg, 1:9-11. In addition, Engberg provides a variety of different graphical user interface (“GUI”) elements to allow a user to enter their ID and password as shown below.

Logon To Network:

USER ID

PASSWORD

Note: Your password is your passcode followed by a valid token.

FIG. 2A

Logon To Network:

USER ID

PASSCODE

TOKEN

FIG. 2B

Please enter a user ID to request a Token  
Token will be instantly transmitted to your registered Personal  
Communication Device and will be valid for one minute

USER ID

FIG. 2C

Logon To Network:

PASSCODE

TOKEN

FIG. 2D

## Engberg, FIGs. 2A-D.

### 2. Discussion of Sheha-Smith-Carey-Engberg Combination

[0247] As discussed above in Section VIII.C.1, Engberg describes an authentication system that allows a user to enter login data, like a username and password, to access protected information. As I discussed above with respect to Carey in Section VIII.A.3, entering username and password information was routine and conventional functionality before the priority date of the '283 Patent. In addition, the manner of entering such information, such as all on one display screen or across multiple display screens, as illustrated in Engberg, was one of many different routine and conventional ways an application on a mobile device

would request that information. Engberg, FIGs. 2C-D. Moreover, such functionality would improve the convenience to the user along with providing the requisite access controls.

[0248] Sheha can require a user to provide login information to a server when requesting location information, such as a username and password to access location information. *See supra* §VIII.A.1. Thus, a POSA would have needed a way to allow a user of the Sheha system to enter username and password information. As discussed above (§VIII.C.1), Engberg illustrates different known options for techniques for requesting such information, such as by requesting both a user ID and password on a single display screen or on successive display screens. Engberg, 4:52-65 (describing Figure 2A as showing a screen that is “similar or identical to standard login screens”), FIGs. 2A-2D. A POSA would have been motivated to use separate login and password screens as a design choice for obtaining login and password information from a user, such as due to limited screen sizes on a wireless device or to ensure a valid username was entered before a password is requested. Doing so would have been merely simple substitution of one known element (a single login/password screen) for another (separate login and password screens) with predictable results (that users would provide login and password information via a known standard type of login screen). Moreover, the POSA would have had a reasonable expectation of success because such

information is already obtained by the Sheha system and Engberg corroborates that the separate-screen approaches are similar to “standard login screens.” Engberg, 4:52-65, FIGs. 2A-2D. Moreover, requesting username and password information, whether on one screen or two separate screens, was routine before the priority dates of the ’283 Patent and would require only conventional programming effort to provide prompts for that information and to receive the user’s input.

**3. Mapping of Sheha-Smith-Carey-Engberg Combination to Claim 18**

- a. Claim 18: The method of claim 15, wherein said password is received on a first display screen and said login is received on a second display screen.**

**[0249]** Claim 18 recites the same features as claim 17, but also recites that a login is received on a second display screen. As I discussed above with respect to Element [1C] (§VIII.A.5.a.iv) and claim 17 (§VIII.A.5.j), it would have been obvious to receive manual input on a display screen for a login and password. Claim 18 recites that the password and login are received on first and second display screens, though no ordering is required by the claim language. Instead, a POSA would understand that “*first*” and “*second*” are just labels to distinguish the display screens in the claim.

**[0250]** While Carey illustrates a login and password obtained on the same display screen, it would have been an obvious design choice to separate login and password entry on different screens, for example, if a device has limited screen

space, or to ensure that a valid username is entered first before a password is requested, or to protect against shoulder surfing (i.e., an unauthorized person looking over the user's shoulder as the user enters their security information) to reduce the likelihood that someone glancing at your screen will be able to see both your user ID and password because they will not be shown at the same time. In addition, such a design choice was well-known before the priority date of the '283 Patent. For example, as illustrated by Engberg's FIGs. 2C-2D (below), Engberg discloses receiving a login on a first display screen and a password on a second display screen:

Please enter a user ID to request a Token  
Token will be instantly transmitted to your registered Personal  
Communication Device and will be valid for one minute

USER ID

*FIG. 2C*

Logon To Network:

PASSCODE

TOKEN

*FIG. 2D*

**Engberg, FIGs. 2C-2D**

[0251] One of skill in the art would have been motivated to provide separate display screens to receive login and password information as one of two known, predictable options for requesting login and password: (1) either on the same display screen or (2) on different display screens like in the example shown in Engberg. Engberg, FIGs. 2A-2D.

[0252] Thus, it is my opinion that Sheha-Smith-Carey-Engberg meets claim 18.

**D. Ground 4: Claims 1, 2, 6-9, 13, and 15-17 Would Have Been Obvious over Randall**

[0253] As explained in this section below, in my opinion claims 1, 2, 6-9, 13, and 15-17 of the '283 patent would have been obvious to a POSA in view of the teachings of Randall (EX1007).

**1. Discussion of Randall (EX1007)**

[0254] Randall is an international (PCT) application filed August 22, 2001, and published in the international stage as EX1008 and in the U.S. national stage as EX1007. Citations herein are to the U.S. publication (EX1007); the identical description is present in the international publication (EX1008). *See supra* §VII.C (where I provide a mapping of paragraph numbers in EX1007 to page numbers of EX1008).

[0255] Randall relates to “enabling a wireless information device to access data services,” using “an extensible framework which handles data passing

to and from several applications resident on the device, the framework being shared by each of the applications.” Randall, [0002], [0006]. The wireless devices can be “radio telephones, smart phones,” etc., which “can access information on” “internet servers hosting extensible databases.” Randall, [0002], [0029].

**[0256]** Examples of applications on a wireless device that can all access the same server-based database framework and coordinate to provide services include “a directory application (which contains a user’s contacts list...)” and “a location application (which gives a user’s location and includes digital maps).” Randall, [0009], [0012], [0025], [0028] (“applications...share information”), [0029], [0080]-[0081], [0086], [0085]-[0115].

**[0257]** Randall’s framework is a “framework of frameworks’ such that services are tightly integrated in a way that the traditional browser model does not allow.” Randall, [0080]. Specifically, Randall provides a framework that allows for different services to be available from a “centralised location” (Randall, [0080]) such that different applications on the wireless device can work together to provide a service using the same data from the centralized location. Randall, [0025], [0081].

**[0258]** For example, Randall provides an example of a “Yellow Pages™ data services plug-in” in which different applications on a wireless device can all access data from a “Yellow Pages remote server” to work together to

provide a service. Randall, [0009], *see also* Randall, [0089]-[0093] (Randall describing a “Yellow Pages” service provided by a Directory framework application and a Radar framework). Thus, different applications on the wireless device can be “grouped together” to provide a service using the same Yellow Pages remote server data. Randall, [0025]. In the “Yellow Pages” example, “a search request performed in the directory application (e.g. search: ‘cameras’) could be routed to a Yellow Pages remote server, which responds with the required data, including detailed maps in the location application; special shopping offers are [] pushed into the shopping application; nearby shops/services are shown in the location application.” Randall, [0009]. Accordingly, the Yellow Pages data services plug-in in this example can provide data from the same source to the different applications on the wireless device that work together to provide a service.

**[0259]** Randall provides another example in which “data sent from a commercial data service provider can automatically populate one or more applications (such as PIM applications) on the wireless information device.” Randall, [0012]. In this example, “sporting fixtures and entertainment listings could be transmitted from a data service provider placed straight into a user’s calendar application” and “[n]ews headlines and weather could be sent straight into a user’s calendar application.” Randall, [0012]. That various data can

automatically be provided to different applications on the user's wireless device "where it is likely to be looked at and found useful" to provide a service. Randall, [0012].

**[0260]** Regarding location, "[a]s an example,...a user might choose to subscribe to a service which allowed others to track his or her location—location could be a new attribute" stored in the "database" as "information relating to [the] individual." Randall, [0021]. "The user's friends or parents etc who wish to track the user[']s location...could add a 'map' application to their own devices, which could show their position on digital maps and also, by using the location attribute of the user's data object, it could also show the position of the user." Randall, [0021]. In this example, the "personal information...and location based information" is "handled by contacts...and map type applications" coordinating together to provide the service. Randall, [0021]-[0022], [0025].

**[0261]** Randall's system further provides "[a]ccess control...which allows a user to define which entities have read/write access to any given field in a database of information relevant to that entity." Randall, [0066]. One such field in a user's database is their device's "GPS location." Randall, [0505], Table 1. When a wireless user Bob requests access to such data belonging to a user Alice, "the server recognis[es] Bob's device" via "ID number" and "PIN" or other password, "and determin[es] the database access rights which Alice has given

him.” Randall, [0067]. “Once authenticated, the server passes to Bob’s device the information it requests.” Randall, [0067].

[0262] Thus, Randall discloses that various applications in a wireless device can all work together to provide a service using the same server data to support the various functionalities supported by Randall’s service.

## **2. Mapping of Randall to Claims 1, 2, 6-9, 13, and 15-17**

[0263] As explained in this section below, in my opinion a POSA would have understood that Randall’s teachings, or obvious implementations of them, meet all limitations of claims 1, 2, 6-9, 13, and 15-17 of the ’283 patent, and therefore render those claims obvious.

### **a. Claim 1**

[0264] As explained in this section below, in my opinion a POSA would have understood that Randall’s teachings, or obvious implementations of them, meet all limitations of claim 1 of the ’283 patent, and therefore render claim 1 obvious.

#### **i. Preamble [1PRE]: A method comprising:**

[0265] Randall teaches “a *method* of enabling a wireless information device to access data.” Randall, Abstract, [0002], [0006]. As discussed above in §VIII.D.1, the method provides access control for a wireless device user to track the location of another wireless device user. As demonstrated in the sections below, Randall’s method meets or renders obvious all elements of claim 1.

- ii. **Element [1A]: displaying on a first wireless telephonic device a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices;**

[0266] Each of Randall’s “wireless information device[s]” can be a “radio telephone[]” or “smart phone[]”—i.e., a *wireless telephonic device*.

Randall, [0002]. Randall discusses some examples involving Alice and Bob, who are both users of wireless information devices. Randall, [0053], [0491] (“Bob’s...mobile phone”), [0505] (“Alice’s mobile device”). Bob’s device is an exemplary *first wireless telephonic device* (as is Alice’s, because POSAs would have understood that Randall presents Alice and Bob as arbitrary examples illustrating functionality that is equally available to any wireless information device in Randall’s system). For example, Randall posits “[c]onsider Alice, who is publishing some information, and Bob who is accessing it.” Randall, [0053]. POSAs would have understood Randall to be posing a hypothetical example in which Alice and Bob are arbitrary users of the ADS system and the only distinction between them is the order in which these arbitrary users are performing operations using the ADS system. POSAs would have understood that, in one example, Bob is interested in accessing Alice’s data, but the example could easily be reversed in which Alice is interested in Bob’s data. Indeed, Randall teaches such a scenario by providing that “Bob also has stored on the server his own

personal information” ([0067]), which POSAs would have understood as Bob storing his own personal information on the server for potential use by another user, e.g., Alice, accessing Bob’s information in the same way that Randall provides that Bob can access Alice’s information. That understanding is also consistent with Randall’s claims (e.g., claim 1), which refer to a user operating a generic “wireless information device.”

[0267] Each of Randall’s wireless devices can have “a directory application” that “contains a user’s contacts list.” Randall, [0009]. A user’s “contacts database”—called their “Universe”—“is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]. “Table 2” is “an example” of “Alice’s Universe.” Randall, [0511].

TABLE 2

| <u>ALICES UNIVERSE</u> |                                  |                 |
|------------------------|----------------------------------|-----------------|
| NAME                   | DETAILS                          | i-GROUP         |
| Aardvark plumbers      | Number, email, address etc . . . | contractors     |
| Bently, John           | Number, email, address etc . . . | friend          |
| Coppermill Corp        | Number, email, address etc . . . | contractors     |
| Davies, Charles        | Number, email, address etc . . . | work 1          |
| Entwistle, Peter       | Number, email, address etc . . . | partner, friend |
| Greenfield Ventures    | Number, email, address etc . . . | business 1      |

**Randall, Table 2**

[0268] As Table 2 shows, a user’s Universe displays *a plurality of users*. Randall teaches that at least some of these users have their own wireless

information devices. Randall, [0512] (“people in the list” can “look[] at” the user’s information “using an application on their ADS system wireless information devices”), Appendix 1 p. 25 (user’s “address book” of contacts includes “mobiles you regularly phone”), [0511], Table 2 (showing “Number” of each contact). Thus *each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices*, where the claimed plurality of users can be the whole contact list of a user whose contacts all have wireless devices, or a subset of a contact list where the subset of contacts have wireless devices.

**[0269]** The Universe contacts database is both “stored on the i-server” and “cached on” the user’s “wireless information device[].” Randall, p. 23 (Table 4: “Auto-entering address book”), [0062]-[0063] (wireless device has “local copies of the master information held on the central server(s)” including “contact numbers”), [0069] (wireless device “typically includes a cached version of all of [its user’s] information which is on the central server”). Like other server-stored data, the copy of the user’s contacts list on the wireless device is for “*display* in an appropriate application.” Randall, [0013], [0021] (“contacts application” on user’s device “allow[s] them to see” their contacts’ information), [0179] (if “user has allowed Buddies to see specific” information, “user should be able to easily determine this through their Buddy view”), [0222] (similar), [0400] (other user’s “unique ID” can be “store[d]” in user’s “contact manager”).

[0270] Table 2 shows “Alice’s Universe” as an example; Bob similarly has his own “Universe” contacts list, and Bob and Alice can each be included as contacts displayed in each other’s contacts lists. Randall, [0509]-[0510] (“Bob’s details” are in “Alice’s Universe” and “downloaded to Alice’s mobile device,” and likewise “Alice’s contact” is provided to “Bob’s device[]”), [0060] (Bob “view[s]” “Alice’s contact information” on his device), p. 24 (Table 4: “Data freshness” – “visual indication” regarding “Alice’s contact information can be shown on Bob’s wireless information device”). Even if Randall had not explicitly taught this, it would have been an obvious implementation option to allow any wireless device users to subscribe to the same functionality (including contacts functionality and location functionality) in Randall’s system, and to allow any user to include any other user in their contacts list, to provide flexibility and allow each subscriber to choose and access the functionality that appeals to them.

[0271] Thus, Bob’s contact list is displayed on Bob’s wireless device and Alice’s contact list is displayed on Alice’s wireless device. Either meets Element [1A].

[0272] To the extent the *plurality of users* displayed in Element [1A] must include the *first wireless telephonic device’s* user, Randall’s wireless device also displays its own user’s “i-Data.” Randall, [0505] (“Table 1[] is an example application **view of Alice’s i-Data**” that “would be **provided on Alice’s mobile**

**device** to allow her to manage her data”), [0176] (“**The user must be able to easily access their full Identity at any point in time and view/edit their Identity immediately.**”). Additionally, implementing Randall’s contacts list to display an entry for the wireless device’s own user in addition to that user’s contacts would have been an obvious known design choice to provide the user a convenient way of accessing the user’s own shared data by selecting the user’s own entry from the display in the same contacts list where the user can select other contacts to access their shared data. My testimony regarding POSAs’ background knowledge in this regard is corroborated by Shankar (EX1028), as I discussed above in §VIII.A.5.a.ii (Ground 1, [1A]). *See* Shankar, FIG. 4, 3:31-51, 6:56-7:55.

[0273] Thus, it is my opinion that Randall meets Element [1A].

**iii. Element [1B]: receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users;**

[0274] As I discussed above with respect to Element [1A] (§VIII.D.2.a.ii), Bob’s device can display Bob’s contacts list that includes Alice, and Alice’s device can display Alice’s contacts list that includes Bob, in Randall’s system. Taking Bob as an example, Randall teaches that “[w]hen one of the people in [Alice’s] list...looks at Alice[]...on their...wireless information device[]...in their contacts application” (i.e., when Bob selects Alice in his device’s displayed contacts list), “they see a view onto Alice’s personal data that is

defined by Alice.” Randall, [0512], [0049], [0053], [0067], [0509] (“Bob” is Alice’s “contact” and has “access” to Alice’s “information”). That view is of a subset of Alice’s “Identity” information which contains data “objects” that are “information relating to an individual.” Randall, [0180]-[0187], [0118], [0505]-[0508], [0021]. Bob’s device can “display an icon or other shorthand” for such an object, and Bob can “select[] the icon or shorthand” to view “attributes of the object.” Randall, [0022], [0060] (“Bob’s device” can display an “icon appearing next to Alice’s contact information”). A “user’s data object” in “a contacts application” can have a “location attribute” used to “show the position of the user.” Randall, [0021].

**[0275]** Thus, Randall teaches, or at minimum renders obvious, that an entry representing Alice (by icon or other shorthand) can be displayed in Bob’s contacts list, and Bob can select that entry to view Alice’s location attribute (and Alice can do the same in her contacts list to view Bob’s location). POSAs would have understood this to disclose *a first manual input* meeting Element [1B], or at minimum to render such manual input obvious because manual input was a well-known way for wireless device users to input such a selection. Randall, [0012] (“user could click on” data displayed on wireless device “to perform...actions” ), [0146]-[0151] (user can take “action” on a “specific contact” in “their buddy list”). Randall itself provides that such manual input was well-known. For example,

Randall describes a use case in which a user subscribes to a news data service such that “[h]eadlines could be provided free and pushed into an appropriate application; if the user wished to obtain more detailed information on a particular headline, then it could select that headline, which would cause an information request to be sent to a BBC server.” Randall, [0012]. POSAs would have understood that a user selecting a headline in an application on a wireless device, as described by Randall, demonstrates a way a user would interact with any application on the wireless device, such as providing a manual input in a contacts application on the wireless device to select a user in the contacts application.

**[0276]** Additionally, it would have been obvious to implement Bob’s device to allow Bob to manually select Alice from Bob’s displayed contacts list to request Alice’s location information. That is because manually selecting another user from a displayed contacts list was well-known in POSAs’ background knowledge as a suitable option with reasonable expectation of success for “look[ing] at [another user’s] ADS Number” to “see a view onto [that user’s] personal data” (Randall, [0512]) such as location.

**[0277]** My testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as I discussed above in §VIII.A.5.a.iii (Ground 1, [1B]) (citing, *e.g.*, Han, [0033]; Meadows, FIG. 4a, 5:30-47, Darling, 41:1-15).

[0278] My opinion is also corroborated by Smith, which describes a “[m]obile telephone 210 provid[ing] a user-friendly interface” to facilitate a user’s interactions with the telephone. Smith, 5:15-18. The user-friendly interface can present, to a user, information such as a “directory of entries each including a telephone number and associated information.” Smith, 3:17-20. Smith describes that the telephone can “receiv[e] a user input selecting an icon, one of the entries corresponding to the selected icon is selected.” Smith, 3:24-26, 5:15-18, 6:53-7:3, 7:41-9:42-61, 10:29-11:4. *See also supra* §VIII.A.2, §VIII.A.4, §VIII.A.5.a.ii-iii (where I discussed POSAs’ background knowledge evidenced by Smith). Thus, Smith also corroborates that manually selecting another user from a displayed contacts list was within a POSAs’ background knowledge.

[0279] Thus, it is my opinion that Randall meets Element [1B].

**iv. Element [1C]: receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password;**

[0280] Randall teaches that “an entity seeking information,” such as Bob seeking Alice’s location, must be “[a]uthenticat[ed] (i.e. identif[ied]...)” by “the server recognizing Bob’s device and determining the database access rights which Alice has given him.” Randall, [0067]. The user “Bob (as opposed merely to Bob’s device)” may be “authenticated” by inputting “a PIN” or “select[ing] [his] favourite colour/restaurant/recent film etc.[], with the server only authenticating

Bob when he answers correctly.” Randall, [0067]. In some examples, this can be “relevant...where Bob borrows someone else’s wireless information device or uses a public device” to access both “his own personal information” and information of his contacts including Alice. Randall, [0067].

**[0281]** Because Bob can be authenticated as “Bob the person, rather than Bob’s device,” even when using “someone else’s” device or “a public device,” POSAs would have understood Randall to teach that Bob inputs a login (i.e., an identifier “identifying an entity seeking information” as purporting to be “Bob the person”) on the first wireless telephonic device he is using. Randall, [0067]. The “PIN” or “select[ed] answer[] from a multiple choice” is a password that, if it “correctly” matches what the server has stored as Bob’s “PIN” or “favourite colour/restaurant/recent film” (Randall, [0067]), authenticates that the user is truly Bob. Randall, [0380] (“[t]he authentication can use...a basic WID and password/passphrase”). Randall’s “authentication” can be used for access control “both locally and on the server” (Randall, [0380]), corroborating that it is input locally on the wireless device. POSAs would have understood that manual input on the wireless device was a typical and obvious way for such identifier and PIN or answer word to be submitted by person who is using the wireless device.

[0282] My testimony regarding POSAs' background knowledge with respect to manual input on a wireless device is corroborated by several references, as discussed in the paragraphs below.

[0283] Carey (EX1024) shows an example GUI that allows a user to enter a screen name, i.e., a username, and password to access instant messaging functionality provided by a remote service. Carey, FIG. 8, 7:67-8:10 ("As shown in FIG. 8, a wireless instant messaging sign on window 200 includes data fields for entry of the user's screen name 202 and password 204."). Therefore, Carey corroborates that manual input on the wireless device was a typical and obvious way for Randall's identifier and PIN to be provided as shown and described in connection with FIG. 8 of Carey.

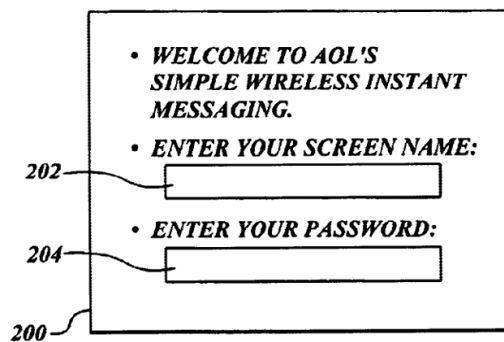


*Fig. 8*

Carey, FIG. 8

[0284] Laursen (EX1031) describes using a unique device ID to access a user account for a fleet managing system. Laursen, Abstract, 8:55-9:5. Laursen describes that a mobile station can display information on a display screen and on

which user input can be provided. Laursen, 9:52-66. The user input can include “entering the correct username and password.” Laursen, 11:37-43. Therefore, Laursen’s entering of information on a display screen of a mobile station corroborates that manual input on a wireless device was a conventional way to provide usernames and passwords.

**[0285]** Muratov (EX1032) describes “protecting data within a portable electronic device to prevent unauthorized access to that data.” Muratov, Abstract. Muratov describes that the portable electronic device has a display “configured with a password entry portion...for entering a password.” Muratov, [0016]. The password can be entered through the “depression of buttons provided as part of the portable electronic device for entering a password.” Muratov, [0016], *see also* [0038] (“the buttons 32 on the PDA 20 may be used to enter a password.”), [0104] (“Upon entry of a password at step 154 (i.e., using a stylus and the screen 21 or hardware buttons 32”). Therefore, Muratov’s entering of information on a display of a portable electronic device using “depression of buttons,” “a stylus,” etc., corroborates that manual input on a wireless device was a conventional way to provide security data like passwords.

**[0286]** Alternatively, even if Randall had not explicitly taught *receiving on said first wireless telephonic device an input in a form of a login and* if Randall’s PIN or selected answer were not considered a *second manual input in*

*a form of a password*, it would have been obvious to modify Randall to receive these inputs on Bob's device to authenticate Bob. That is because using these inputs to authenticate a device user seeking another user's information (including location) was well-known in POSAs' background knowledge as a beneficial and commonly used option that would have been merely a simple substitution of one known element for another with predictable results (e.g., Bob's device would receive these specific inputs to authenticate Bob).

[0287] My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0288] Carey (EX1024) describes "instant message communication in a wireless and non-wireless environment." Carey, Abstract, *see also* 1:8-12, 3:18-34. Carey describes authenticating a user to access the "wireless instant message service" by "completing a **sign-on or logon with password verification.**" Carey 4:6-33, *see also id.*, 5:5-28 ("a sign on"). Carey provides an example of using "a wireless instant messaging sign on window 200 [that] includes data fields for entry of the **user's screen name 202 and password 204**" to authorize a user to access the service. Carey, 7:65-8:16, FIGs. 8-14. Therefore, Carey corroborates that the entering of log-on information and password to authenticate a device accessing a service was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's

information (including location). *See also supra* §§VIII.A.3-4, §VIII.A.5.a.iv (where I further discuss POSAs’ background knowledge that is evidenced by Carey).

[0289] Thomas (EX1019) describes a “location monitoring system” for “location tracking, location utilization, and dissemination and management of location information.” Thomas, 1:15-55 (disclosing that the “present invention relates to computing or communication devices,” which include “wireless communication devices,” such as “mobile phones [and] personal digital assistants (PDAs)”);, *see also id.*, 2:58-3:6. Prior to disseminating location information to a requesting user, the requesting user “must login with an appropriate **user name and/or password**. This allows restricted access to the location information.” Thomas, 5:49-54, *see also id.*, 6:53-7:49 (describing waiting for a log-in response and then, once received, determining whether it was successful), 7:27-40 (describing providing location information to a requesting user after the log-in response is successful). The location information of mobile devices in the system is thus obtainable by a user if the user is authorized and authenticated via user name and password. Therefore, Thomas corroborates that the entering of a username and password to authenticate a requesting user accessing a location of another user via that user’s mobile device was well-known in POSAs’ background

knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0290] Chern (EX1029) concerns mobile wireless communication devices and a system and method for "locating and tracking mobile telephone devices via the Internet." Chern, 1:6-9. Chern discloses that when users "want to know the location of a particular mobile telephone" they connect to a Web server "via a browser residing on a mobile telephone device" that "displays an authorization screen that requires the requesting party to enter a valid **user name and password combination.**" Chern, 6:55-7:20. The location information of mobile devices in the system is thus obtainable by another mobile device without the user of one mobile device calling the other. Therefore, Chern also corroborates that the entering of a user name and password to authenticate a requesting user accessing a location of another user was well-known in POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0291] Sandhu (EX1016) relates to "distributing positional information and location specific messages to mobile units by using a data network." Sandhu, [0002]. Sandhu discloses users that register with the positioning system receive "**a login name and a password**" entered via the user's mobile device. The positional and location information of mobile devices in the system is thus obtainable without

the user of one mobile device calling the other. Therefore, Sandhu also corroborates that the entering of a user name and password via a mobile device was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

**[0292]** Futagami (EX1030) concerns an information processing apparatus that uses “**a password together with user identification**” to access a “management server” (8:56-67) from which “personal information of user[s]” can be obtained (10:9-17). The personal information of mobile devices in the system is thus obtainable without the user of one mobile device calling the other. Therefore, Futagami also corroborates that the entering of a username and password via a mobile device was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's personal information.

**[0293]** Darling (EX1022) concerns communications with mobile device. Darling discloses a user using an “identifier (e.g., **login name and/or password and/or email address**)” (8:32-34) to gain access to a service that permits “a user to determine the location of another user without specifically having to contact that other user” (2:1-12). The location information of mobile devices in the system is thus obtainable without the user of one mobile device

calling the other. Therefore, Darling also corroborates that the entering of a username and password via a mobile device was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0294] Thus, it is my opinion that Randall meets Element [1B].

v. **Element [1D]: determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users,**

[0295] Randall *determines whether to allow access of Alice's device's location information* when "the server recognis[es] Bob's device and determin[es] the database access rights which Alice has given him." Randall, [0067]. "The database can define which entities can read different fields: Alice can therefore give Bob rights to read only certain fields in her database." Randall, [0047]. As shown in Table 1, one of the fields in Alice's "i-Data" ("Identity") database is her device's "GPS location," and she has designated that field as only being accessible to users whom she has designated as part of the "i-Group" called "partner." Randall, [0503]-[0512], [0116]-[0136] ("Identity" used for sharing "Location information").

TABLE 1-continued

| Alice's iData       |             |                                                       |                     |
|---------------------|-------------|-------------------------------------------------------|---------------------|
| Field/Attribute     | Category    | Details                                               | i-Groups            |
| Company Name        | work        | Wireless Information Device gets R Us                 | all                 |
| Company Address     | work        | 1 Science Park Rd, London, N1                         | all                 |
| Company E-mail      | work        | alice.edwards@Wireless Information Device getsrus.com | business 1          |
| Company switchboard | work        | 0207 200 2000                                         | all                 |
| Company Direct      | work        | 0207 200 2012                                         | business 1          |
| Mobile Phone        | work        | 0840 1234 567                                         | business 1, friends |
| Home Phone 1        | work        | 0208 341 1234                                         | friends, family     |
| Home Address        | work        | 25 The Gables, Hampstead, London, NW3                 | family              |
| My photo            | photos      |                                                       | friends             |
| Childhood photo     | photos      |                                                       | family              |
| Home note           | notice      | Sorry about dinner ☹                                  | partner             |
| Work note           | notice      | In a meeting with Tim till 7pm                        | work 1              |
| My mood now         | mood        | Very tired                                            | all                 |
| Tel Call Subject    |             | "Dinner Tonight"                                      |                     |
| Bluetooth           | location    | Bluetooth pods 1000–1020 . . . Sentinel room 2 . . .  |                     |
| GPS                 | location    | London W1, Seymour St.                                | partner             |
| Hobby               | preferences | Photography, travel                                   | friends             |
| Book                | preferences | Maverick                                              | friends             |
| AlbumOfTheWeek      | InstaPoll   |                                                       | friends             |

**Randall, Table 1 (annotated)**

[0296] Thus, “[t]he I-server is up-dated with the location of a person...via a GPS wireless information device, which transmits location information to the i-server, enabling authorised people to track the location of [Alice’s] GPS wireless information device by polling the server.” Randall, p. 24 (Table 4: “People tracking”). “[S]ensitive information is only available to people

in certain i-Groups; allowing Alice to control what data they see.” Randall, [0509], [0136] (“Location information” is “[v]isible to specific people (or groups)”). “The extent to which this is visible to a Communicator” (e.g., Bob) “is dependent upon both their device and the visibility rights that the Target” (e.g., Alice) “has assigned to them.” Randall, [0128]. Thus, when Bob’s device polls the server by requesting Alice’s information, the server determines whether to allow access to Alice’s device’s GPS location by determining whether the received login and password properly authenticate Bob and whether Alice has designated Bob as a member of the i-Group she has designated as having access to her GPS location. Randall, [0067], [0503]-[0512].

[0297] Thus, it is my opinion that Randall meets Element [1D].

- vi. **Element [1E]: wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login and**

[0298] As I discussed above with respect to Element [1C] (§VIII.D.2.a.iv), POSAs would have understood Randall to teach, or, alternatively, it would have been obvious to implement Randall such that the server uses an input *login* to identify Bob as the user to be authenticated as using the *first wireless telephonic device*, and an input *password* to determine whether it correctly matches the password stored as being associated with Bob (i.e., *associated with said login*)

to authenticate that the user is truly Bob. This “[a]uthentication (i.e. identifying an entity seeking information)” is part of “the server recognizing Bob’s device” (including “[a]uthentication of Bob the person”) “and determining the database access rights which Alice has given him” (Randall, [0067])—which can include “authoris[ing] [Bob] to track the location of [Alice’s] GPS wireless information device by polling the server” (Randall, p. 24)—and, thus, is part of the “*determining*” in Element [1D] (*supra* §VIII.D.2.a.v). Thus, it is my opinion that Randall meets Element [1E].

**vii. Element [1F]: determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device,**

**[0299]** As I discussed above with respect to Elements [1D] (§VIII.D.2.a.v) and [1E] (§VIII.D.2.a.vi), Randall’s “*determining*” of Element [1D] includes “determining the database access rights which Alice has given [Bob],” which includes *determining whether Alice has provided access rights for said location information* to Bob, meeting [1F]. Randall, [0067], [0503]-[0512], [0116]-[0136], p. 24 (“People tracking”).

**viii. Element [1G]: and said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device;**

**[0300]** Randall teaches that any “user must be able to switch location information on for a person or group of people..., i.e. being able to select the person and allow access” to make the user’s device’s location “[v]isible to specific people (or groups) for a specific period of time”—e.g., “for the half hour that the group of friends are trying to locate each other in town.” Randall, [0144], [0136], [0143]. This teaches that Bob can operate his first wireless telephonic device to assign location access rights to Alice’s device for *obtaining a location* of Bob’s device, meeting Element [1G].

**[0301]** As another example, Randall teaches that “whenever Alice wishes to, she can change the level of access of a current contact—perhaps promoting Bob from ‘business’ to ‘friend.’” Randall, [0509]. This is a “method[] of making contacts into members of a particular i-Group.” Randall, [0509]. As I discussed above with respect to Element [1D] (§VIII.D.2.a.v), a user can designate members of a particular i-Group as having access to the user’s device’s GPS location. POSAs would have understood this to be a generic example that is equally applicable to Bob as to Alice. Randall, [0067] (“Bob also has stored on the server his own personal information”); *see also supra* §VIII.D.2.a.ii (explaining

that Bob and Alice are arbitrary examples). Thus, Bob could promote Alice from an i-Group that Bob has specified as not having access to Bob's GPS location (e.g., a "business" i-Group) to an i-Group that Bob has specified as having access to Bob's GPS location (e.g., a "friend" or "family" or "partner" i-Group), thus using Bob's device to *assign location access rights* specifically and individually to Alice's device whose number is in Bob's contacts, meeting Element [1G]. Alice would then have access to Bob's location when she is authenticated on her own device as listed in Bob's contacts, and/or when she is authenticated as Alice logging in from another device. Randall, [0067]. Randall discloses that a user (e.g., Bob) can be "[a]uthenticated" as "the person" Bob, "rather than [authentication of] Bob's device" there may be times "where Bob borrows someone else's wireless information device or uses a public device." Randall, [0067]. In other words, Randall discloses both authentication when a user uses their own device and authentication when a user is using someone else's device. Randall further discloses that "[a]ccess rights can be associated with individual entities, and can also be associated with groups of entities." Randall, [0070]. Thus, in one example, if Bob assigns Alice to the "partner" i-Group having access to Bob's GPS location and Bob has only one partner, then Bob is assigning location access rights only to Alice (and her device). Randall, p. 21 Table 1.

**[0302]**        Thus, it is my opinion that Randall meets Element [1G].

**ix. Element [1H]: transmitting said location information from a server to said first wireless telephonic device;**

[0303] Randall teaches that “[o]nce [Bob is] authenticated” as being truly Bob and as having been given “database access rights” by Alice to Alice’s i-data that Bob is requesting, “the server passes to Bob’s device the information it requests.” Randall, [0067]. As I discussed above with respect to Element [1D] (§VIII.D.2.a.v), Alice’s data accessed by Bob can include Alice’s *location information*. Thus, it is my opinion that Randall meets Element [1H].

**x. Element [1I]: and displaying said location information on said first wireless device.**

[0304] Randall’s process discussed in the sections above enables “People tracking,” whereby “[t]he I-server is up-dated with the location of a person” as “obtained via a GPS wireless information device, which transmits location information to the i-server, enabling authorised people to track the location of the GPS wireless information device by polling the server.” Randall, p. 24. “As an example” of this, a “user’s friends or parents etc who wish to track the user[’]s location” can have “a ‘map’ application [on] their own devices, which could show their position on digital maps and also, by using the location attribute of the user’s data object, it could also show the position of the user.” Randall, [0021]. Thus, once Bob’s *first wireless device* has received Alice’s *location*

*information* as I discussed above with respect to Element [1H] (§VIII.D.2.a.ix), it can display that information—e.g., on a map.

**[0305]**        Randall teaches that requesting users “might initially have applications resident on their devices which allow them to see the [tracked] user’s current telephone number and address perhaps integrated into a contacts application,” and then “a ‘map’ application...show[s] the position of the [tracked] user.” Randall, [0021]. Thus, the tracked user’s (e.g., Alice’s) location attribute is “handled by contacts...and map type applications” together (Randall, [0021]), reinforcing that Bob can select Alice from his contacts list to view her information including her location on a map, as discussed in this §VIII.D.2.a (claim 1). *See* Randall, [0025] (“linkage is inherent because the data components work across multiple applications”), [0086] (services provide capabilities accessible “from anywhere in the device,” including “Location” capabilities accessible from various applications), [0094] (wireless device can have “a single capabilities framework into which all services are installed”), [0109]-[0115] (services can be strung together, so “service integration enables scenarios which span several services in the course of a single task flow”).

**[0306]**        Thus, it is my opinion that Randall meets Element [1I].

- b. Claim 2: The method of claim 1, wherein a positioning system is utilized to provide said location information.**

[0307] Randall's wireless device uses "GPS" to determine its location and provide it to the i-server. Randall, p. 24 Table 4 ("People tracking"), p. 22 Table 1 ("GPS location"), p. 29 ("Route finder"). A POSA would have known that "GPS" stands for "Global *Positioning System*" and is a positioning system as claimed. The '283 patent also admits that utilizing GPS as a positioning system to provide location data was prior-art "background" knowledge. EX1001, 1:14-28. Thus, in my opinion Randall meets claim 2.

- c. Claim 6: The method of claim 1, further comprising receiving a third manual input, wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device and said third manual input modifies said location access rights.**

[0308] In Randall, Bob's device *assigned location access rights* to Alice's device as I discussed above with respect to Element [1G] (Section §VIII.D.2.a.viii). Bob can provide *a third manual input that modifies said location access rights* by, e.g., changing the period of time for which Alice has access to his location. Randall, [0144] ("The **user must be able to...select the person** and allow access. Location information should only be visible for a pre-defined period of time. This period should be easily extensible by the user. At the end of the pre-

defined period the location information should again become invisible.”). Another way Bob can *modify said location access rights* is by “chang[ing] the level of access of a current contact” (e.g., Alice) by changing her i-Group membership in his contacts database. Randall, [0509].

[0309] POSAs would have understood the above to disclose a third manual input meeting claim 6. Alternatively, at minimum, the above disclosures would render such manual input obvious because manual input was a well-known way for wireless device users to input selections and settings. Randall at [0012] says users can manually input “clicks” to “navigat[e]” information displayed in “applications” and perform various actions. For example, a “user could click on” various data displayed on wireless device “**to perform e-commerce actions** (e.g. buy tickets)” or the user could “select” a headline to view “more detailed information” related to the headline. Randall, [0012]. Thus, Randall discloses various ways a user could use a manual input, like a click or a manual selection, to take an action and/or manipulate data via the device. A POSA would have understood that using the same or similar manual input demonstrates how a user would perform other, similar actions in Randall, including actions for Randall’s contacts application. *See also* Randall, [0064] (“A user **can select a data object to** obtain more detailed information, or **initiate other functions**, such as an e-commerce transaction.”), [0108] (“For example, if the user has an Odeon™ film

service installed, s/he could select ‘Find films’ from within a given day, or even timeslot, from within the calendar framework application.”). Randall at [0146]-[0151] describes how a user can take “**action**” on a “specific contact” in “their buddy list.” A POSA would have understood that performing actions for the contacts application could have been or at least had reason to be performed for one or more buddies by clicking on the buddy/buddies in the buddy list. Thus, in my opinion Randall meets claim 6.

**d. Claim 7: The method of claim 1, wherein a triangulation process is utilized to provide said location information.**

[0310] As I discussed above with respect to claim 2 (§VIII.D.2.b), Randall’s mobile devices utilize GPS to provide said location information. As I explained above for claim 7 in a Sheha-based ground, POSAs would have known that GPS uses *a triangulation process* as in the ’283 patent, to provide the location information based on signals received from several satellites. See §VIII.A.5.d (where I cite as corroboration of POSAs’ background knowledge Sandhu (EX1016), [0004], [0020]; Thomas (EX1019), 3:26-29; Murphy (EX1020), 1:9-13; Divakaruni (EX1021), 1:29-59). The ’283 patent’s only mention of “triangulation” admits that it was “background” knowledge that GPS uses it. EX1001, 1:14-28.

[0311] Alternatively, as I discussed above with corroboration, it was a well-known, obvious design choice to use another type of triangulation process as

an alternative to GPS to provide the location information Randall provides. *See supra* §VIII.A.5.d (where I cite as corroboration of POSAs’ background knowledge Enzmann (EX1034), 1:30-40, 2:16-41, 3:1-16, 4:25-38, 5:13-20; Degnbol (EX1035), 5:7-11, 27:18-19, 31:1-2). Because the corroborating evidence demonstrates that using triangulation techniques was well-established and common in the prior art, a POSA would have had a reasonable expectation of success incorporating other types of triangulation techniques into Randall’s system for the same reasons a POSA would have had a reasonable expectation of success doing so in Sheha’s system (*see supra* §VIII.A.5.d).

[0312] Thus, in my opinion Randall meets claim 7.

**e. Claim 8**

[0313] As explained in this section below, in my opinion a POSA would have understood that Randall’s teachings, or obvious implementations of them, meet all limitations of claim 8 of the ’283 patent, and therefore renders claim 8 obvious.

**i. Preamble [8PRE]: A method comprising:**

[0314] Like claim 1, claim 8’s preamble only recites “A method comprising.” Thus, Randall meets [8PRE] for the same reasons I discussed in relation to [1PRE] (*see supra* §VIII.D.2.a.i). As with claim 1, I understand that the preamble is not necessarily limiting. In this case, whether or not it is limiting does not affect my opinion as Randall discloses the preamble. Claim 8 recites a method

that includes essentially the same limitations as recited in claim 1. Thus, it is my opinion that claim 8 is obvious essentially for the reasons given above with respect to claim 1, as I discuss further below.

**ii. Element [8A]: displaying on a wireless device a first name associated to a first wireless telephonic device and a second name associated to a second wireless telephonic device;**

**[0315]** It is my opinion that Randall meets Element [8A] for the same reasons discussed above with respect to Element [1A]. While Element [1A] recites “displaying on a first wireless telephonic device a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices,” Element [8A] specifically identifies a first user and a second user, rather than generally referring to a “plurality of users.” Element [8A] also specifically recites displaying names of the first and second users. My discussion above with respect to Element [1A] includes a contact list that displays names of users. *See supra* §VIII.D.2.a.ii. In addition, Bob has a Universe (of contacts) similar to Alice’s Universe (of contacts). In Bob’s Universe, Alice’s name is a *first name associated to a first wireless telephonic device*, and another user’s name (e.g., John Bently) is a *second name associated to a second wireless telephonic device* that meets Element [8A]. *See* Randall, p. 22 Table 2 (Alice’s Universe, which would be similar to Bob’s Universe).

[0316] Thus, it is my opinion that Randall meets Element [8A] for the same reasons Randall meets Element [1A], as discussed above (§VIII.D.2.a.ii).

**iii. Element [8B]: accepting a selection of said first name on said wireless device;**

[0317] While Element [1B] recites “receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users,” Element [8B] recites accepting that selection on the wireless device. Thus, it is my opinion that Randall meets Element [8B] for the same reasons Randall meets Element [1B], as discussed above (§VIII.D.2.a.iii).

**iv. Element [8C]: receiving manual input entered into said wireless device that includes a login and a password;**

[0318] Element [1C] recites “receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password,” while Element [8C] only recites generically “receiving manual input ... that includes a login and password.” Because Element [1C] is more specific than Element [8C], and because Element [1C] is met as discussed above, it is my opinion Randall meets Element [8C] for the same reasons Randall meets Element [1C], as discussed above (§VIII.D.2.a.iv).

**v. Element [8D]: determining whether to transmit location information associated to said first wireless telephonic device from a server to said wireless device,**

**[0319]** Both Elements [1D] and [8D] involve conditionally accessing or transmitting location information based on a determination. And while Element [8D] recites a server, which Element [1D] does not address, Randall describes an “i-**server**” from which location information is transmitted to wireless devices, as I discussed above for Element [1H] (§VIII.D.2.a.ix). *See, e.g.*, Randall, [0067], [0503]-[0512], [0116]-[0136], Table 1, Randall, p. 24 Table 4 (“[t]he I-server is up-dated with the location of a person...via a GPS wireless information device, which transmits location information to the i-server, enabling authorised people to **track the location of [Alice’s] GPS wireless information device by polling the server**”). Therefore, it is my opinion that Randall meets Element [8D] for the same reasons discussed above that Randall meets Element [1D] (§VIII.D.2.a.v) and Element [1H] (§VIII.D.2.a.ix).

**vi. Element [8E]: wherein said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device**

**[0320]** Element [1E] recites “wherein said determination includes identifying...using said login and determining said password is associated with said login” while Element [8E] recites generically “wherein said determining includes performing an identification process....” Because Element [1E] is more

specific than Element [8E], and because Element [1E] is met as discussed above, it is my opinion that Randall meets Element [8E] for the same reasons Randall meets Element [1E], as discussed above (§VIII.D.2.a.vi).

**vii. Element [8F]: and determining whether said first wireless telephonic device has provided access rights for said location information for said identified user**

[0321] Element [8F] recites substantially the same functionality as recited in Element [1F] but refers to “*said first wireless telephonic device*” and “*said identified user*” rather than “*one of said plurality of users*” and “*said user of said first wireless telephonic device.*” Thus, it is my opinion that Randall meets Element [8F] for the same reasons Randall meets Element [1F], as discussed above (§VIII.D.2.a.vii).

**viii. Element [8G]: and said server is located remotely from said wireless device, said first wireless telephonic device, and said second wireless telephonic device,**

[0322] Randall’s server from which Bob accesses Alice’s location data is “a server on the Internet”—i.e., an “internet server[.]” or “i-server”—which a POSA would have understood to be a server *located remotely from* the wireless devices. Randall, [0053], [0028]-[0029], [0046], [0503], p. 24 (Table 4: “People tracking”). Randall’s Figure 4 also illustrates the server(s) located remotely from the wireless devices.

[0323] Thus, it is my opinion that Randall meets Element [8G].

- ix. Element [8H]: and said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device;**

**[0324]** Element [8H] recites substantially the same functionality as recited in Element [1G] but refers to “*said wireless device*” and “*said first wireless telephonic device*” rather than “*said first wireless telephonic device*” and “*said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users.*” Thus, it is my opinion that Randall meets Element [8H] for the same reasons Randall meets Element [1G], as discussed above (§VIII.D.2.a.viii).

- x. Element [8I]: transmitting said location information to said wireless device based on said determination;**

**[0325]** Element [8I] recites substantially the same functionality as recited in Element [1H] except [8I] does not itself recite that a server transmits the location information (Element [8D] recites transmitting location information from a server). Thus, it is my opinion that Randall meets Element [8I] for the same reasons Randall meets Element [1H], as discussed above (§VIII.D.2.a.ix).

- xi. Element [8J]: and displaying said location information on said wireless device.**

**[0326]** Element [8J] recites substantially the same functionality as recited in Element [1I] but refers to “*said wireless device*” rather than “*said first*

*wireless device.*” Thus, it is my opinion that Randall meets Element [8J] for the same reasons Randall meets Element [1I], as discussed above (§VIII.D.2.a.x).

**f. Claim 9: The method of claim 8, wherein a positioning system is utilized to provide said location information.**

[0327] Claim 9 recites substantially the same functionality as recited in claim 2. Thus, it is my opinion that Randall renders claim 9 obvious for the same reasons Randall renders claim 2 obvious, as discussed above (§VIII.D.2.b).

**g. Claim 13: The method of claim 8, further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device and said third manual input modifies said location access rights.**

[0328] Claim 13 recites substantially the same functionality as recited in claim 6 but refers to “*said wireless device*” and “*said first wireless telephonic device*” rather than “*said first wireless telephonic device*” and “*said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users.*” Thus, it is my opinion that Randall renders claim 13 obvious for the same reasons Randall renders claim 6 obvious, as discussed above (§VIII.D.2.c).

**h. Claim 15**

[0329] As explained in this section below, in my opinion a POSA would have understood that Randall’s teachings, or obvious implementations of

them, meet all limitations of claim 15 of the '283 patent, and therefore render claim 15 obvious.

**i. Preamble [15PRE]: A method comprising:**

**[0330]** Like claim 1, claim 15's preamble only recites "A method comprising." As with claim 1, I understand that the preamble is not necessarily limiting. In this case, whether or not it is limiting does not affect my opinion as Randall discloses the preamble for the same reasons I discussed in relation to [1PRE] (*see supra* §VIII.D.2.a.i). Claim 15 recites a method that includes essentially the same limitations as recited in claim 1. As explained in this section below, in my opinion a POSA would have understood that Randall meets all limitations of claim 15 of the '283 patent, and therefore renders claim 15 obvious.

**ii. Element [15A]: accepting on a first wireless device a manual selection representative of a second wireless device from a list representative of a plurality of wireless devices;**

**[0331]** Element [15A] recites substantially the same functionality recited in Elements [1A] (which recites "displaying on a first wireless telephonic device *a plurality of users, wherein each one ... is associated to a different one of a plurality of wireless telephonic devices*") and [1B] (which recites "*receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users*"). Thus, it is my opinion that Randall meets

Element [15A] for the same reasons Randall meets Elements [1A]-[1B], as discussed above (§§VIII.D.2.a.ii-VIII.D.2.a.iii).

**iii. Element [15B]: locating said second wireless device;**

[0332] Element [15B] recites substantially the same functionality as recited in Element [1D]. As I explained above for Element 1[D], Randall’s “People tracking” application is for *locating the wireless devices* in Randall’s system. *See, e.g.*, Randall, p. 24 Table 4 (“People tracking” whereby “[t]he I-server is up-dated with the location of a person...obtained via a GPS wireless information device, which transmits location information to the i-server”). Thus, it is my opinion that Randall meets Element [15B] for the same reasons Randall meets Element [1D], as discussed above (§VIII.D.2.a.v).

**iv. Element [15C]: determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login, that identifies the user of said first wireless device from a plurality of users, and password received by said first wireless device that is associated with said login and determining whether said user is associated with said permission,**

[0333] Element [15C] recites substantially the same functionality collectively recited in Elements [1C] (“***receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password***”), [1D] (“***determining whether to allow access of location information***

*for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users”), [1E] (“**wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login**”), and [1F] (“**determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device**”).* For the reasons discussed above for [1C]-[1F] (§§VIII.D.2.a.iv-vii), the *i-server* in Randall performs the “*determining*” recited in Element [15C]. Thus, it is my opinion that Randall meets Element [15C] for the same reasons Randall meets Elements [1C]-[1F], as discussed above (§§VIII.D.2.a.iv-vii).

- v. **Element [15D]: and said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device;**

**[0334]** Element [15D] recites substantially the same functionality recited in Element [1G] but recites “*said first wireless device,*” “*said second wireless device,*” and “*second permissions ... for obtaining second location information*” rather than “*said first wireless telephone device,*” “*said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users,*” and “*location access rights ... for obtaining a location.*” Thus,

it is my opinion that Randall meets Element [15D] for the same reasons Randall meets Element [1G], as discussed above (§VIII.D.2.a.viii).

**vi. Element [15E]: providing location information to said first wireless device based on said determination;**

[0335] Element [15E] recites substantially the same functionality recited in Element [1H]. *See also supra* §VIII.D.2.h.iv ([15C], discussing the “*determin[ation] by a server*” upon which providing the location information is based). Thus, it is my opinion that Randall meets Element [15E] for the same reasons Randall meets Element [1H], as discussed above (§VIII.D.2.a.ix).

**vii. Element [15F]: and displaying a map on said first wireless device with a marker representative of the location of said second wireless device.**

[0336] As I discussed above with respect to Element [1I] (§VIII.D.2.a.x), Randall teaches that Bob’s *first wireless device* can display a “digital map[]” that “show[s] the position of” Alice’s *second wireless device*. Randall, [0021]. POSAs would have understood that Alice’s “position” is a *location* and “show[ing]” it would involve displaying a *marker*. Alternatively, it would have been an obvious implementation of Randall’s “digital map” disclosure to show Alice’s location on the map by displaying a marker at that location on the map, because as I discussed above (with corroboration) displaying a marker was well-known in POSAs’ background knowledge as a beneficial and commonly used option for representing a location of interest (including a current location of a

person's wireless device) on a digital map. *See* §VIII.A.5.h.vii (Ground 1, Element [15F] (where I cited as corroboration of POSAs' background knowledge Wollrab (EX1014), 4:40-58, FIG. 4B (markers 44-2 through 44-5); Meadows (EX1018), FIGs. 4B, 5B; Grube (EX1017), FIG. 2, 4:38-57, 5:13-17, 6:14-27, 6:59-7:6; Sheha (EX1005), 4:52-58, 6:51-56, 9:23-39, FIG. 5). Thus, it is my opinion that Randall meets Element [15F].

**i. Claim 16: The method of claim 15, wherein a positioning system is utilized to provide said location information.**

[0337] Claim 16 recites substantially the same limitations as claim 2.

Thus, it is my opinion that Randall renders claim 16 obvious for the same reasons Randall renders claim 2 obvious, as discussed above (§VIII.D.2.b).

**j. Claim 17: The method of claim 15, wherein said password is received on a first display screen.**

[0338] As I discussed above with respect to Element [1C]

(§VIII.D.2.a.iv), it would have been obvious to receive Bob's *password* as manual input on Bob's wireless device. It would further have been obvious to receive this input on a *first display screen*, because providing a display screen to receive password input was well-known in POSAs' background knowledge as a beneficial and commonly used practice for directing the user when and how to input the password on a wireless device. My testimony as to the POSA's background knowledge in this regard is corroborated by the following references.

[0339] For example, as I discussed above (Ground 1, [1C] §VIII.A.5.a.iv); Claim 17 (§VIII.A.5.j)), Carey’s Figure 8 shows a display screen for receiving a password. *See also* Carey (EX1024), 7:67-8:10. *See also supra* §§VIII.A.3-4, §VIII.A.5.a.iv, §VIII.A.5.j (various sections above where I discuss a POSA’s background knowledge as evidence by Carey).

[0340] As another example, Engberg’s Figures 2A-2D discloses various display screens for receiving a password on a personal communication device. *See also* Engberg (EX1026), Abstract; *supra* §VIII.C.1.

[0341] Thus, it is my opinion that Randall meets claim 17.

**E. Ground 5: Claims 3-5, 10-12, 14, 19 and 20 Would Have Been Obvious over Randall in View of Wako**

[0342] As explained in this section below, in my opinion claims 3-5, 10-12, 14, 19, and 20 of the ’283 patent would have been obvious to a POSA in view of the combined teachings of Randall (EX1007; *see also supra* §VIII.D.1) and Wako (EX1025; *see also supra* §VIII.B.1).

**1. Discussion of Randall-Wako Combination**

[0343] Randall provides a “Route finder” service, “similar to GPS tracking in cars, but for mobile phones. You identify where you want to go, the phone knows where you are already. It can therefore give you step by step instructions on how to get there (eg. Turn left at the next lights. Carry on 100 metres. Go straight over the roundabout).” Randall, p. 29.

**[0344]** As I discussed above in §VIII.B.1, Wako discusses “[a] display method...for [a] navigation system for displaying information necessary for guiding a driver of a vehicle.” Wako, Abstract. POSAs would have recognized Wako’s techniques as the type of “GPS tracking in cars” techniques that Randall’s “Route finder” is “similar to” (Randall, p. 29). POSAs would therefore have had motivation and a reasonable expectation of success in using Wako’s display techniques when implementing Randall’s “Route finder” service.

**[0345]** Further, Randall provides a “Rendezvous” service “on your mobile phone to help you meet friends and family in crowded or unfamiliar places. Temporarily you can elect to have your location visible to others—so using your phones everyone in your group can tell precisely where the others are.” Randall, p. 29. Randall teaches that “[a]t the touch of a button, your phone can display a map of the area you are standing in” (Randall, p. 29) and it can also “show [your] position” and “the position of [another] user” (Randall, [0021]). POSAs would have understood and found it obvious from these disclosures that another user’s position can be “where you want to go” in Randall’s “Route finder,” which can “give you step by step instructions on how to get there” (Randall, p. 29). POSAs would have had motivation and an expectation of success to use Wako’s techniques to provide an informative and useful display for Randall’s Route finder navigation functionality.

**2. Mapping of Randall-Wako Combination to Claims 3-5, 10-12, 14, 19, and 20**

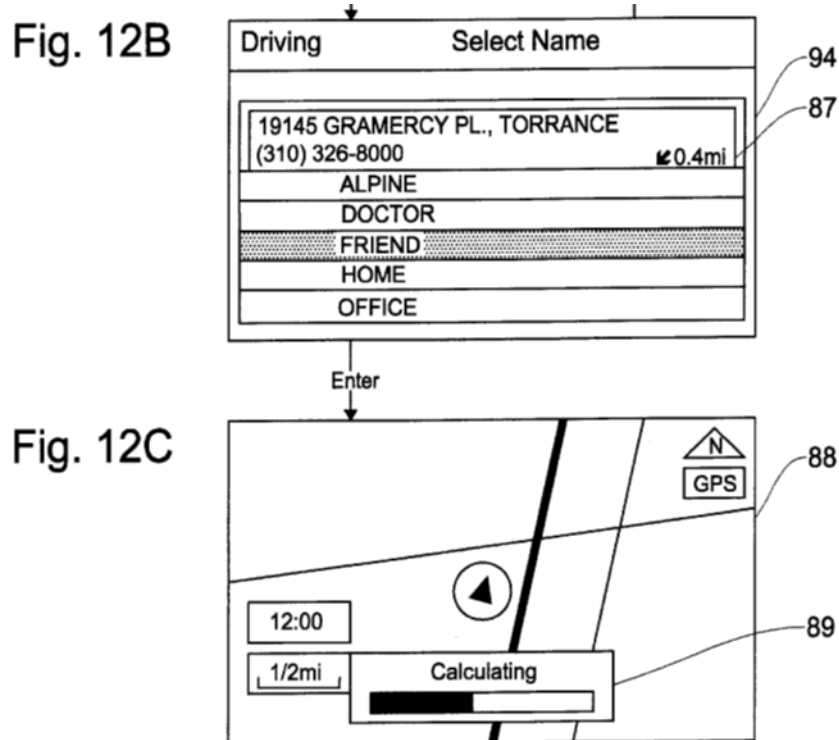
[0346] As explained in this section below, in my opinion a POSA would have understood that the Randall-Wako Combination meets all limitations of claims 3-5, 10-12, 14, 19, and 20 of the '283 patent, and therefore renders those claims obvious.

**a. Claim 3: The method of claim 1, wherein said selection occurs on a first display screen and a second display screen is provided on said first wireless telephonic device during said determination.**

[0347] As I discussed above with respect to Element [1A] (§VIII.D.2.a.ii), Randall's wireless device displays a contacts list from which a contact can be selected to access their location; this occurs on the claimed *first display screen*. The Randall-Wako combination I discussed above (§VIII.E.1) would have provided an option to select the contact from the displayed contacts list to access Route finder navigation to the contact's location.

[0348] Wako likewise teaches that the user can select a contact's name from a menu that "shows an address, phone number, a direction by an arrow, and a distance to location of the name highlighted in the name list." Wako, 12:60-63. "By specifying the address of the destination in the 'Select Names' menu 94, the navigation system changes to a confirm destination screen 88 in FIG. 12C wherein

the CPU 49 (FIG. 3) calculates the optimum route to the destination.” Wako, 13:4-7.



**Wako, FIGs. 12B-12C**

[0349] Wako’s FIG. 12C presents a second “Calculating” screen, separate from the contacts list screen, while the information the user has requested is being obtained. POSAs would have had motivation and reasonable expectation of success to provide a similar second display screen (which POSAs would have understood could just as easily display “Processing” or “Working” as “Calculating”) on Bob’s device during said determination of whether Alice’s location is accessible—e.g., to let Bob know that progress is being made and help avoid user impatience. It was also part of a POSA’s background knowledge to

show a second display screen while access rights were being determined. My testimony as to the POSA's background knowledge in this regard is corroborated by Hoffman (EX1033), which displayed a message on an LCD screen that said "I'm talking to DPC Central" while the user's access rights were being determined. Hoffman, 21:58-61.

[0350] Thus, it is my opinion that the Randall-Wako combination meets claim 3.

- b. Claim 4: The method of claim 1, wherein said selection occurs on a first display screen, a second display screen is provided on said first wireless telephonic device during said determination, and a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device.**

[0351] I note the claim 4 recites the same limitations as claim 3, but claim 4 adds "a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device." For the reasons discussed *supra* §VIII.E.2.a (claim 3), Randall-Wako meets those repeated portions of claim 4.

[0352] Randall also meets the added "third display screen" element for the reasons I discussed above with respect to Element [1F] (§VIII.D.2.a.vii) and Element [1G] (§VIII.D.2.a.viii), where a map showing Alice's location is provided on Bob's device after Alice's location information is transmitted to Bob's device.

POSAs would have implemented this as a “*third display screen*” to replace the “*second display screen*” as I discussed above with respect to claim 3 (§VIII.E.2.a) by the updated map screen showing Alice’s location (and the surrounding map area) once the “Calculating” (or “Processing” or “Working”) represented by the *second display screen* is complete.

[0353] Thus, it is my opinion that the Randall-Wako combination meets claim 4.

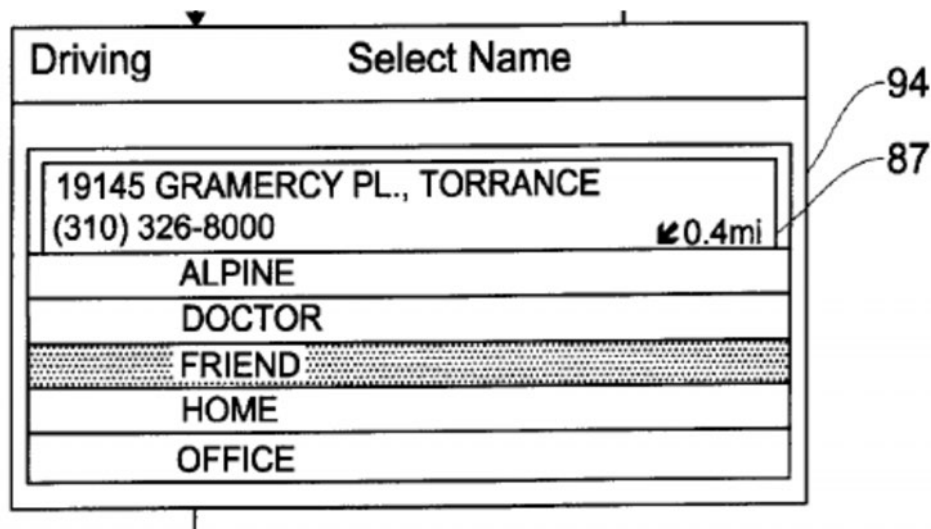
- c. **Claim 5: The method of claim 1, wherein said selection occurs on a first display screen, a second display screen is provided on said first wireless telephonic device during said determination, a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device, and a fourth display screen is provided that includes an option to obtain directions from said first wireless telephonic device to said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users.**

[0354] I note that claim 5 recites the same limitations as claim 4, but claim 5 also recites that “a fourth display screen is provided that includes an option to obtain directions from said first wireless telephonic device to said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users.” For the reasons discussed *supra* §VIII.E.2.b (claim 4), Randall-Wako meets those repeated portions of claim 5.

[0355] Claim 5 adds “a fourth display screen...that includes an options to obtain directions...” to limitations repeated from claim 4. The Randall-Wako combination meets the claimed “fourth display screen” in two alternative ways.

[0356] First, as I discussed above (§VIII.E.1), it would have been apparent to POSAs from Randall’s disclosures that another user’s location (e.g., Alice’s device’s location), which is displayed on a map, may be one of the disclosed places “where you want to go” that Randall’s “Route finder” can provide directions to (e.g., directions provided on Bob’s device to navigate from Bob’s device’s location to Alice’s device’s location). Randall, [0021], p. 29. It would have been obvious to a POSA to provide Bob the option to obtain these directions in a *fourth display screen* so that Bob can view Alice’s location in the *third display screen* and then indicate in a *fourth display screen* whether he wishes to obtain directions to that location.

[0357] Second, as I discussed above with respect to claim 5 in a Sheha-based ground (§VIII.B.3.c), a user would have expected to have an option to obtain a route to a location by interacting with a further display screen after receiving a location, such as disclosed in Wako. Wako, FIGs. 12B-12C, 12:35-13:37. For example, Wako shows a display screen in Figure 12b to request driving directions to a particular location:



**Wako, FIG. 12B**

[0358] Wako further teaches to “include[] an information box 78 which shows a distance to the final destination and an anticipated time to reach the final destination” in “the route guidance screen 76 in FIG. 7.” Wako, 9:8-22. A POSA would have been motivated to implement such a *fourth display screen* in Randall to allow the user to make use of the received location, such as by choosing to navigate to the location.

[0359] Thus, it is my opinion that the Randall-Wako combination meets claim 5.

- d. Claim 10: The method of claim 8, wherein said selection occurs on a first display screen and a second display screen is provided on said wireless device during said determination.**

[0360] Claim 10 recites substantially the same functionality as recited in claim 3 but refers to “*said wireless device*” rather than “*said first wireless*

*telephonic device.*” Thus, it is my opinion that Randall-Wako renders claim 10 obvious for the same reasons Randall-Wako renders claim 3 obvious, as discussed above (§VIII.E.2.a).

- e. **Claim 11: The method of claim 8, wherein said selection occurs on a first display screen, a second display screen is provided on said wireless device during said determination, and a third display screen is provided on said wireless device after said location information is transmitted to said wireless device.**

[0361] Claim 11 recites substantially the same functionality as recited in claim 4 but refers to “*said wireless device*” rather than “*said first wireless telephone device.*” Thus, it is my opinion that Randall-Wako renders claim 11 obvious for the same reasons Randall-Wako renders claim 4 obvious, as discussed above (§VIII.E.2.b).

- f. **Claim 12: The method of claim 8, wherein said selection occurs on a first display screen, a second display screen is provided on said wireless device during said determination, a third display screen is provided on said wireless device after said location information is transmitted to said wireless device, and a fourth display screen is provided that includes an option to obtain directions from said wireless telephonic device to said first wireless telephonic device.**

[0362] Claim 12 recites substantially the same functionality as recited in claim 5 but refers to “*said wireless device*” and “*to said wireless telephonic device*” rather than “*said first wireless telephonic device*” and “*to said one of said*

*plurality of wireless telephonic devices associated to said selected one of said plurality of users.”* Thus, it is my opinion that Randall-Wako renders claim 12 obvious for the same reasons Randall-Wako renders claim 5 obvious, as discussed above (§VIII.E.2.c).

- g. Claim 14: The method of claim 3, further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device, said third manual input modifies said location access rights, and determining a travel time between said wireless device and said first wireless telephonic device.**

**[0363]** I note that claim 14 recites the same limitations as recited in claim 13, but claim 14 adds “*and determining a travel time between said wireless device and said first wireless telephonic device.*” For the reasons discussed *supra* §VIII.D.2.g (claim 13), Randall-Wako meets those repeated portions of claim 14.

**[0364]** As I explain below, the Randall-Wako combination meets the added limitation because Wako teaches to *determine a travel time* to the desired destination.

**[0365]** As I discussed above for claim 14 in a Sheha-based ground (§VIII.B.3.g), Wako teaches to “include[.]...an anticipated time to reach the final destination” in “the route guidance screen,” and also teaches to determine the route that “requires the shortest time.” Wako, 9:8-22, 11:56-60. Both disclosures teach *determining a travel time* between the user’s device and the destination.

[0366] As I discussed above in §VIII.E.1, it would have been apparent to POSAs from Randall’s disclosures that another user’s location (e.g., Alice’s device’s location), which is displayed on a map, may be one of the disclosed places “where you want to go” that Randall’s “Route finder” can provide directions to (e.g., directions provided on Bob’s device to navigate from Bob’s device’s location to Alice’s device’s location). Randall, [0021], p. 29. In the Randall-Wako combination, *a travel time* between the locations of Bob’s device and Alice’s device is determined (and displayed) based on Wako’s teachings. Because travel time was known to be an important piece of navigational information that a user of Randall’s “Route finder” would have expected to see when reviewing driving directions to a destination, a POSA would have found it obvious to incorporate Wako’s travel time teachings into Randall’s “Route finder.” Thus, in my opinion, Randall-Wako renders claim 14 obvious.

**h. Claim 19: The method of claim 15, wherein said manual selection occurs on a first display screen and a second display screen is provided on said first wireless device during said determination.**

[0367] Claim 19 recites substantially the same limitations as claim 3 but refers to “*said first wireless device*” rather than “*said first wireless telephonic device*.” Thus, it is my opinion that Randall-Wako renders claim 19 obvious for the same reasons Randall-Wako renders claim 3 obvious, as discussed above (§VIII.E.2.a).

- i. **Claim 20: The method of claim 15, wherein said manual selection occurs on a first display screen, a second display screen is provided on said first wireless device during said determination, and a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless device.**

[0368] Claim 20 recites substantially the same limitations as claim 4 but refers to “*said first wireless device*” rather than “*said first wireless telephonic device*.” Thus, it is my opinion that Randall-Wako renders claim 20 obvious for the same reasons Randall-Wako renders claim 4 obvious, as discussed above (§VIII.E.2.b).

**F. Ground 6: Claim 18 Would Have Been Obvious over Randall in View of Engberg**

[0369] As explained in this section below, in my opinion claim 18 of the '283 patent would have been obvious to a POSA in view of the combined teachings of Randall (EX1007) and Engberg (EX1026).

[0370] Above, I provided discussions of Randall (§VIII.D.1) and Engberg (§VIII.C.1).

**1. Discussion of Randall-Engberg Combination**

[0371] As I discussed above with respect to Element [1C] (§VIII.D.2.a.iv), Randall teaches or renders obvious that Bob may provide a login and password to a server when requesting Alice’s location information. As I discussed above in §VIII.C.1, Engberg (EX1026) illustrates different known

options for techniques for requesting such information, including by requesting both a login and password on a single display screen or on successive display screens. Engberg, 4:52-65 (describing Figure 2A as showing a screen that is “similar or identical to standard login screens”), FIGs. 2A-2D. POSAs would have been motivated to use separate login and password screens as a design choice to obtain login and password information from a user of Randall’s system and would have had a reasonable expectation of success because the same or similar information is already obtained by Randall’s system and Engberg corroborates that separate-screen approaches are similar to “standard login screens.” Engberg, 4:52-65, FIGs. 2A-2D. In my opinion, a POSA would have found that using separate login and password screens in Randall’s wireless device would have also been merely simple substitution of one known element (a single combined login/password screen) for another (separate login and password screens) with predictable results (that a standard login screen and password screen would be used to obtain a login and password).

## **2. Mapping of Randall-Engberg Combination to Claim 18**

- a. Claim 18: The method of claim 15, wherein said password is received on a first display screen and said login is received on a second display screen.**

**[0372]** As I discussed above in discussing claim 18 in a Sheha ground (§VIII.C.3.a), obtaining a login and password on different screens was a design

choice well-known to a POSA, particularly if a device has limited screen space, or to ensure that a valid login is entered first, or to prevent against shoulder surfing. Further, Engberg discloses examples of how to receive a login on a first display screen and a password on a second display screen. Engberg, FIGs. 2C-D. Claim 18 recites that the password and login are received on first and second display screens, though no ordering is required by the claim language. Instead, a POSA would understand that “first” and “second” display screen are just labels to distinguish the display screens in the claim. Thus, in my opinion Randall-Engberg meets claim 18.

**IX. COMMENTS ON MULLEN’S CHARACTERIZATION OF MY DEPOSITION TESTIMONY CITED IN IPR2023-00091, PAPER 13**

[0373] I am aware that in IPR2023-00091 (283 Patent), Mullen argued that I “conceded” “at deposition” that “Sheha does not disclose user-specific privacy settings for mobile devices.” IPR2023-00091, Paper 13, at 5 (citing IPR2023-00091, Ex. 2003, 17:6-12, 114:12-25). I did not concede that. What I said at 17:6-12 of Ex. 2003 of IPR2023-00091 was that Sheha discusses privacy “at the group level.” And I testified that, in Sheha, “a group *can be a group of one* or it can be a group of many.” IPR2023-00091, Ex. 2003, 17:19-20. I testified that “you can have a group of one” because “in my experience, particularly in the location world, the way group has been used it is not required to have at least two. It can have at least one. It can be just one.” IPR2023-00091, Ex. 2003, 18:11-24.

I testified that, “[f]or example, if you have a friend section in your contact list, you just have one friend as your group of friends, sadly for you, but it’s still just one person.” IPR2023-00091, EX2003, 18:21-24. At 114:12-25 of Ex. 2003 of IPR2023-00091, I testified similarly. I said that Sheha’s “privacy settings, as well as the group database settings, are not individual by individual,” because they are not *only* set individual by individual, but I reiterated again that “the group permutation, in my view, can have a group of one.” IPR2023-00091, Ex. 2003, 114:22:15-3. When a privacy setting or group permission setting is set for a group of one (i.e., there is one individual in the group), it is set exclusively for that individual.

**[0374]** I am aware that in IPR2023-00091 (283 Patent), Mullen argued that I “conceded at [my] deposition that the privacy settings are not user specific and apply to any position request received from any device logged into the ODAS.” IPR2023-00091, Paper 13, at 17-18 (citing IPR2023-00091, Ex. 2003, 17:6-12, 20:13-21:9, 23:22-24:7, 24:20-25:11, 114:12-25, 116:2-7, 154:2-5). As explained below, that is not what I said in any of the cited portions of my deposition.

**[0375]** At 17:6-12 of Ex. 2003 of IPR2023-00091, as discussed above, what I said was that Sheha discusses privacy “at the group level.” And I testified

that, in Sheha, “a group *can be a group of one* or it can be a group of many.”

IPR2023-00091, Ex. 2003, 17:19-20.

[0376] At 20:13-21:19 of Ex. 2003 of IPR2023-00091, I was asked whether “anybody that has access to the ODAS database can access the location mobile device 18a based on that sentence” at 10:17-26 of Sheha, and I answered that “[t]hat passage is not specific to that kind of question.” I said “I think that’s one of the embodiments that Sheha enables,” but that enabled embodiment is not specifically discussed in “[t]hat passage” (*id.*), and it would not negate other embodiments Sheha teaches where “users can define a group of specific users that have access to” their location information (Sheha, 11:63-12:7).

[0377] At 23:22-24:7 of Ex. 2003 of IPR2023-00091, I was asked “who, in the ODAS system, may receive device 18a’s position information,” and I responded, “Just in that narrow sentence, that would *potentially* be anybody who was calling or being called by the phone.” It is only “potentially,” because it also depends in part on whether that person/device has permission to receive the position information.

[0378] At 24:20-25:11 of Ex. 2003 of IPR2023-00091, I testified that “[w]ithin...the scope of that sentence” at 10:20-25 of Sheha, “*notwithstanding any of the other group or authentication kinds of information discussion that Sheha discusses*,...in theory, that would be anybody who...is signed up,

essentially, to get that information from that phone.” I said that because the person has to be “signed up” and authenticated to receive the information, *and* the “other group or authentication kinds of information...that Sheha discusses” *add to* what is discussed at 10:20-25 of Sheha, resulting in embodiments that only provide location information when the receiving has permission based on “a group database and authorization and authentication protocols” (Sheha, 11:63-12:7) and other privacy settings.

[0379] At 114:12-25 of Ex. 2003 of IPR2023-00091, as discussed above, I testified that Sheha’s “privacy settings, as well as the group database settings, are not individual by individual,” because they are not *only* set individual by individual, but I reiterated again that “the group permutation, in my view, can have a group of one.” IPR2023-00091, Ex. 2003, 114:22:15-3.

[0380] At 116:2-7 of Ex. 2003 of IPR2023-00091, I said it was “accurate” that “privacy settings” that “are stored on the devices” (which is just “*one* of the ways” Sheha describes “establish[ing] permission rights”) “indicate under what conditions a target device with those privacy settings will send out its own position information.” IPR2023, Ex. 2003, 115:15-116:7. That does not negate the other ways Sheha describes establishing permission rights via other types of privacy configurations, such as “utilizing a group database and

authorization and authentication protocols to identify users that are permitted to access” location information. Sheha, 11:63-12:7.

**[0381]** At 154:2-5 of Ex. 2003 of IPR2023-00091, I said it “would be fair” to say that “privacy settings apply to the users that are signed in to the ODAS system.” I did not say that no access permissions are user-specific. My statement merely reflects that each user signs on to the ODAS in order to access its services.

**[0382]** I consistently testified in my deposition in IPR2023-00091 that “the mere fact that [a user is] logged in to the ODAS and there’s a video call by itself may not be – wouldn’t necessarily be sufficient to get the location. There would also have to be a privacy setting saying, ‘Okay, this caller can receive the location information.’” IPR2023-00091, Ex. 2003, 16:24-17:4. I consistently testified that “there is a group capability within Sheha that you can say, For the people in this group, I will allow location information to be provided. And a group can be a group of one or it can be a group of many.” IPR2023-00091, Ex. 2003, 17:16-20. I consistently testified that the capability to specify permissions to a group of one or more users is complementary to and used with other types of privacy settings in Sheha. For example, I testified that Sheha “has a group capability by which if you're on that group, then you would be able to have these permutations that we just went through applied to you, meaning if you’re on the group and you are -- have a particular time period that's also there, then you would

be able to get the location information. *If you're not on the group, you would not be allowed to do that.*” IPR2023-00091, Ex. 2003, 25:16-24.

[0383] I am aware that in IPR2023-00091, Mullen argued that I “conceded...at [my] deposition” that “Sheha does not disclose one device user assigning rights exclusively to another device user—rather, any user that is permitted to login into the group database using authorization and authentication protocols can access the position information of everyone else in that database.” IPR2023-00091, Paper 13, at 35 & 39 (citing IPR2023-00091, Ex. 2004, 189:16-22). That is not what I said. At 189:16-22 of Ex. 2004 of IPR2023-00091, I said that a user’s location “information is available to the people *who are listed in the group* as being able to have access to that information”—not that a user’s position information is accessible to any user who can log in to a whole database of groups.

[0384] I am aware that in IPR2023-00091 (283 Patent), Mullen argued that I “conceded at [my] deposition that” Sheha’s reference to “this information” at Sheha’s 11:55-12:4 is “in the landline description [and] ties the ‘define a group of specific users’ and ‘group data’ disclosures to the ‘landline-to-landline position request.’” IPR2023-00091, Paper 13, at 31 (citing IPR2023-00091, Ex. 2004, 185:14-188:5). I did not concede that the cited portion of Sheha “ties the ‘define a group of specific users’ and ‘group database’ disclosures to the ‘landline-to-landline position request.’” At 187:22-188:5 of Ex. 2004 of IPR2023-00091, I was

asked whether “this information” in Sheha’s sentence at 11:65-12:1 is “referring to this information that’s been discussed in the previous three sentences – four sentences,” and I said, “Right.” And I subsequently testified that “this information” in one of the previous sentences is “referring to the telephone number and its associated position information.” IPR2023-00091, Ex. 2004, 189:2-14.

Sheha makes clear that mobile telephones and landline telephones can both have position information associated with their numbers. E.g., Sheha, 9:66-10:4, 10:44-47, 10:66-11:8. I did not at all testify that Sheha’s “define a group of specific users” and “group database” disclosures are tied to the “landline-to-landline position request.” As I discussed at deposition and in my declaration for this matter, Sheha discloses that mobile-to-mobile, mobile-to-landline/landline-to-mobile, and landline-to-landline embodiments operate similarly. E.g., Sheha, 4:13-18, 4:59-62, 10:44-47.

[0385] I am aware that in IPR2023-00091 (283 Patent), Mullen argued that I “conceded” that Sheha’s “No Phone Call embodiment descriptions were ambiguous.” IPR2023-00091, Paper 13, at 33 (citing IPR2023-00091, Ex. 2003, 28:16-29:7, 29:19-30:14, 31:19-32:4). I did not concede that. At 28:16-29:10 of Ex. 2003 in IPR2023-00091, I stated that the “in one embodiment” phrase in Sheha’s sentence at 11:61-63 is “potentially a little more ambiguous” *in isolation*, but that “given the overall scope of Sheha,” that “sentence is applicable to both

mobile and landline.” At 29:19-30:18 of Ex. 2003 in IPR2023-00091, I gave substantially the same testimony—that the sentence is “ambiguous” in isolation, but “given the full scope context of this whole paragraph and the whole patent itself – is also applicable to mobile embodiments.” As I’ve discussed, Sheha at 11:58-12:7 makes clear that the paragraph’s discussion that follows also applies to mobile-to-mobile, which Sheha elsewhere says works similar to landline-to-landline and mobile-to-landline, which has “the same” “objectives” (Sheha, 4:13-17), as I’ve discussed above. And at 31:19-32:4 of Ex. 2003 in IPR2023-00091, I was only asked whether Sheha at 11:58-61 makes “reference to the ODAS database,” and I said that *particular* paragraph of Sheha was “not getting into” that level of detail on “any specific system component.” Sheha discusses such details elsewhere, as I discussed *supra* §VIII.A.5.a.v.

[0386] I am aware that in IPR2023-00091 (283 Patent), Mullen argued that I was “speculating about how the ‘group database’ of Sheha could have been used to exchange position information between mobile devices without initiating a phone call” and that I “went beyond the disclosures in Sheha, was not able to articulate how the technology at the time would have supported using a group database for mobile device position exchanges and admitting that such methodology would have been costly (‘\$500 data bill’) and impractical (‘impact battery power’).” IPR2023-00091, Paper 13, at 34 (citing IPR2023-00091, Ex.

2003, 69:3-71:20). I disagree that my testimony went beyond Sheha's disclosure and in the cited testimony I was not asked to "articulate how the technology at the time would have supported using a group database for mobile device position exchanges." However, I explained that there would have been many "different embodiments" within the POSA's ordinary skill that are consistent with Sheha's disclosure where the "location would be stored on the ODAS." IPR2023-00091, Ex. 2003, 70:17-71:12. I also did not testify that any such methodology would be "costly" or "impractical." I explained that a POSA would have known to implement "different ways of kind of calibrating or controlling" the frequency of location reporting using "location settings" because the frequency "[c]ould impact battery power" and "you wouldn't necessarily want to just say, Hey, I'm going to keep my data fresh every two minutes, and wind up with a \$500 data bill at the end of the month." IPR2023-00091, Ex. 2003, 70:17-71:20. **Some** users, however, might find such costs worth paying to have near real-time location monitoring. POSAs would have known how to provide settings to allow each user to balance trade-offs of freshness of location reporting vs. power consumption and commercial service costs, all of which were well within a POSA's level of ordinary skill to address, and none of which were non-obvious. The challenged patent's claims recite no requirements about cost, battery-power, or how "fresh" the location data must be.

[0387] I am aware that in IPR2023-00091 (283 Patent), Mullen argued that I “confirmed that” Sheha’s disclosure at 4:52-58 “does not refer to Figure 5.” IPR2023-00091, Paper 13, at 43 (citing IPR2023-00091, Ex. 2003, 85:6-9). I did not confirm that Sheha’s disclosure at 4:52-58 does not refer to Figure 5. Instead, all I agreed was that Sheha at 4:52-58 “does not contain the words ‘Figure 5.’” IPR2023-00091, Ex. 2003, 85:6-9. To the extent Mullen is characterizing my deposition testimony as being that Sheha at 4:52-58 is unrelated to Sheha’s Figure 5, that was not my testimony and I disagree with Mullen’s characterization. Sheha at 4:52-58 says that embodiments include “the mobile telephone” “be[ing] able to provide navigation information, such as route information in the form of real-time driving directions, or else a map and address of the destination telephone number can be displayed on the mobile telephone.” Sheha’s FIG. 5 is consistent with that disclosure as it illustrates an “information window 30” that displays “a map location 33 of the caller, and the user’s location position information” and “can also provide a driving route 29.” Sheha, 9:23-39. Thus, in my opinion, Sheha at 4:52-58 is related to Sheha’s FIG. 5.

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

I declare under penalty of perjury that the foregoing is true and correct.

Dated: 10-07-2024



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## X. APPENDIX: CLAIM LISTING

The following claim listing assigns labels (e.g., [1A], [1B], etc.) to certain claim elements for ease of reference.

|                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Claim 1</b>                                                                                                                                                                                                                                                                           |
| [1PRE] A method comprising:                                                                                                                                                                                                                                                              |
| [1A] displaying on a first wireless telephonic device a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephonic devices;                                                                                  |
| [1B] receiving on said first wireless telephonic device a first manual input in a form of a selection of one of said plurality of users;                                                                                                                                                 |
| [1C] receiving on said first wireless telephonic device an input in a form of a login and a second manual input in a form of a password;                                                                                                                                                 |
| [1D] determining whether to allow access of location information for said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users,                                                                                               |
| [1E] wherein said determination includes identifying said user of said first wireless telephonic device from said plurality of users using said login and determining said password is associated with said login                                                                        |
| [1F] and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephonic device,                                                                                                |
| [1G] and said first wireless telephonic device is operable to assign location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device; |
| [1H] transmitting said location information from a server to said first wireless telephonic device; and                                                                                                                                                                                  |
| [1I] displaying said location information on said first wireless device.                                                                                                                                                                                                                 |
| <b>Claim 2</b>                                                                                                                                                                                                                                                                           |
| The method of claim 1, wherein a positioning system is utilized to provide said location information.                                                                                                                                                                                    |
| <b>Claim 3</b>                                                                                                                                                                                                                                                                           |
| The method of claim 1, wherein said selection occurs on a first display screen and a second display screen is provided on said first wireless telephonic device during said determination.                                                                                               |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Claim 4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The method of claim 1, wherein said selection occurs on a first display screen, a second display screen is provided on said first wireless telephonic device during said determination, and a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device.                                                                                                                                                                                                                                                      |
| <b>Claim 5</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The method of claim 1, wherein said selection occurs on a first display screen, a second display screen is provided on said first wireless telephonic device during said determination, a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless telephonic device, and a fourth display screen is provided that includes an option to obtain directions from said first wireless telephonic device to said one of said plurality of wireless telephonic devices associated to said selected one of said plurality of users. |
| <b>Claim 6</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The method of claim 1, further comprising receiving a third manual input, wherein said first wireless telephonic device assigned location access rights to said one of said plurality of wireless telephonic devices associated with said selected one of said plurality of users for obtaining a location of said first wireless telephonic device and said third manual input modifies said location access rights.                                                                                                                                                                                      |
| <b>Claim 7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The method of claim 1, wherein a triangulation process is utilized to provide said location information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Claim 8</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>[8PRE]</b> A method comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>[8A]</b> displaying on a wireless device a first name associated to a first wireless telephonic device and a second name associated to a second wireless telephonic device;                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>[8B]</b> accepting a selection of said first name on said wireless device;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>[8C]</b> receiving manual input entered into said wireless device that includes a login and a password;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>[8D]</b> determining whether to transmit location information associated to said first wireless telephonic device from a server to said wireless device,                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>[8E]</b> wherein said determining includes performing an identification process based, at least in part, on said manual input to identify the user of said wireless device                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>[8F]</b> and determining whether said first wireless telephonic device has provided access rights for said location information for said identified user                                                                                                                                                                                                                                                                                                                   |
| <b>[8G]</b> and said server is located remotely from said wireless device, said first wireless telephonic device, and said second wireless telephonic device,                                                                                                                                                                                                                                                                                                                 |
| <b>[8H]</b> and said wireless device is operable to assign location access rights to said first wireless telephonic device for obtaining a location of said wireless device;                                                                                                                                                                                                                                                                                                  |
| <b>[8I]</b> transmitting said location information to said wireless device based on said determination; and                                                                                                                                                                                                                                                                                                                                                                   |
| <b>[8J]</b> displaying said location information on said wireless device.                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Claim 9</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The method of claim 8, wherein a positioning system is utilized to provide said location information.                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Claim 10</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The method of claim 8, wherein said selection occurs on a first display screen and a second display screen is provided on said wireless device during said determination.                                                                                                                                                                                                                                                                                                     |
| <b>Claim 11</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The method of claim 8, wherein said selection occurs on a first display screen, a second display screen is provided on said wireless device during said determination, and a third display screen is provided on said wireless device after said location information is transmitted to said wireless device.                                                                                                                                                                 |
| <b>Claim 12</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The method of claim 8, wherein said selection occurs on a first display screen, a second display screen is provided on said wireless device during said determination, a third display screen is provided on said wireless device after said location information is transmitted to said wireless device, and a fourth display screen is provided that includes an option to obtain directions from said wireless telephonic device to said first wireless telephonic device. |
| <b>Claim 13</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The method of claim 8, further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device and said third manual input modifies said location access rights.                                                                                                                                                                            |
| <b>Claim 14</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| The method of claim 3, further comprising receiving a third manual input, wherein said wireless device assigned location access rights to said first wireless telephonic device for obtaining a location of said wireless device, said third manual input modifies said location access rights, and determining a travel time between said wireless device and said first wireless telephonic device.                                                                         |

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| <b>Claim 15</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>[15PRE]</b> A method comprising:                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>[15A]</b> accepting on a first wireless device a manual selection representative of a second wireless device from a list representative of a plurality of wireless devices;                                                                                                                                                                                                                                                                                                 |
| <b>[15B]</b> locating said second wireless device;                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>[15C]</b> determining on a server whether said second wireless device has provided permission for said first wireless device to locate said second wireless device based, at least in part, on an identification of a login, that identifies the user of said first wireless device from a plurality of users, and password received by said first wireless device that is associated with said login and determining whether said user is associated with said permission, |
| <b>[15D]</b> and said first wireless device is operable to assign a second permission to said second wireless device for obtaining second location information of said first wireless device;                                                                                                                                                                                                                                                                                  |
| <b>[15E]</b> providing location information to said first wireless device based on said determination; and                                                                                                                                                                                                                                                                                                                                                                     |
| <b>[15F]</b> displaying a map on said first wireless device with a marker representative of the location of said second wireless device.                                                                                                                                                                                                                                                                                                                                       |
| <b>Claim 16</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The method of claim 15, wherein a positioning system is utilized to provide said location information.                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Claim 17</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The method of claim 15, wherein said password is received on a first display screen.                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Claim 18</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The method of claim 15, wherein said password is received on a first display screen and said login is received on a second display screen.                                                                                                                                                                                                                                                                                                                                     |
| <b>Claim 19</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The method of claim 15, wherein said manual selection occurs on a first display screen and a second display screen is provided on said first wireless device during said determination.                                                                                                                                                                                                                                                                                        |
| <b>Claim 20</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The method of claim 15, wherein said manual selection occurs on a first display screen, a second display screen is provided on said first wireless device during said determination, and a third display screen is provided on said first wireless device after said location information is transmitted to said first wireless device.                                                                                                                                        |