

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

MULLEN INDUSTRIES LLC,
Patent Owner.

Case No. IPR2025-00366
Patent No. 11,234,117

DECLARATION OF DAVID H. WILLIAMS

Google Exhibit 1003 Google v Mullen IPR2025-00366

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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 15-41 (the “challenged claims”) of U.S. Patent No. 11,234,117 (“the ’117 patent”) (EX1001).

[0002] 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 ’117 patent.

I. PERSONAL AND PROFESSIONAL BACKGROUND

[0003] 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.

[0004] 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.

[0005] 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.

[0006] 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.

[0007] 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.

[0008] 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.

[0009] 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.

[0010] 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.

[0011] 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.

[0012] 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.

[0013] 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.

[0014] 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 (2004 and 2005 versions), and (co-authored) The Definitive Guide to Mobile Positioning and Location Management.

[0015] I am the inventor or a co-inventor of ten issued U.S. patents and numerous pending applications. These include:

[0016] “Method and apparatus for providing mobile social networking privacy.” (U.S. Patent Number 8,613,109, Issued December 17, 2013).

[0017] “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).

[0018] “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).

[0019] “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).

[0020] “Systems and methods for developing, monitoring, and enforcing agreements, understandings, and/or contracts.” (U.S. Patent Number 10,853,897, Issued December 1, 2020).

[0021] “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).

[0022] “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).

[0023] “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).

[0024] “Dynamic and adaptive systems and methods for rewarding and/or disincentivizing behaviors” (U.S. Patent Number 11,636,941, Issued April 25, 2023).

[0025] “Systems and Methods for Conducting/Defending Digital Warfare or Conflict” (U.S. Patent Number 12,096,308, Issued September 17, 2024).

[0026] 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:

[0027] 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.

[0028] 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.

[0029] 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.

[0030] 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.

[0031] 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.

[0032] 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.

[0033] 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).

[0034] 2010-Present – Worked on patent and related 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.

[0035] 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.

[0036] 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

[0037] 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.

Exhibit	Description
1001	U.S. Patent No. 11,234,117 (“the ’117 patent”)
1002	Prosecution History of U.S. Patent No. 11,234,117
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”)

Exhibit	Description
1008	International Patent Application Publication No. WO 02/17075 (“Randall-WIPO”)
1013	U.S. Patent No. 6,968,179 (“De-Vries”)
1015	U.S. Patent No. 6,714,791 (“Friedman”)
1018	U.S. Patent No. 6,716,101 (“Meadows”)
1019	U.S. Patent No. 7,366,522 (“Thomas”)
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”)
1027	Korean Patent Application Publication No. 10-2001-0091381 (“Han”)
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”)
1035	International Patent Application Publication No. WO 00/22860 (“Degnbol”)
1039	Plaintiff’s Disclosure of Asserted Claims and Infringement Contentions in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (May 15, 2024)
1040	U.S. Patent No. 7,146,407 (“McNulty”)
1054	U.S. Patent No. 6,867,733 (“Sandhu”)
1056	U.S. Patent No. 6,049,718 (“Stewart”)
1071	U.S. Patent No. 7,203,752 (“Rice”)
1074	U.S. Patent No. 6,285,867 (“Boling”)
1075	U.S. Patent No. 6,208,934 (“Bechtolsheim”)
1076	U.S. Patent Application Publication No. 2003/0040272 (“Lelievre”)
1077	U.S. Patent No. 5,048,117 (“Aisaka”)

Exhibit	Description
1078	U.S. Patent No. 5,212,811 (“Kuge”)

III. MY UNDERSTANDING OF PATENT LAW

[0038] 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:

[0039] 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.

[0040] 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.

[0041] 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.

[0042] 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.

[0043] 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

[0044] 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.

[0045] 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

[0046] 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.

[0047] 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.

[0048] 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.

[0049] 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.

[0050] 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”)

[0051] 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.

[0052] The '117 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 '117 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 '117 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.

[0053] 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.

[0054] 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.

[0055] 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 '117 PATENT

[0056] The '117 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

[0057] Generally, the '117 patent discusses techniques for determining a device's location, such as via the Global Positioning System (“GPS”). EX1001, 1:15-28. 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.

[0058] Cellphones in the '117 patent can share their locations with a remote system, from which other users can obtain them. EX1001, 5:11-34. 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, 3:22-31.

[0059] Sheha's Figure 2's example method (copied below) to obtain another user's location includes receiving a location request, 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, 8:11-14.

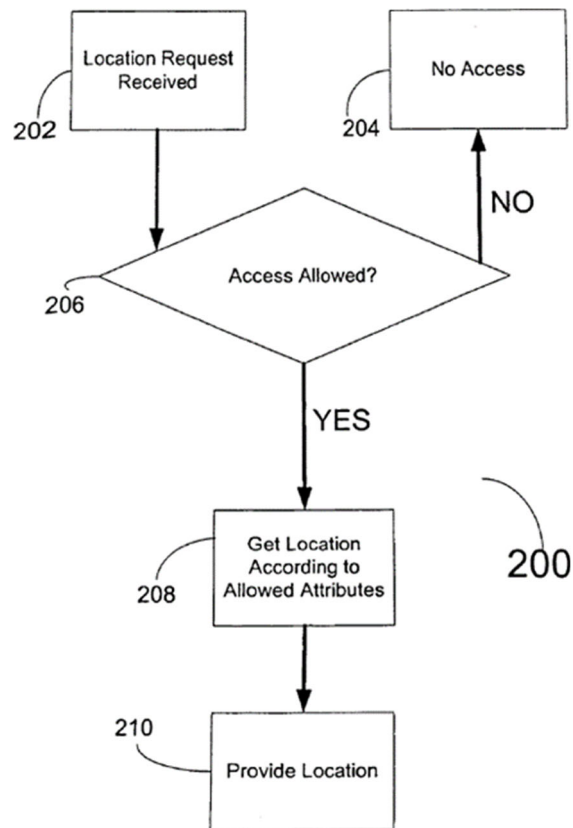


FIG. 2
EX1001, FIG. 2

B. Prosecution History of the '117 Patent

[0060] The '117 patent's prosecution spanned fourteen years and seven office actions. Finally, the applicant canceled all pending claims and added new independent claims to mirror claims in other related patents. EX1002, pp. 1484-1494, 1542-1561. The Examiner then allowed the claims because they “are similar to already allowed claims in other patents with small word or small phrase changes.” EX1002, p. 1503 (reasons for allowance).

C. The Challenged Claims

[0061] Independent claims 15 and 29 of the '117 patent are “wireless telephone” claims that adapt recitations from method claim 1 of related U.S. Patent No. 9,204,283 (which I discussed in my declaration submitted in IPR2025-00019) and system claim 1 of related U.S. Patent No. 11,096,039 (which I discussed in my declaration submitted in IPR2025-00021).

[0062] As I discuss further below in §VIII, each of the dependent claims recites further functionality that was routine and conventional before the '117 patent.

VI. CLAIM INTERPRETATION

[0063] 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

[0064] 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

[0065] The '117 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.

[0066] 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.

[0067] 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.

[0068] 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.¹

[0069] 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 and 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, and to enable

¹ 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 at p.3 (last checked 09-30-2024).

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

[0070] 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.² As the White House's press release said at the time:³

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.⁴

² Specifically, up to 100 meters vertically, and up to 50 meters horizontally.

³ 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).

⁴ I have added all emphasis in this declaration unless I have specified otherwise.

[0071] 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.

[0072] For example, a Google Patent search for “location services” and “sharing” prior to March 25, 2002 yields over 136,000 results.⁵ Over 129,000 of those results⁶ 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

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

⁶ <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.”⁷ Similarly, a search for “location services” and “sharing” and “new revenue” yielded over 15,000 results.⁸ Replacing the search of “new revenue” with “improved user interface” yielded over 84,000 results,⁹ and “navigation” instead of “new revenue” yielded over 25,000 results.¹⁰ 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.

⁷ <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).

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

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

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

[0073] 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)

[0074] 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.

[0075] 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.

[0076] 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).

[0077] 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)

Sheha (EX1005) Claim 1 Limitation	Sheha’s Provisional Application Support in EX1006
1. A method of providing position information of a caller using a telecommunication network, said method comprising the steps of:	“It is another object of the present invention to provide a method for...the purpose of determining position information associated with the telephone number by searching a networked database.” 4:6-10.¹¹ <i>See also</i> 4:11-18; 4:21-25 (“the position information to a caller is displayed”); 11:3-27 (caller uses a “telephone network,” which is “<i>a telecommunication network</i>”); 12:30-32 (supported telecommunication

¹¹ 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.

	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;	“The act of dialing the telephone number to another remote landline telephone [<i>a telecommunication event</i>]”, 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. “In one embodiment the display unit on the destination telephone 8 [<i>i.e.</i>, the device receiving the caller information] can display the caller’s name [<i>caller identification information</i>], telephone number, address, and can provide a map illustration of varying resolutions configured by the user through the telephone network 2.” 11:28-31. “The ODAS 3 is preferably notified that a telephone call is being established by the telephone network 2 [<i>a telecommunication event that is initiated by the caller</i>’]. Included in this notification is the telephone number and user identification information for both the originating and destination telephone numbers.” 13:9-13. “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.

	“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 incoming telephone call. 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 originating user identification and telephone number, but may also contain map information of varying resolution.” 14:6-13.
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;	“In this case, users who are initiating or receiving the telephone calls [<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. “In another embodiment, the destination remote mobile device receiving the telephone call obtains the position information from the calling local mobile device, based on permission settings of the calling local mobile device [<i>‘caller privacy information’</i>], for the performance of various operations, such as mapping and calculating driving directions.” 7:19-23. “In another embodiment, each device has privacy settings that allow the device to prevent or limit other calling devices from obtaining

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

	pass that information between a plurality of unique users or applications on various devices.” 4:11-16. “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.” 6:13-17. “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. “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
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	number is also sent to the ODAS 3.” 13:1-7. “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’]” 17:29-31.
verifying whether the receiver is a member of the caller user group;	“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, users can define a group of specific users that have access to this information. 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,

	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.
retrieving a caller position information, said caller position information indicating a location of the caller; and	“It is another object of the present invention to provide a method for...the purpose of determining position information associated with the telephone number [<i>‘retrieving a call position information ... indicating a location of the caller’</i>] by searching a networked database.” 4:6-10. “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 the caller’s position information This position information transfer is done utilizing authentication and authorization procedures or telephone-to-position information correlation procedures for caller identification.” 4:19-28. <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 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.”); 7:19-23 (“In another

	embodiment, the destination remote mobile device receiving the telephone call obtains the position information from the calling local mobile device [<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 map information at varying resolutions of both the originating and destination telephone number’s locations.”); 14:21-25 (“In one embodiment, this new information window 30 is a detailed Map Caller-ID information window of varying resolution displaying the originating position information, such as a map location 33 of the caller, 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 continually send their updated position information to the ODAS 3, 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 periodically updates each mobile device with the other’s position information, thus providing real-time driving directions and route information. In another embodiment, the position information transfer can be
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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,	“The mobile devices 18b and 18c continually send their updated position information to the ODAS 3, 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 periodically updates each mobile device with the other’s position information [<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.” 18:15-22. “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, users can define a group of specific users that have access to this information [<i>‘receiver is verified to be a member of the caller user</i>

	group’]. This is also accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information [<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, responds with the appropriate position information to the requesting user's device [<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.
wherein the transmission of the caller position information is associated with the telecommunication event and occurs after the telecommunication event is initiated.	“The act of dialing the telephone number to another remote landline telephone [<i>‘a telecommunication event’</i>], 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 [<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. “In another embodiment, users can define a group of specific users that have access to this information. 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 [i.e., 'after the telecommunication event is initiated'], the system, based on privacy settings, responds with the appropriate position information to the requesting user's device [<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.
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[0078] 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 '117 patent based on the filing date of Sheha's provisional application.

[0079] 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 claims 15-41 of the '117 patent. *See also infra* §VIII.A.1 (additional discussion of Sheha).

C. Randall (EX1007)

[0080] 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].

[0081] 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 '117 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)**

Randall PCT	Randall US		
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

[0082] 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 claims 15-41 of the '117 patent. *See also infra* §VIII.D.1 (additional discussion of Randall).

D. Smith (EX1023)

[0083] 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 '117 patent based on both Smith’s issue date and its filing date. *See also infra* §VIII.A.2 (additional discussion of Smith).

E. Degnbol (EX1035)

[0084] Degnbol is titled “A method and a system for transmitting data between units” and relates to “automatic notification of a user ‘A’ of the entry of pre-selected user ‘B’ into a pre-determined area (or proximity to a particular location).” Degnbol, 1:8-10. According to the face of the document, Degnbol (EX1035) is an international patent application published on April 20, 2000 as International Publication No. WO 00/22860 from an international patent

application filed on October 12, 1999 as Application No. PCT/DK99/00548. I have been informed by counsel that Degnbol qualifies as prior art to the '117 patent based on Degnbol's publication date. *See also infra* §VIII.B.1 (additional discussion of Degnbol).

F. McNulty (EX1040)

[0085] McNulty is titled "Data synchronization mechanism for information browsing systems" and relates to "organizing information accessible to two or more information browsing devices." McNulty, 1:7-9. According to the face of the document, McNulty (EX1040) is a United States patent issued on December 5, 2006 as Patent No. 7,146,407 from an application filed on October 22, 2001 as Application No. 10/037,489. I have been informed by counsel that McNulty qualifies as prior art to the '117 patent based on McNulty's filing date. *See also infra* §VIII.B.2 (additional discussion of McNulty).

G. 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 '117 patent based on Wako's filing date. *See also infra* §VIII.C.1 (additional discussion of Wako).

H. Bechtolsheim (EX1075)

[0087] Bechtolsheim is titled “Method and system for providing walking instructions with route guidance in a navigation program” and relates to “improved navigation programming that provides information about walking to a final destination in combination with information about driving toward the final destination.” Bechtolsheim, 1:6-10. According to the face of the document, Bechtolsheim (EX1075) is a United States patent issued on March 27, 2001 as Patent No. 6,208,934 from an application filed on January 19, 1999 as Application No. 09/234,154. I have been informed by counsel that Bechtolsheim qualifies as prior art to the '117 patent based on Bechtolsheim's filing date. *See also infra* §VIII.C.3 (additional discussion of Bechtolsheim).

I. Boling (EX1074)

[0088] Boling is titled “Combination emergency phone and personal audio device” and relates to providing the location of a device that combines “a single-button emergency cellular telephone with a personal audio device.” Boling, 1:12-15, 4:34-39. According to the face of the document, Boling (EX1074) is a United States patent issued on September 4, 2001 as Patent No. 6,285,867 from an application filed on November 3, 1998 as Application No. 09/185,191. I have been

informed by counsel that Boling qualifies as prior art to the '117 patent based on Boling's filing date. *See also infra* §VIII.C.2 (additional discussion of Boling).

J. De-Vries (EX1013)

[0089] De-Vries is titled "Place specific buddy list services" and relates to "communications and messaging systems and services, and more particularly to such systems and services to facilitate communication based on location and inter-relationships of people." De-Vries, 1:5-8. According to the face of the document, De-Vries is a United States patent issued on November 22, 2005 as Patent No. 6,968,179 from an application filed on July 27, 2000 as Application No. 09/626,170. I have been informed by counsel that De-Vries qualifies as prior art to the '117 patent based on De-Vries's filing date. *See also infra* §VIII.E.1 (additional discussion of De-Vries).

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

[0090] I have been asked to provide my opinion concerning whether claims 15-41 of the '117 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 15-41 would have been obvious to a POSA. The following table summarizes the Grounds I discuss in the sections below:

Ground Number and Reference(s)		Claims ¹²	Basis
1	Sheha (EX1005), Smith (EX1023)	15 , 17-19, 26, 28	Obviousness
2	Sheha, Degnbol (EX1035), McNulty (EX1040)	29 -31, 33-37, 39	Obviousness
3	Sheha, Smith, Degnbol, McNulty, Wako (EX1025), Boling (EX1074), Bechtolsheim (EX1075)	16, 20-25, 27, 32, 38, 40-41	Obviousness
4	Randall (EX1007-EX1008)	15 , 17-19, 25-26, 28	Obviousness
5	Randall, De-Vries (EX1013)	20-22, 29 -31, 33-35, 38-39, 41	Obviousness
6	Randall, De-Vries, Wako, Bechtolsheim, Degnbol	16, 23-24, 27, 32, 36-37, 40	Obviousness

A. Ground 1: Claims 15, 17-19, 26, and 28 Would Have Been Obvious Over Sheha in View of Smith

[0091] As explained in this section below, in my opinion claims 15, 17-19, 26, and 28 of the '117 patent are obvious over Sheha (EX1005) and Smith (EX1023).

1. Discussion of Sheha (EX1005)

[0092] 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-

¹² I have bolded the independent claims in this table.

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.

[0093] 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.

[0094] 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.

[0095] 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.

[0096] 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.

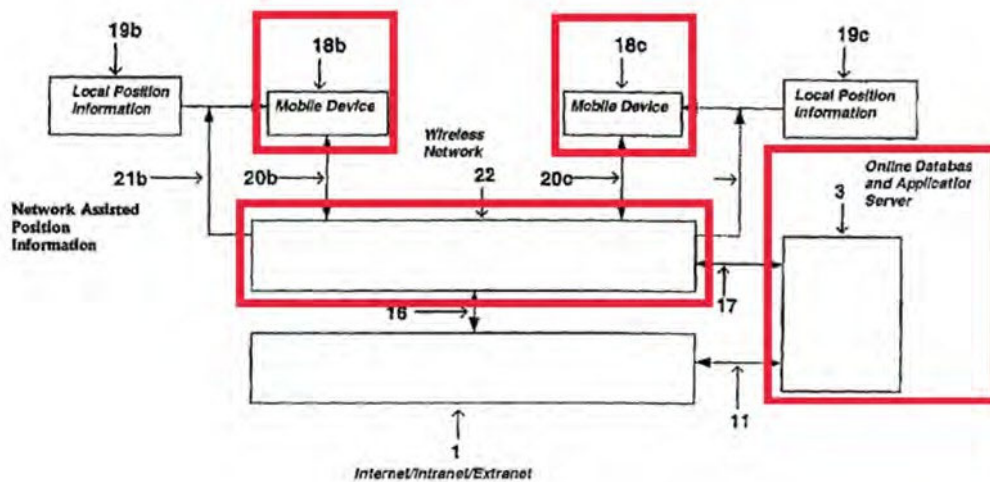


FIG. 3
Sheha, FIG. 3 (annotated)

[0097] FIG. 5 (below) illustrates a map displaying directions between the user's current location 34 and the target user's location 33, which can be displayed on mobile devices. Sheha, 4:52-58, 9:23-39.

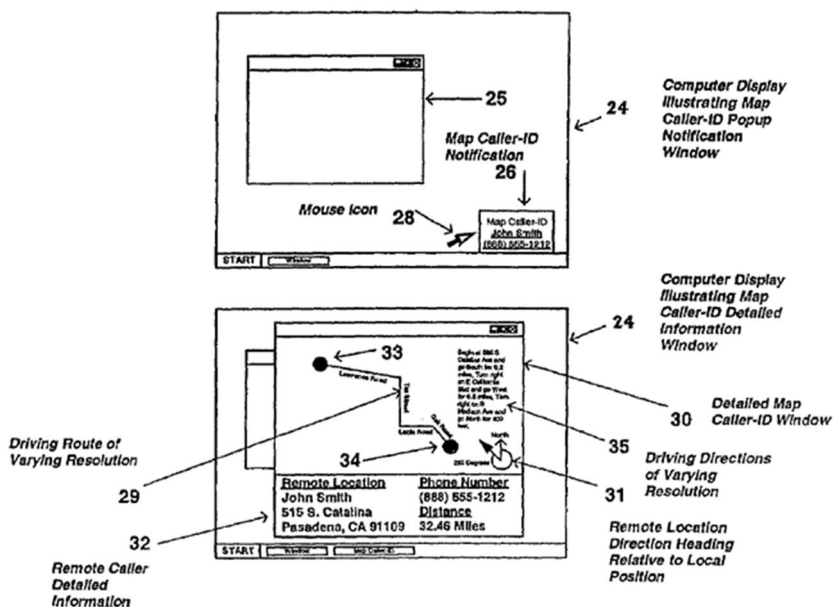


FIG. 5

Sheha, FIG. 5

2. Discussion of Smith (EX1023)

[0098] 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:

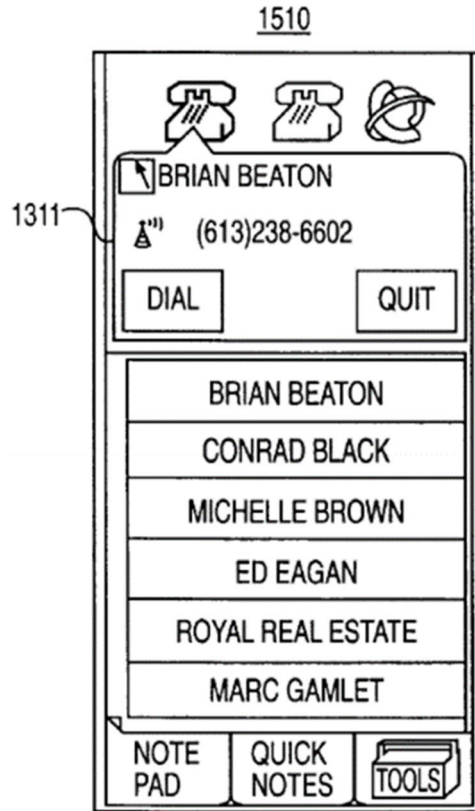
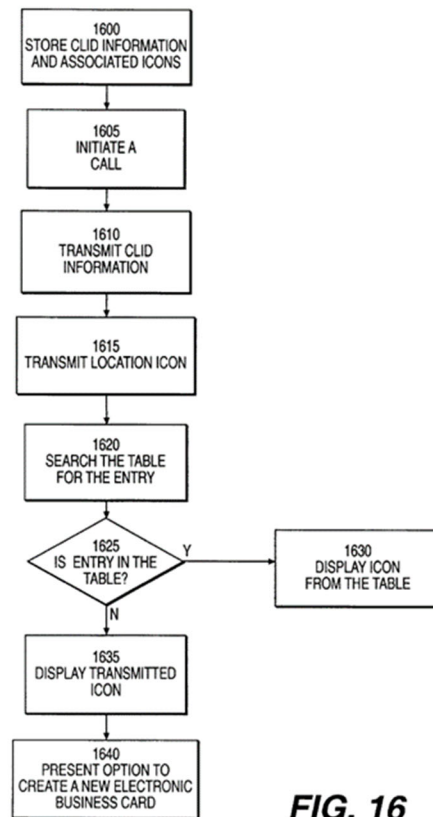


FIG. 15A

Smith, FIG. 15A

[0099] 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 Sheha-Smith Combination

[0100] As discussed in Section V above, the '117 patent is related to wireless devices and using those wireless devices to determine locations of selected users. Further, the claims of the '117 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.1-2, each of Sheha and Smith is directed to mobile devices and/or applications for mobile devices (e.g., positioning). As I discussed above in Section VIII.A.3, a POSA would have had a general motivation

to combine references, such as Sheha and Smith 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.

[0101] As I discussed above, each of Sheha (§VIII.A.1) and Smith (§VIII.A.2) is directed to mobile devices or positioning. In my opinion, POSAs would have had motivation and reasonable expectation of success in combining teachings of the prior art Sheha and Smith, as I discuss in the sections below.

[0102] With respect to Smith's teachings (*supra* §VIII.A.2), a POSA would have been motivated to include in Sheha wireless telephones 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 '117 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.

[0103] POSAs would have understood that Sheha’s wireless telephones would typically have included conventional functionality as discussed in Smith, such as contact lists and manual input devices (such as buttons) to allow a user to interact with the device and contact-list functionality. Because such functionalities were routine and conventional, POSAs would have had a reasonable expectation of success in incorporating contact-list and manual-input-device functionality from Smith into Sheha’s wireless devices.

4. Mapping of Sheha and Smith to Claims 15, 17-19, 26, and 28

[0104] As I explain in the sections below, in my opinion a POSA would have understood that the Sheha-Smith combination meets all limitations of claims 15, 17-19, 26, and 28 of the ’117 patent.

a. Claim 15

i. Preamble [15PRE]: A wireless telephone comprising:

[0105] Claim 15’s preamble recites “A wireless telephone 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 a mobile-to-mobile configuration, illustrated in FIG. 3

(annotated below), where mobile devices 18b-18c communicate with wireless network 22 via wireless connections 20b-20c. Sheha, 11:12-35. A type of “mobile” device in Sheha can be “*a wireless telephone.*” Sheha, 4:43-47, 9:40-43. See also §VIII.A.1 above (discussing Sheha). As I will discuss below, it is my opinion that Sheha in view of Smith meets all limitations of claim 15.

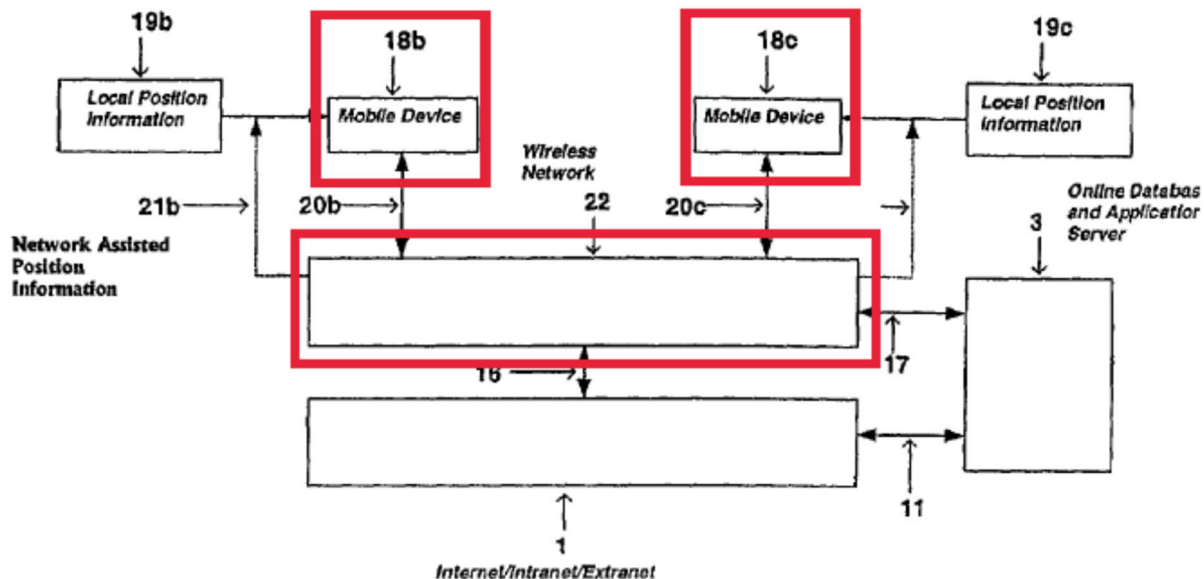


FIG. 3

ii. Element [15A]: a processor;

[0106] Sheha’s “current wireless phones...have...*processing* capability” (Sheha, 5:53-57), indicating that the *wireless telephone* includes a *processor*. Smith confirms that wireless telephones conventionally included processors. Smith, 5:19-62. Thus, Sheha-Smith meets Element [15A].

iii. Element [15B]: a positioning system for determining a location of said wireless telephone; and

[0107] Sheha discloses that wireless devices can include positioning systems, such as GPS (“Global *Positioning System*”), for determining their locations. Sheha, 1:35-38, 10:5-16, 11:15-20. Thus, Sheha-Smith meets Element [15B].

iv. Element [15C]: memory storing programming capable of:

[0108] Sheha states, “current wireless phones...have...*memory*.” Sheha, 5:53-57. As I discussed above (§VIII.A.1), Sheha’s wireless telephones are described as performing tasks including requesting, receiving, interpreting, and displaying data, which POSAs would have understood involves using *programming* stored in *memory*. Smith corroborates that wireless telephones conventionally performed their functionality via *memory storing programming*. Smith, 5:19-6:2. Thus, Sheha-Smith meets Element [15C].

v. Element [15D]: displaying a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;

[0109] 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.

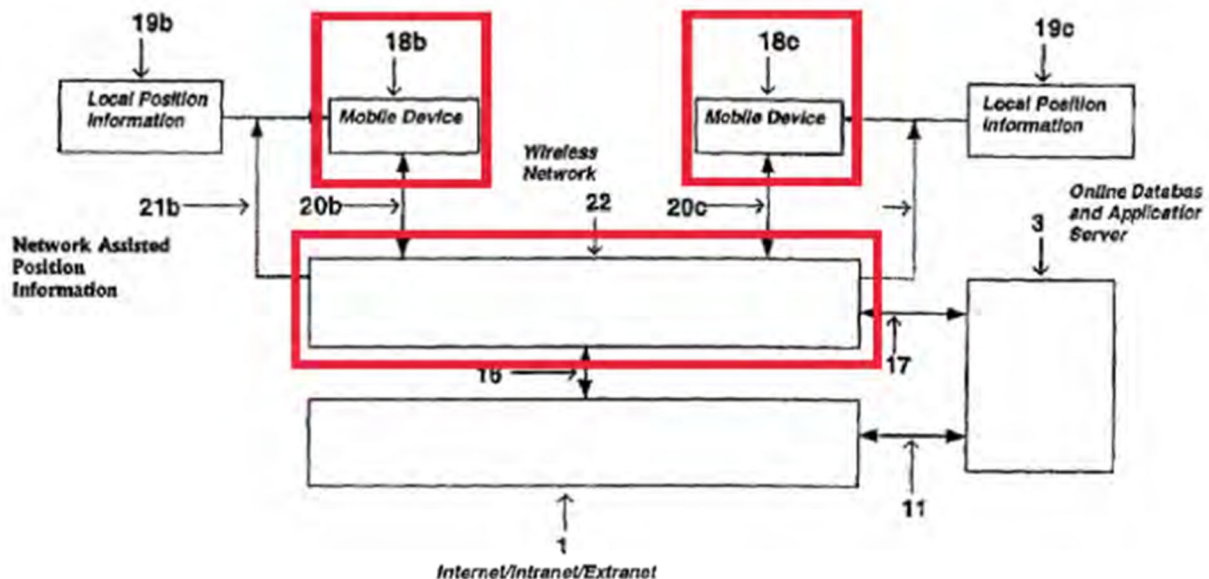


FIG. 3

Sheha, FIG. 3 (annotated)

[0110] In Sheha's system, "a plurality of unique users" are "on various devices," which can be "wireless" "telephone" devices. Sheha, 3:8-10, 4:3-7. Each device (including a 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 telephones*, as Element [15A] recites.

[0111] 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.

[0112] Another way to select another mobile device that was well-known in the art before the priority date of the '117 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 '117 Patent. For example, the Smith reference shows an example of this conventional functionality. In Figures 15A-B (copied below), 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.

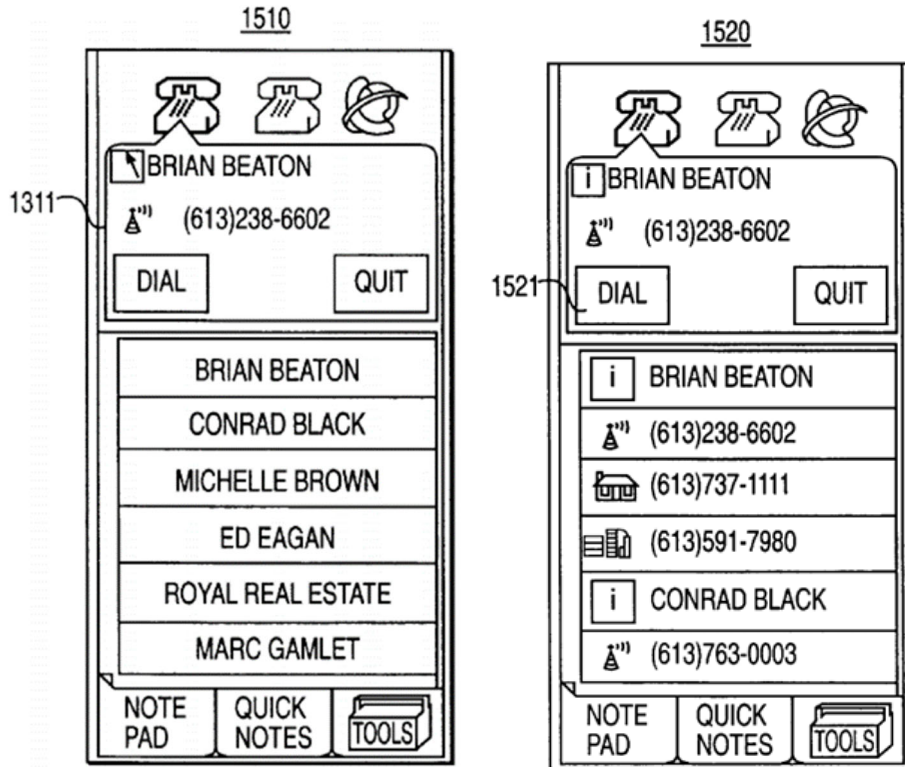


FIG. 15A

FIG. 15B

Smith, FIGs. 15A-B

[0113] Smith describes that a user can scroll through the contact list to identify and select 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.

[0114] 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 (§VIII.A.3), 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 '117 patent.

[0115] Thus, Sheha-Smith meets Element [15D].

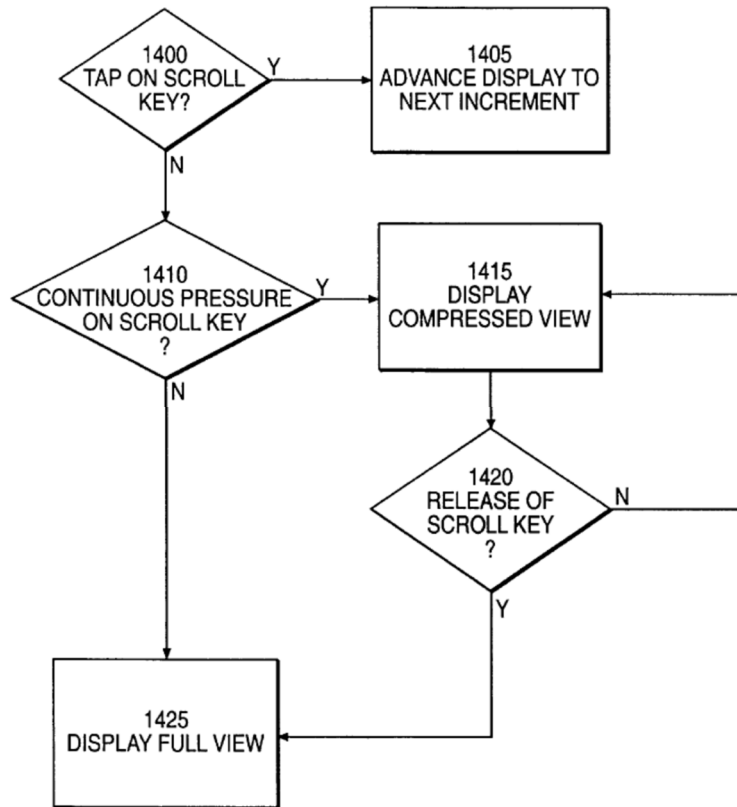
vi. Element [15E]: receiving a first manual input in a form of a selection of one of said plurality of users;

[0116] 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 '117 Patent, including on mobile wireless devices, like cellular telephones.

[0117] As I mentioned above (§VIII.A.3), 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.

[0118] 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, FIGs. 15A-15B. 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, FIGs. 15A-15B. 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.4.a.ii above with respect to Element [1A].



Smith, FIG. 14

[0119] 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.

[0120] 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.

[0121] My testimony regarding POSAs' background knowledge that manually selecting another user from a displayed contacts list was well-known in POSAs' background knowledge is corroborated by several references, as discussed in the paragraphs below.

[0122] 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 combination.

[0123] 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 combination.

WELCOME TO THE WORLD WIDE WATCHER		
ACCESS CODE: <u>1582</u>		
		<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

[0124] 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 combination.

[0125] Thus, it is my opinion that Sheha-Smith meets Element [15E].

vii. Element [15F]: receiving an input in a form of a login and a second manual input in a form of a password;

[0126] 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” that is part of “user identification information” that is sent to the ODAS by (and thus has been *received* on) the telephone. Sheha, 7:22-23, 8:25-53, 11:20-23, 11:55-12:7. As Sheha explains, the ODAS receives “users’ account information...for both mobile devices” in mobile-to-mobile embodiment as in landline-to-landline embodiment. Sheha, 11:20-23. 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.

[0127] In my opinion, it would have been obvious to POSAs for this received input to be implemented as *manual input*, because *manual input* on the *wireless telephone* was a typical, conventional, and predictable way with reasonable expectation of success for the user to submit such a username (*login*) and password to the server. POSAs would have understood that Sheha's wireless telephones would typically have included conventional functionality such as manual input devices (such as buttons) to allow a user to interact with the device. This conventional feature (among others) was typically found in wireless

telephones before the priority date of the '117 Patent, such as those discussed in Smith. Smith, 7:41-49, 9:42-61, 10:7-16, FIGs. 14, 15A; *See supra* §VIII.A.2.

[0128] A POSA would have been motivated to incorporate such manual input device functionality into the Sheha system to carry out a routine activity such as inputting a username and password to a wireless telephone. 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. POSAs would have understood that the mobile devices in Sheha include wireless telephones that could provide users with added functionality, such as location services, that require a user to enter authentication/authorization information to use such added functionality, as described in Sheha. Thus, POSAs would have been motivated to implement functionality to allow a user to enter user authentication to access added functionality on a mobile device. It would have been obvious for POSAs to incorporate functionality to enable a user to enter such login and password information and there are only a limited number of ways to obtain that information from a user of a mobile device, one of which being the manual input device functionality as discussed in Smith. 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, POSAs would

have had a reasonable expectation of success in incorporating such functionality into the Sheha wireless devices.

[0129] My opinion is corroborated by POSAs’ background knowledge with respect to manual input on a wireless device as discussed in connection with several references in the paragraphs below.

[0130] 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.

[0131] 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.

[0132] 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 Sheha’s username and password to be provided as shown and described in connection with FIG. 8 of Carey.

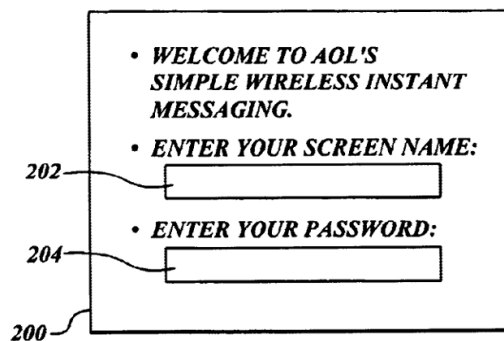


Fig. 8
Carey, FIG. 8

[0133] Thus, it is my opinion that Sheha-Smith meets Element [15F].

viii. Element [15G]: providing said login and said password to a remote server for use in determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users,

[0134] Sheha discusses the “username and password” as part of “user identification information” that is “sent to the ODAS”—“online database and application *server*,” which is *remote* from wireless telephones 18b-18c across network 22. Sheha, 8:30-53, 7:21-23, FIG. 3. Sheha teaches that “every 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. Sheha also teaches that “authentication and authorization protocols” applied by the ODAS 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 is allowed to access location information of a requested device. Sheha, 5:21-46, 11:63-12:7.

[0135] Sheha states that “[w]hen 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.” Sheha, 12:1-7. For example, Sheha discloses 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; *see also* Sheha, 13:65-14:2, 14:54-61, 19:9-13. The ODAS (*remote server*) uses this privacy information to *determine whether* the target device has authorized the requesting device to *access its location information*. Sheha, 3:4-14, 3:22-28, 4:8-18, 5:21-46, 8:42-53, 9:59-10:4.

[0136] I have been informed by counsel that Mullen argued in a prior proceeding that Sheha’s privacy settings are only privacy filters that a target mobile device has implemented for incoming requests and that are agnostic to requestor identity. I understand that Mullen did not make that argument about the permissions specified in Sheha’s “group database,” but instead argued that the group database is specific to landline position requests and is not used in a mobile device embodiment, which Mullen treats as disparate embodiments. In my opinion, Mullen was incorrect.

[0137] Sheha does not describe the device-local privacy filters and requester-specific group database of permissions as features of mutually exclusive embodiments. Rather, they are complementary privacy/permission specification options that POSAs would have understood can all coexist within an embodiment, and that are variously (and interchangeably) referred to as “privacy settings,” “permission settings,” “privacy configuration,” “position transfer permissions,”

etc. Sheha, 4:35-42, 4:59-5:46 (discussing “privacy settings” interchangeably with “permission settings” as applicable to mobile or landline, call or no-call embodiments), 10:17-26, 10:44-11:9, 11:55-12:7 (describing the mobile no-call embodiment using “privacy settings” and the same “authorization and authentication protocols” as the landline no-call embodiment that “utiliz[es] a group database...to identify users that are permitted to access” position information).

[0138] 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. 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 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.

[0139] Sheha thus discloses that the mobile-to-mobile embodiments may employ both device-local privacy filters and a remote group database

specifying which users are authorized for access. Sheha, 4:59-5:20, 11:55-12:7; When both are employed, POSAs would have understood that a requesting user is only given access to a target device's location if the requesting user has permission in the target device's group database and to the extent the target device's local privacy settings allow location sharing. Sheha, 4:59-5:20, 11:55-12:7. Sheha thus discloses that Sheha's mobile-to-mobile no-call embodiment can use the same "privacy settings" and "authorization and authentication protocols...similarly to" what Sheha discloses for landline embodiments. Sheha, 12:4-7, 4:59-5:20.

[0140] Alternatively, even if Sheha did not explicitly disclose using group database permission specifications in mobile-to-mobile embodiments, doing so would have been an obvious variation because 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), with or without initiating a phone call, 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 below.

[0141] For example, Sandhu (EX1054) 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, 5:35-50. 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, 5:35-50. 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 combination.

[0142] Sandhu also discloses sending an “announcement to all the users in the distribution group,” where the “announcement[] sent can contain a location stamp indicating the current location of the sender.” Sandhu, 7:23-41. 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 combination.

[0143] As another example Darling (EX1022) discloses “mobile devices” “storing the[ir] location information at [a] server” that “transmit[s] the stored location information [of a first user] to the second user.” Darling, 2:1-15. Darling further discloses that a user’s position “may be determined by GPS or by triangulation, by the user’s mobile telephone” and having a “server store[] permission information indicating whether the location information for the first user is available to the second user” based on “checking the permission

information prior to the transmitting step. Each user may specify that location information is available only to specified users or groups or categories of users.” Darling, 2:47-3:5; *see also* Darling, 22:23-40 (disclosing providing “List of individuals who have access to the Personal Details” that the user can “identify” “depending on how much information the system has on that user [i.e., the user to give access to]), 32:39-33:32 (disclosing “Location Profile” information that includes defining “People who have access to My Location Details”).

[0144] 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 combination.

[0145] Thus, it is my opinion that the Sheha-Smith combination meets Element [15G].

ix. Element [15H]: said determining including identifying a user of said wireless telephone using said login, determining said password is associated with said login, and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said wireless telephone,

[0146] As I discussed above §§VIII.A.4.a.vii-viii (Elements [15F]-[15G]), Sheha discloses that users provide their username and password as a part of Sheha's authorization and authentication protocols to confirm their identity and that "using the authorization and authentication protocols a user can request the position of a mobile device." Sheha, 8:40-53, 12:1-7. In Sheha, "every 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 *determining includes identifying a user of*

said wireless telephone using said login and determining said password is associated with said login, as Element [15H] recites.

[0147] 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 been given *access rights for said location information* by the target device’s user. Sheha, 5:21-46, 11:63-12:7.

[0148] I understand from counsel that Mullen argued in a prior proceeding that Sheha uses the username and password only to verify that a user is genuine and properly logged in to the ODAS and not to determine if a user has rights to position information. In my opinion, Mullen was incorrect. Sheha teaches that for “position information” requests, “users can define a group of specific users that have access to this information...by utilizing a group database and *authorization and authentication protocols to identify users that are permitted to access* this information.” Sheha, 11:55-12:7. Sheha teaches that the “authentication and authorization protocols” use the “username and password” as “user identification information” to “establish that a user is genuine” (i.e., identify the user who is logging in) “*and verify the level of authority each user is granted*” (e.g., determine what access rights that user has). Sheha, 8:25-53. “When a

mobile device's position information is requested, the system" can use these same "authorization and authentication protocols" to determine whether to "respond[] with the appropriate position information to the requesting user's device." Sheha, 12:1-7; *see also* Sheha, 3:4-14, 3:22-25, 4:8-18, 4:58-5:46.

[0149] I understand from counsel that Mullen argued in a prior proceeding that Sheha does not disclose one device user providing rights exclusively to another device user. I further understand that Mullen proposed construing claims 15 and 29 as the "*access rights*" provided to "to said user of said wireless telephone." But that is not what the claims recite. Claim 15 (and claim 29) nowhere recites "exclusively" or anything similar, and does not exclude the "*access rights*" from being provided to other devices as well. 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 '117 patent at 13:9-12 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, 3:22-24.

[0150] Moreover, even if claim 15 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. For example, Darling corroborates POSAs’ background knowledge that for a mobile device with user-location tracking functionality for groups, “[a] user defined group can be a single person.” Darling, 41:20-42:2.

[0151] 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.

[0152] 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 combination.

[0153] 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 combination.

[0154] As another example, Darling (EX1022) discloses “checking [] permission information [on a server] prior to the transmitting” of a user’s location, where “[e]ach user may specify that location information is available only to specified users or groups or categories of users.” Darling, 3:3-5.

[0155] 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 ’117 patent’s specification says determining the requesting device’s access rights can be performed “as a direct call to the requested device/user” (EX1001, 12:3-4), 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.

[0156] 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.

[0157] 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, [0512]-[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 combination.

[0158] 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 combination.

[0159] Sandhu (EX1054) describes a user setting up a user profile in a service provider (Sandhu, 5:9-34, 5:66-6:21), to limit location data access to a subgroup of users by "defining a distribution group in the user profile." Sandhu, 5:35-51, *see also* 5:52-65. Sandhu describes that the "[s]ervice provider 8 may be a computer or a server linked to data network 4." Sandhu, 6:22-43; Sandhu, 6:44-6:62 ("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 combination.

[0160] As another example, Darling (EX1022) describes a "server stor[ing] permission information indicating whether the location information for the first user is available to the second user" based on "checking the permission information prior to the transmitting step. Each user may specific that location information is available only to specified users or groups or categories of users." Darling, 3:1-5.

[0161] Thus, it is my opinion that Sheha-Smith meets Element [15H].

- x. Element [15I]: assigning location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining said location of said wireless telephone;**

[0162] As I have discussed above (§VIII.A.4.a.viii, Element [15G]), Sheha discloses that any of its mobile devices can provide permission (*access rights*) to another mobile device to request its *location*. For example, Sheha describes that each mobile device user can establish privacy settings that control which other mobile devices may access the device's location, 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). Thus, a mobile device whose position is requested can *assign access rights* for a requesting device to *obtain* its location information, and the requesting device can also *assign access rights* for other devices to *obtain* its location. Sheha, 5:3-9, 11:10-54 (discussing two-way location sharing, as I discuss below), 11:55-12:7.

[0163] 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.

[0164] As I discussed above for Element [15G] (§VIII.A.4.a.viii), claim 15 does not require assigning rights exclusively to a single individual device or user; and even if claim 15 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. *See supra* §VIII.A.4.a.viii (Element [15G]) (discussing scope of *access rights* and obviousness of providing user-specific *access rights*).

[0165] Thus, it is my opinion that the Sheha-Smith combination meets Element [15I].

xi. Element [15J]: receiving said location information for said one of said plurality of wireless telephones from a server; and

[0166] Sheha discloses the requesting wireless device *receiving* the requested *location information* for the target wireless device from the ODAS (*server*). Sheha, 11:36-51, 12:1-7. 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 (i.e., that device *receives said location information*). 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. Thus, it is my opinion that the Sheha-Smith combination meets Element [15J].

xii. Element [15K]: displaying said location information.

[0167] Sheha discloses *displaying* the target device’s (and requesting device’s) *location information* on a 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 for locations 33 and 34).

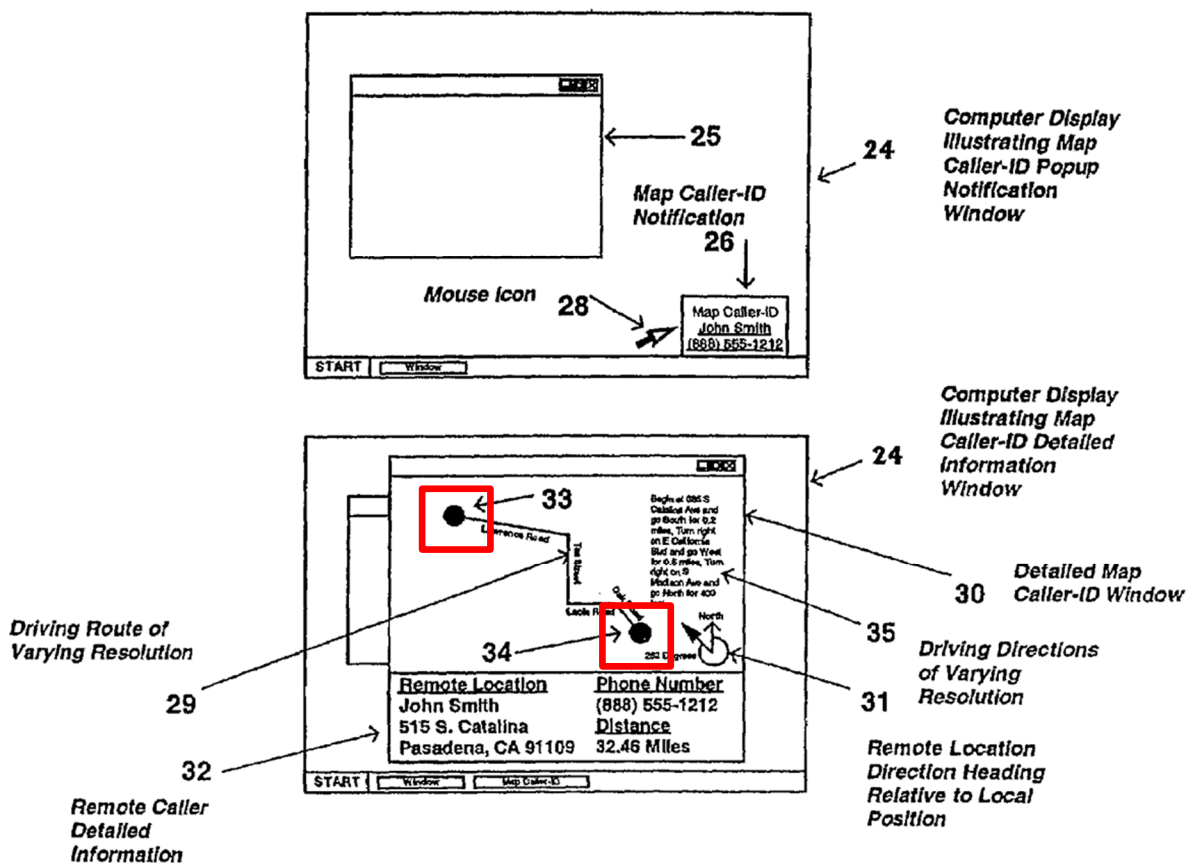


FIG. 5

Sheha, FIG. 5 (annotated)

[0168] Further, Sheha discloses that both the requesting and the target mobile device can display maps showing the locations of both devices. For

example, Sheha at 4:52-58 discloses that such information “can be *displayed* on the mobile telephone.” *See also* Sheha, 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”).

[0169] Thus, it is my opinion that Sheha-Smith meets Element [15K].

- b. **Claim 17: The wireless telephone of claim 15, wherein said programming is further capable of receiving a manual input for modifying said location access rights.**

[0170] Sheha teaches that a mobile device can “terminate” the location access of another mobile device “abruptly due to *manual intervention*” (i.e., *manual input*), which meets claim 6. Sheha, 5:14-15, 5:34-38.

[0171] As I discussed above (§§VIII.A.4.a.v-vi, Element [15D]-[15E]), it would have been obvious to POSAs to use conventional contact list

functionality, such as disclosed in Smith. Smith, 5:15-18, 9:42-55, FIGs. 15A-15B. Smith teaches that a user may manually modify contact information for other users, such as to add phone numbers, email addresses, or other information. Smith, 10:7-16, 6:53-61. Sheha allows a user to specify which users are authorized to obtain permission information, and it would have been obvious to do this by interacting with a contact list like Smith's. Sheha, 4:58-5:20; 11:55-12:7. 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 is provided control over their privacy permissions. Sheha, 2:64-3:3, 5:14-38; *supra* VIII.A.3. 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 supra* §VIII.A.3.

[0172] Additionally, as I discussed above with respect to Elements [15G]-[15I] (§§VIII.A.4.a.viii- VIII.A.4.a.x), Sheha allows a user to specify which users are authorized to obtain location information, and it would have been obvious to do this by interacting with a contact list like Smith's. Sheha, 4:58-5:20; 11:55-12:7; *see also supra* §VIII.A.3. 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.

[0173] Smith describes that a user may manually 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 by interacting with a contact list like Smith's. Sheha, 2:64-3:3, 5:14-38, 4:58-5:20; 11:55-12:7. As I noted above, the contact list is where a user would expect to find aggregated information about different contacts, and would expect to access to *modify* 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.3. Further, it would have been obvious to provide such functionality after selecting a user in a contact list. *See also supra* §VIII.A.3. 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.

[0174] Thus, it is my opinion that Sheha-Smith meets claim 17.

- c. **Claim 18: The wireless telephone of claim 15, wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for an indefinite period of time.**

[0175] Sheha describes location access permissions, which can be provided by the wireless telephone devices to the ODAS server (the *remote server*, as I discussed above §VIII.A.1). Sheha, 5:28-30, 11:65-12:1. As I discussed above (§§VIII.A.4.a.viii-x, Elements [15G]-[15I]), Sheha teaches that a wireless-telephone user can *instruct the server* to allow “specific users [to] have access” to their location “without...a telephone call” (Sheha, 11:55-12:7), which POSAs would have understood allows access *for an indefinite period of time*, because the authorized user may access the location at any time, untethered to any call.

[0176] Sheha also discloses a wireless telephone *instructing* the *server* to *allow access* to its location until “terminate[d]” by “manual intervention” or for “as long as [a] call is active,” which are both *indefinite periods of time* because their length is not known *a priori*. Sheha, 5:15-46.

[0177] Thus, it is my opinion that Sheha-Smith meets claim 18.

- d. **Claim 19: The wireless telephone of claim 15, wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for only a specific period of time.**

[0178] Sheha’s mobile device’s “privacy settings” that the ODAS (*remote server*) “quer[ies]” can “determine[] the *period* of the position transfer” which “can be set for...a *predetermined length of time*.” Sheha, 4:59-66, 5:9-14, 3:10-13. Thus, it is my opinion that Sheha-Smith meets claim 19.

- e. **Claim 26: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a car.**

[0179] Sheha describes a mobile-to-mobile example with “mobile device receive[ing] the Map Caller-ID” that displays “the other’s position information” for “providing real-time driving directions,” and teaches that a mobile device can be located in “a motor vehicle” (e.g., *a car*) where it is connected to “an in-vehicle navigational device.” Sheha, 11:42-52, 4:52-58, 10:27-41, 12:8-41. In

this scenario, the *received and displayed location* of the other mobile device is a *location of a car*. Thus, it is my opinion that Sheha-Smith meets claim 26.

- f. **Claim 28: The wireless telephone of claim 15, wherein said programming is further capable of downloading from a remote system associated with said remote server a phone book corresponding to a user of said wireless telephone.**

[0180] Smith teaches that a user's contact list can contain EBC (Electronic Business Card) fields for each contact, including CLID (Calling Line Identification) information. Smith, 1:33, 6:53-7:3, 1:32-34, 8:25-31. The CLID and EBC information can be "stored at a central server...from which third party users may download the EBCs." Smith, 11:24-29, 6:46-52, 8:19-25. Based on these teachings, in my opinion POSAs would have been motivated and reasonably expected success to implement Sheha-Smith to allow the *wireless telephone user to download from a remote system associated with the ODAS a phone book corresponding to the user*—i.e., a set of EBCs/CLIDs of contacts of interest to create the user's contact list on the *wireless telephone*. Thus, it is my opinion that Sheha-Smith meets claim 28.

B. Ground 2: Claims 29-31, 33-37, and 39 Would Have Been Obvious Over Sheha in View of Degnbol and McNulty

[0181] As I explain in this section below, in my opinion claims 29-31, 33-37, and 39 of the '117 patent would have been obvious to a POSA in view of

the combined teachings of Sheha (EX1005), Degnbol (EX1035), and McNulty (EX1040).

[0182] Above, I provided a discussion of Sheha (§VIII.A.1).

1. Discussion of Degnbol (EX1035)

[0183] Degnbol describes notifying a user when another pre-selected user enters a pre-determined area or into proximity to a particular location.

Degnbol, Abstract. Users can establish various alert parameters. For example, a user can establish a distance preference specifying that alerts be generated when a buddy enters a predetermined range. Degnbol, 11:5-11. The “predetermined range” “may be associated with a geographic area, such as a continent, country, district, city, co-ordinate range or a street” or correspond to “a direct distance.” Degnbol, 6:6-17.

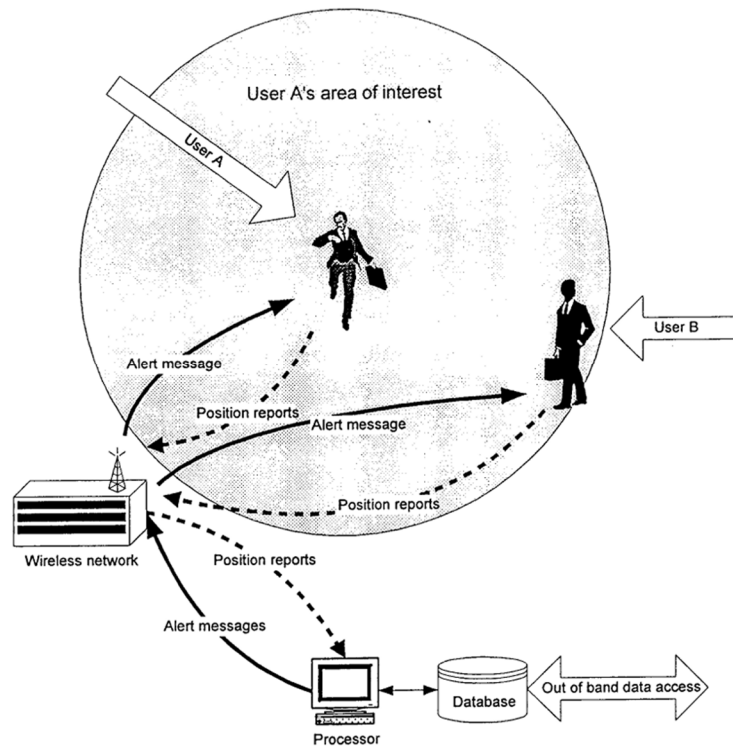
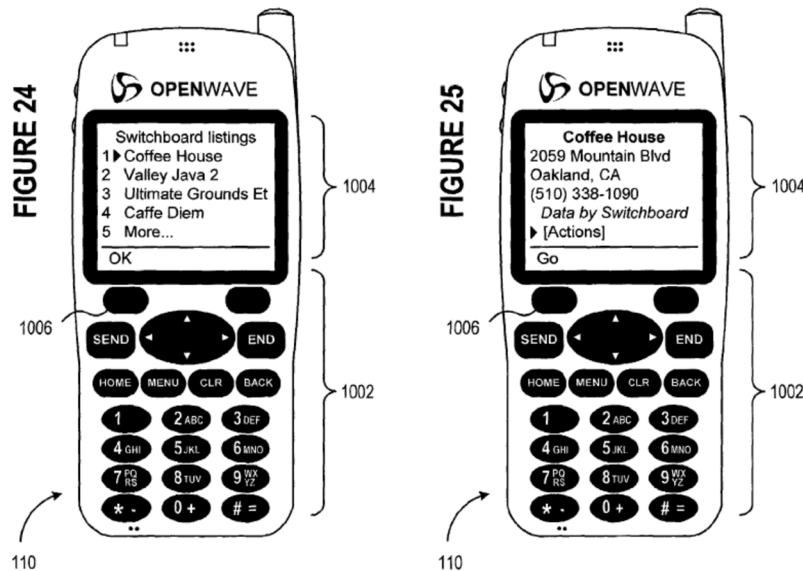


Fig. 1
Degnbol, FIG. 1

2. Discussion of McNulty (EX1040)

[0184] McNulty describes a system that organizes information (including location information) stored on a server for access through a mobile device, such as a wireless telephone. McNulty, 2:19-23. The system displays a list of data objects that can be accessed through the mobile device using user-interface gestures such as pressing a key. McNulty, 2:38-44.

[0185] Various display interfaces are disclosed, many of which relate to selecting an item from a list, which causes display of location information. E.g., McNulty, FIGs. 24-25 (copied below).



McNulty, FIG. 24-25

3. Discussion of Sheha-Degnbol-McNulty Combination

[0186] POSAs would have been motivated to incorporate various location-based alerts to more effectively share location data in Sheha's system, which also provides location-related notifications. *See, e.g.*, Sheha, 11:40-51, FIG. 4. In my opinion, POSAs, when considering when to send a location-related notification, would have looked to Degnbol to identify such triggers. *See, e.g.*, Degnbol Abstract ("the present invention relates to a method and a system for automatic notification of a user 'A' of the entry of the pre-selected user 'B' into a pre-determined area (or proximity to a particular location)."), 6:6-17 ("Each

predetermined range may be associated with a geographic area, such as a continent, country, district, city, co-ordinate range or a street.”), 11:5-11 (“A distance preference controls the sensitivity of the location alerter.”). In my opinion, POSAs would have reasonably expected success applying such alerts because Sheha’s system already identifies and shares location information and Degnbol illustrates additional examples of when and how to do so, which would easily be applied using Sheha’s hardware with minor software modifications.

[0187] In my opinion, POSAs would further have been motivated to enhance this Sheha-Degnbol system by displaying configuration options selectable via user interface, as described in McNulty (§VIII.B.2). Displaying user-selectable listed options (as in McNulty) was well-known, and in my opinion POSAs would have expected some way of accepting user input to configure the alert rules in the Sheha-Degnbol combination, and would have understood selection via user interface to be an obvious choice. Because such functionalities were well-known, POSAs would have reasonably expected success incorporating selection via displayed lists into Sheha-Degnbol’s wireless devices.

4. Mapping of Sheha-Degnbol-McNulty to Claims 29-31, 33-37, and 39

a. Claim 29

i. Preamble [29PRE]: A wireless telephone comprising:

[0188] Like claim 15, claim 29’s preamble only recites “A wireless telephone comprising.” *See supra* §VIII.A.4.a.i. Thus, Sheha-Degnbol-McNulty meets [29PRE] for the same reason Sheha-Smith meets [15PRE] (*see supra* §VIII.A.4.a.i). Claim 29 recites a wireless telephone that includes essentially the same limitations as recited in claim 15. Thus, it is my opinion that claim 29 is obvious essentially for the reasons given above with respect to claim 15 (*see supra* §VIII.A.4.a).

ii. Element [29A]: a processor;

[0189] Element [29A] recites the same limitation as Element [15A]. Thus, Sheha-Degnbol-McNulty meets [29A] for the same reason Sheha-Smith meets [15A] (*see supra* §VIII.A.4.a.ii).

iii. Element [29B]: a positioning system for determining a location of said wireless telephone; and

[0190] Element [29B] recites the same limitation as Element [15B]. Thus, Sheha-Degnbol-McNulty meets [29B] for the same reason Sheha-Smith meets [15B] (*see supra* §VIII.A.4.a.iii).

iv. Element [29C]: memory storing programming capable of:

[0191] Element [29C] recites the same limitation as Element [15C].

Thus, Sheha-Degnbol-McNulty meets [29C] for the same reason Sheha-Smith meets [15C] (*see supra* §VIII.A.4.a.iv).

v. Element [29D]: receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login;

[0192] Element [29D] recites the same limitation as Element [15F].

Thus, Sheha-Degnbol-McNulty meets [29D] for the same reason Sheha-Smith meets [15F] (*see supra* §VIII.A.4.a.vii).

vi. Element [29E]: providing said location for recording on a remote system in association with said user information;

[0193] Sheha’s *wireless telephone provides its location* to the ODAS (which is part of a remote system—as I discussed above §VIII.A.4.a.viii (Element [15G])) *for recording, in association with said user information*. Sheha, 10:48-50 (“the mobile device...continually *sends updated position information to the ODAS*”), 11:23-37 (same), 2:25-29 (“Each remote unit...has access to its current position information” and “responds to a request for position information from a centralized server.”), 4:66-5:2 (“the system would request the position information from the remote mobile device”), 8:31-52 (“accompanying information, such as

user identification information associated with each telephone number is also sent to the ODAS” for the “authentication and authorization protocols”), 9:61-10:4 (“Once the ODAS 3 has been notified of all the appropriate information, the system verifies, by using authorization and authentication protocols, if the user” is “signed-on to the system” and can “request the location of the mobile device”). In this manner, “the position information of each device can be updated *in the ODAS.*” Sheha, 11:3-8.

[0194] Additionally, Degnbol illustrates how a “database” at a “central location[]” (a *remote system*) like Sheha’s ODAS can record devices’ “latest reported position” which is “dynamically updated” like in Sheha, for purposes of sharing the position information with other user[s]. Degnbol, 22:10-18, 14:9-10 (“central locations (databases)”), FIG. 1 (showing “Database” at network server remote from users’ wireless devices), Table 2 (highlighted below).

Unit ID	User Name	Update Time	Position	Alerted Users	Change In- dicator
jsmith@ domain. com	JohnS	1755:0 5	lat:long	JulieS	Yes

5

Table 2. POSITION Data

[0195] In my opinion, POSAs would have been motivated and reasonably expected success based on Degnbol’s teachings to implement Sheha’s similar central server (ODAS) to “recei[ve] a position report message from the

wireless” device, “check[] to see if the unit is associated with a user of the system” based on the identified *user information*, and “update[]” the “user’s record” in the ODAS’s database to “reflect[] the reported unit position.” Degnbol, 23:13-23.

[0196] Thus, Sheha-Degnbol-McNulty meets Element [29E].

vii. Element [29F]: selecting a location-based event that is based, at least in part, on a location of a second wireless telephone, wherein said location-based event is operable to be manually pre-selected from a list of at least three types of location-based events; and

[0197] Degnbol describes at least three types of location-based events that can be *selected* on a *wireless telephone*. Degnbol describes “automatic notification of a user ‘A’” (i.e., at a *wireless telephone*) “of the entry of pre-selected user ‘B’” (i.e., of a *second wireless telephone*) “into a pre-determined area (or proximity to a particular location),” where “[t]he location of users ‘A’ and ‘B’ is determined by reference to the position of their personal wireless communication unit, such as a mobile telephone.” Degnbol, Abstract, 1:7-13. This notification is *a location-based event that is based, at least in part, on a location of a second wireless telephone*.

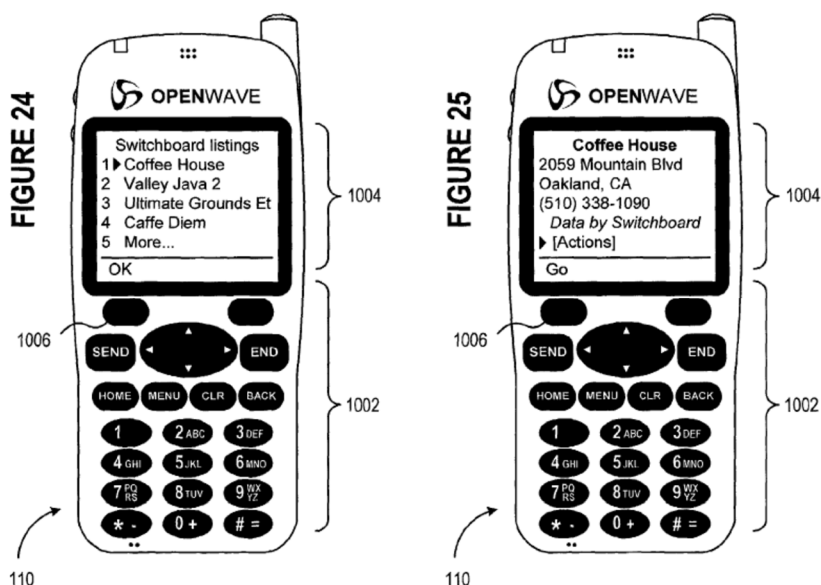
[0198] Degnbol teaches that the user of the *wireless telephone* can “set[] various preferences ... directly from the handset of the user[’]s cellular phone” with respect to “a ‘Buddy List’” of “users whose location and/or movements the user wishes to be notified of.” Degnbol, 9:32-10:3, 11:1-3.

“Preferences can be configured on an individual Buddy basis” and “may include an ability to specify to be alerted only when certain criteria relating to distance, location, time or date are met.” Degnbol, 10:17-11:3, 18:5-7. The *wireless telephone* user can “select[]” a “geographic area, such as a continent, country, district, city, co-ordinate range or a street,” to be notified when the *second wireless telephone* enters that area. Degnbol, 6:1-8. For example, Degnbol’s user can “request to be alerted of the[ir] spouse’s arrival at a given area on his/her regular route home.” Degnbol, 13:17-21. Or the *wireless telephone* user can “indicate[]” a “direct distance,” to be notified when the *second wireless telephone* comes within that distance of the *wireless telephone*. Degnbol, 6:10-17, 11:5-8. Either device can also be alerted that it was located by the other device. Degnbol, 21:5-6.

[0199] Thus, Degnbol describes more than three different types of location-based events, including whether the buddy (*second wireless telephone*) (1) is in a certain geographic area, (2) is within a certain distance of the device, (3) is in the same continent, (4) is in the same country, (5) is in the same district, (6) is within a co-ordinate range, (7) on a street, and (8) whether the user has been the subject of an alert to another user. Degnbol also describes configuring preferences for these events “directly from the handset of the user[’s] cellular phone.” Degnbol, 11:1-3. In my opinion, it would have been obvious to POSAs to combine Degnbol’s disclosure of both selection of location-based events and

manual entry using the handset of the phone with Sheha, to improve user ease, given that such techniques were well-known and conventional.

[0200] *Manually pre-selecting* items from a list was also well-known. For example, McNulty describes various interfaces that a user can interact with to manually select items from a list of at least three selections. In one example, as shown in McNulty's Figures 24-25 (copied below), a list of several coffee shops is displayed, and a user can select one of the coffee shops. McNulty, 16:44-56.



McNulty, FIG. 24-25

[0201] And McNulty describes the wireless telephone accepting “manually entered” input. McNulty, 11:54-59; *see also supra* §VIII.B.2.

[0202] As I discussed, POSAs would have been motivated and reasonably expected success to enhance Sheha’s system by displaying configuration options selectable from a list, per McNulty (§VIII.B.3), and

incorporating various location alert settings as those options, per Degnbol (§VIII.B.3), in order to more effectively provide location data.

[0203] I understand that in a previous IPR, Mullen argued that Degnbol only discloses distance-based alerts and therefore only one *type of location-based event*. In my opinion, Mullen was incorrect. Degnbol explicitly teaches that alerting a user when another user is within a specified distance of the user is just one set of available options, while other options alert the user when the other user is in a specified geographic area, and others alert the user when his location has caused an alert to another user. *See* Degnbol, 12:10-12 (“notification allows the user to...selectively (choose to) communicate with users in his area (***or another designated area***)”), 3:11-15 (“alert user ‘A’s’ communication device when a user ‘B’ enters a pre-defined area (***or*** proximity to a particular location)”), 3:23-27 (alerting user “A” when user “B” enters “the defined location(s) or area(s)...enable[s] user ‘A’ to know in advance the proximity ***or*** approximate whereabouts of user ‘B’”), 6:6-8 (“Each predetermined range may be associated with a geographic area, such as a continent, country, district, city, co-ordinate range or a street. The geographical area may be selected by the user.”), 12:4-6 (“matching criteria based on unit locations ***or*** proximity”), 19:1-3 (same), 18:5-8 (“specify to be alerted only when certain criteria relating to distance, ***location***, time

or date are met”), 21:4-6 (alerting user “that he has been the subject of an alert to another user”).

[0204] For example, a user in Degnbol can “request to be alerted of the[ir] spouse’s arrival *at a given area on his/her regular route home*,” which is a particular specified geographic area rather than simply a distance from the user.

Degnbol, 13:17-21. Degnbol provides a further specific example in Table 1 (highlighted below), where “JohnS has two profiles.... The first will alert him of any user with specified interests in a nearby area; the second will alert him of a specific user *reaching a particular map point*” specified as “City: Street.”

Degnbol, 22:1-8:

User Name	Unit ID	Altering Times	Geo Area	Users	Interests	Permissions
JohnS	jsmith@domain.com	1000-1400	Proximity < 2km	Any	Sports: Bball: NBA: Bulls	Any
	555-234-5678	1700-2000	City: Street	JulieS	-	JulieS

Table 1. PROFILES Data
Degnbol, Table 1 (highlighted)

[0205] Degnbol thus teaches pre-selecting from *at least three types of location-based events*, as claimed.

[0206] Thus, Sheha-Degnbol-McNulty meets Element [29F].

viii. Element [29G]: receiving a location-based event notification corresponding to said selected location-based event as a result of, at least in part, location access rights of said wireless telephone from said second wireless telephone,

[0207] Degenbol teaches *receiving a location-based event notification* at the *wireless telephone* by “SMS message or a synthesized voice call.” Degenbol, 12:6-8, 5:16-20.

[0208] I discussed above (§VIII.A.4.a.viii), Sheha teaches that the ODAS determines whether the target device has given the requesting device *access rights* to obtain its *location* information. Sheha, 3:4-14, 3:22-28, 4:8-18, 4:59-5:46, 8:42-53, 9:59-10-26, 11:55-12:7; *see also* 13:65-14:2, 14:54-61, 19:9-13. Because this occurs before any location access in Sheha, the *access rights* govern whether the *wireless telephone receives location-based event notifications* for the *second wireless telephone’s* location in the Sheha-Degenbol-McNulty combination.

[0209] As I discussed above (§VIII.A.4.a.ix, Element [15H]), claim 29 does not recite “*location access rights possessed exclusively by said wireless telephone,*” and even if it did, this would have been obvious to POSAs over Sheha and POSAs’ background knowledge.

[0210] In addition, Degenbol teaches to condition *location-based event notifications* on *location access rights* in a mobile-to-mobile scenario, and teaches to allow a *second wireless telephone* to give *location access rights* exclusively to

an individual *wireless telephone*, as an alternative to providing rights at a group level. Degnbol, 1:11-13 (“users ‘A’ and ‘B’” each have “mobile telephone” (i.e., mobile-to-mobile)), 10:9-11 (user may “group Buddies into different categories”), 11:13-14 (“All preferences can be configured on a *per-buddy basis*, [or] on a per-category basis....”), 10:17-18 (“Preferences can be configured *on an individual Buddy basis*”), 12:4-8 (“matching criteria based on unit locations or proximity,...as well as alerting *permissions*”), 20:23-32 (“User B’s profile includes a *permission to notify User A* of his whereabouts.”), 21:23-29 (“database...includes *permission* information that determines whether other users may be notified of the user’s activity”), 22:1-8 (“JohnS has set permissions that allow his position information to be provided to certain other users selected by him.”). In my opinion, POSAs would have been motivated and would have reasonably expected success, based on Degnbol’s teachings, to implement the *location access rights* in the Sheha-Degnbol-McNulty system in this way. Degnbol teaches that this beneficially and successfully causes “[u]se of the system [to] build[] on mutual consent.” Degnbol, 11:16-18, 14:4-6.

[0211] Thus, Sheha-Degnbol-McNulty meets Element [29G].

- ix. Element [29H]: wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based.**

[0212] Degenbol's *location-based events* include region-based events such as "user 'A' configures the system so that he only receives alerts when he is not within a specific geographical area ... from user 'B,'" as well as a user selecting "a geographic area, such as a continent, country, district, city, co-ordinate range or a street" to trigger an alert. Degenbol, 10:31-33, 6:6-8, 8:18-20, 22:1-6 (Table 1: "Geo Area"="City: Street"), 13:19-20 (alert of user's "arrival at a given area").

[0213] Degenbol's *location-based events* also include distance-based events such as choosing "to configure the system so that he only receives alerts when a Buddy comes within the range of 500 meters." Degenbol, 11:5-11, 6:10-17, 8:22-29.

[0214] Thus, Sheha-Degenbol-McNulty meets Element [29H].

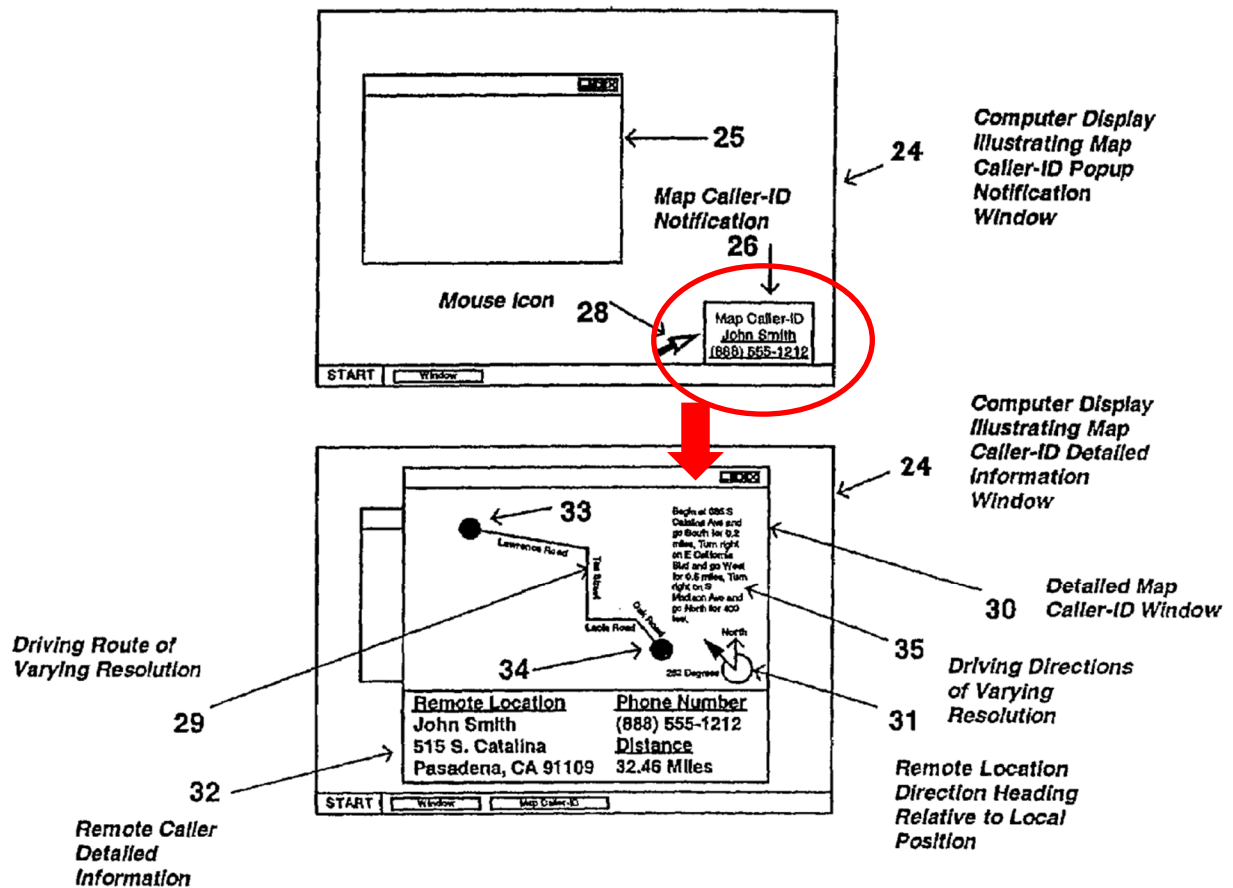
- b. **Claim 30: The wireless telephone of claim 29, wherein said first wireless device comprises a global positioning system that is operable to provide said location.**¹³

[0215] Any of Sheha's wireless devices that I discussed above meet claim 30 because, as discussed above, Sheha's wireless devices *comprise a global positioning system that is operable to provide said location. See supra* §VIII.A.4.a.iii (Ground 1, Element [15B]), §VIII.B.4.a.vi (Element [29E]). Thus, Sheha-Degnbol-McNulty meets claim 30.

- c. **Claim 31: The wireless telephone of claim 29, wherein said programming is further capable of displaying a display screen on said wireless telephone, after receiving said location-based event notification, that includes a first selectable option for providing a map associated with said location of said second wireless telephone.**

[0216] As shown in Sheha's FIG. 5 (which I annotated below), a *display screen includes a selectable option (circled) for providing a map associated with said location of said second wireless telephone. Sheha, 9:13-30, 5:3-9, 1:29, 4:52-58 (describing mobile device embodiment); see also supra* §VIII.A.4.a.xii (Element [15K]) (Sheha providing the map).

¹³ Claim 30's "*said first wireless telephone*" lacks antecedent basis. For purposes of this declaration, I have interpreted Claim 30's "*said first wireless telephone*" as encompassing [29PRE]'s "*wireless telephone*."



[0217] As I discussed above (§VIII.B.4.a.vii, Element [29F]), Degnbol describes *receiving a location-based event notification*, which can include the distance or location of the target user. Degnbol, 5:16-20. In my opinion, POSAs would have found it obvious to provide *a selectable option* to view a map (e.g., with directions), per Sheha, after receiving a location-based event notification, per

Degnbol, to provide further useful information following the event notification.

See supra §VIII.B.3 (discussing Sheha-Degnbol-McNulty combination). Thus,

Sheha-Degnbol-McNulty meets claim 31.

- d. **Claim 33: The wireless telephone of claim 29, wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for an indefinite period of time.**

[0218] The limitation that claim 33 adds to claim 29 is essentially the same limitation that claim 18 adds to claim 15. Thus, in my opinion, the Sheha-Degnbol-McNulty combination meets claim 33 for the reasons the Sheha-Smith combination meets claim 18, as I discussed above (§VIII.A.4.c, Ground 1, claim 18).

- e. **Claim 34: The wireless telephone of claim 29, wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for only a specific period of time.**

[0219] The limitation that claim 34 adds to claim 29 is essentially the same limitation that claim 19 adds to claim 15. Thus, in my opinion, the Sheha-Degnbol-McNulty combination meets claim 34 for the reasons the Sheha-Smith combination meets claim 19 as I discussed above (§VIII.A.4.d, Ground 1, claim 19).

- f. **Claim 35: The wireless telephone of claim 29, wherein said programming is further capable of specifying said region, and said region-based location-based event indicates that said location of said second wireless telephone is within said region.**

[0220] Sheha-Degnbol-McNulty incorporates Degnbol's teaching that the user can "set[] various preferences...directly from the...cellular phone," including to "select[]" a "geographic area" (i.e., *specifying said region*) to be notified when a contact's *wireless telephone* "arriv[es] at a given area." Degnbol, 9:34-10:3, 11:1-3, 6:1-8, 13:19-21.

[0221] Thus, Sheha-Degnbol-McNulty meets claim 35.

- g. **Claim 36: The wireless telephone of claim 29, wherein said programing is further capable of receiving an alert when a user of said second wireless telephone locates said wireless telephone.**

[0222] Sheha-Degnbol-McNulty incorporates Degnbol's teaching to "inform[]" (*alert*) a user at his *wireless telephone* "that he has been the subject of an alert to another user" (i.e., when the other user *locates said wireless telephone*, e.g., by being informed that the user's location is nearby the other user). Degnbol, 21:4-6, 18:27-31; *see also* EX1001, 2:3-8 ('117 patent disclosing that an "alert may take the form of, for example, a display on Jen's cell phone that communicates to Jen 'Phil is in Pittsburgh'"). It would alternatively have been obvious to *receive an alert* whenever another user requests to access the *wireless telephone's* location in any way (whether or not as part of an alert), as this was a

known useful option, even when the requesting entity already has location access rights.

[0223] My testimony in this regard is corroborated by Rice (EX1071), which describes providing a user an “option...to receive a notification on their wireless communications device whenever a location request is made by a client application” to access the user’s location. Rice, 9:26-35. Rice teaches that this is useful even where the requesting entity already has access rights. Rice, 7:40-49, 9:36-51, 12:20-33. Thus, Rice corroborates that a first user receiving an alert when a second user requests the first user’s location was well known in POSAs’ background knowledge.

[0224] Thus, Sheha-Degnbol-McNulty meets claim 36.

h. Claim 37: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a watch.

[0225] Degnbol describes “determining the position of” “communication units,” which include “wireless telephone[s],” “personal digital assistants,” and “*wristwatches*.” Degnbol, 4:1-31, 7:1-17, 6:22-23, 27:14-16. In light of Sheha’s teachings to *receive and display the location of* various communication devices like those Degnbol lists (Sheha, 9:50-53), it would have been obvious to *receive and display* any suitable device’s *location*, including a *watch*.

[0226] Thus, Sheha-Degnbol-McNulty meets claim 37.

- i. **Claim 39: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a car.**

[0227] The limitation that claim 39 adds to claim 29 is essentially the same limitation that claim 26 adds to claim 15. Thus, in my opinion, the Sheha-Degnbol-McNulty combination meets claim 39 for the reasons the Sheha-Smith combination meets claim 26 as I discussed above (§VIII.A.4.e, Ground 1, claim 26).

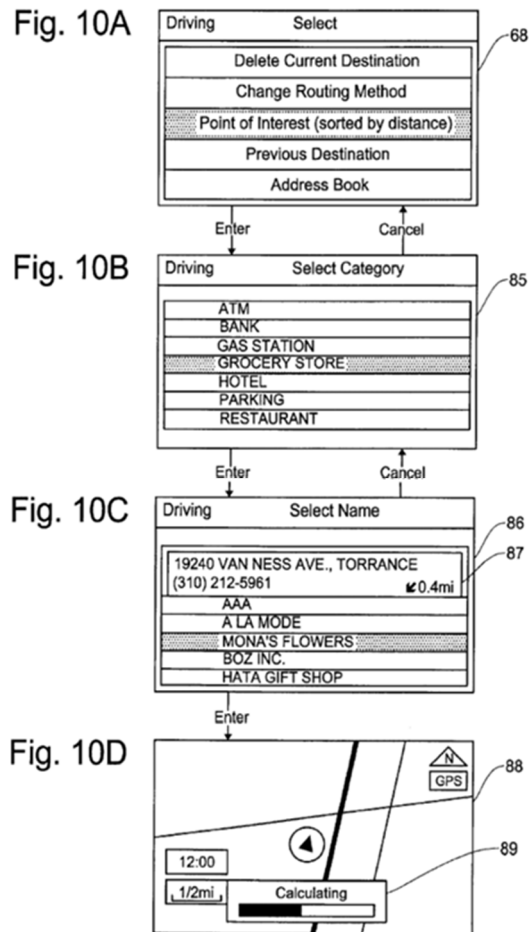
C. **Ground 3: Claims 16, 20-25, 27, 32, 38, and 40-41 Would Have Been Obvious Over Sheha in Combinations with Smith, Degnbol, McNulty, Wako, Boling, and Bechtolsheim**

[0228] As I explain in this section below, in my opinion claims 16, 20-25, 27, 32, 38, and 40-41 of the '117 patent would have been obvious to a POSA in view of the combined teachings of Sheha (EX1005), Smith (EX1023), Degnbol (EX1035), McNulty (EX1040), Wako (EX1025), Boling (EX1074), and Bechtolsheim (EX1075).

[0229] Above, I provided a discussion of Sheha (§VIII.A.1), Smith (§VIII.A.2), Sheha-Smith (§VIII.A.3), Degnbol (§VIII.B.1), McNulty (§VIII.B.2), and Sheha-Degnbol-McNulty (§VIII.B.3).

1. Discussion of Wako (EX1025)

[0230] 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 a contact's 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 display 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 Boling (EX1074)

[0231] Boling describes a “combination personal audio device and emergency phone” that is “an AM/FM radio” that can transmit its “GPS” location to a “private service” via “cellular communications.” Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64.

3. Discussion of Bechtolsheim (EX1075)

[0232] Bechtolsheim describes “improved navigation programming” that assumes the user will drive part of a route, “park[] his/her vehicle[,]. . . and

walk[] the remaining distance to the final destination.” Bechtolsheim, 1:6-10, 9:30-35, 5:66-6:3, 7:44-47, 11:57-61. The programming computes “the time to travel” each possible “combination driving/walking route” to select the best one. Bechtolsheim, 19:17-36. Additionally, the “program can provide...routes that use public transportation” and compare the “travel time” to that “using a private vehicle.” Bechtolsheim, 21:26-59. The navigation information can be provided “on hand-held computer devices, such as personal digital assistants, telephones,” etc. Bechtolsheim, 20:45-47.

4. Discussion of Combinations of Sheha-Smith and Sheha-Degnbol-McNulty with Smith, Degnbol, Wako, Boling, and Bechtolsheim

[0233] **Combinations of Sheha-Smith with Degnbol and Sheha-Degnbol-McNulty with Smith:** In my opinion, POSAs would have been motivated and reasonably expected success to incorporate Degnbol’s teachings in Sheha-Smith (*supra* §VIII.A.3) for the reasons I discuss above (*supra* §VIII.B.3) explaining POSAs’ motivation to combine Degnbol with Sheha (and McNulty), and to incorporate Smith’s teachings in Sheha-Degnbol-McNulty (*supra* §VIII.B.3) for the reasons I discussed above (*supra* §VIII.A.3) explaining POSAs’ motivation to combine Smith with Sheha.

[0234] **Combinations with Wako:** Sheha describes providing a map with “driving directions” from the mobile device’s location to the received other

user's location. Sheha, 3:29-36, 4:52-58, 9:10-16, 9:23-39. Thus, Sheha motivates incorporating known navigation-system display features like Wako's into Sheha-Smith and Sheha-Degnbol-McNulty. In my opinion, POSAs would have reasonably expected success given Sheha's teachings to provide navigation functionality.

[0235] **Combinations with Boling:** In light of Sheha's teachings to share various mobile devices' locations (Sheha, 12:58-60, 19:41-46, 12:1-7), in my opinion, POSAs would have been motivated and reasonably expected success to share any suitable mobile device's location, such as a location-transmitting radio per Boling, in Sheha-Smith and Sheha-Degnbol-McNulty.

[0236] **Combinations with Bechtolsheim:** Bechtolsheim teaches to provide a combination driving-and-walking route to the destination, since the "user may not necessarily be able to park at the destination location" and will walk there from their parking spot, and also to provide public-transportation route options that may save the user time. Bechtolsheim, 1:27-50, 21:53-56. POSAs would therefore have been motivated to provide such routes in Sheha-Smith and Sheha-Degnbol-McNulty, and would have reasonably expected success based on Bechtolsheim's teachings in a similar system providing navigation functionality on mobile devices. Bechtolsheim, 20:45-47.

5. Mapping of Sheha in Combinations with Smith, Degnbol, McNulty, Wako, Boling, and Bechtolsheim to Claims 16, 20-25, 27, 32, 38, and 40-41

- a. Claim 16: The wireless telephone of claim 15, wherein said programming is further capable of displaying an option to obtain directions from said first wireless telephone to said one of said plurality of wireless telephones associated to said selected one of said plurality of users.¹⁴**

[0237] In my opinion, POSAs would have found claim 16 to have been obvious over Sheha-Smith-Wako (*supra* §VIII.C.4). Sheha describes providing a map with “driving *directions*” from the *wireless telephone*’s location to the received other user’s location, such as after a user selects an option to view more detailed information about another user’s location. Sheha, 3:29-36, 4:52-58, 9:10-16, 9:23-39. In my opinion, users would have expected *an option to obtain directions* to a location by interacting with a *display* screen after receiving a location, such as disclosed in Wako. Wako, FIGs. 12B-C, 12:35-13:37; Sheha, 9:10-16, 9:23-39, 13:32-44.

[0238] Thus, in my opinion, Sheha-Smith-Wako meets claim 16.

¹⁴ Claim 16’s “*said first wireless telephone*” lacks antecedent basis. For purposes of this declaration, I have interpreted Claim 16’s “*said first wireless telephone*” as encompassing [15PRE]’s “*wireless telephone*.”

- b. Claim 20: The wireless telephone of claim 15, wherein said programming is further capable of receiving an alert regarding a user of said plurality of users based on a location of a wireless telephone associated with said user of said plurality of users.**

[0239] In my opinion, POSAs would have found claim 20 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.4). That is because in Sheha-Smith-Degnbol the “two-way wireless communication devices (e.g., telephones or pagers) [would have had] the ability to *alert* user ‘A’s’ communication device when a user ‘B’ enters the proximity of user ‘A’” per Degnbol’s teachings. Degnbol, 18:27-33, 10:17-33. The users would have been part of a list of users, i.e., a Buddy List. Degnbol, 9:32-34. Given that Sheha discloses techniques for sharing location information between users of wireless devices (*see, e.g., supra* §VIII.A.1), in my opinion POSAs would have found it obvious to do so via *alerts* as described in Degnbol. *See also supra* §VIII.B.3 (discussion of Sheha-Degnbol-McNulty combination). Thus, it is my opinion that Sheha-Smith-Degnbol meets claim 20.

- c. Claim 21: The wireless telephone of claim 20, wherein said programming is further capable of requesting said remote server to provide said alert.**

[0240] In my opinion, POSAs would have found claim 21 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.4). Sheha describes *requesting a remote server to provide* data based on a device location (Sheha, 6:15-16), and

Degnbol teaches that alerts are provided by a “processor,” which is shown in FIG. 1 (which I have annotated below) as being remote from the users (Degnbol, FIG. 1, 21:3-6), and which POSAs would have understood to be commonly implemented as a server, as it is computing device that provides and processes information over a network in response to requests from other computing devices.

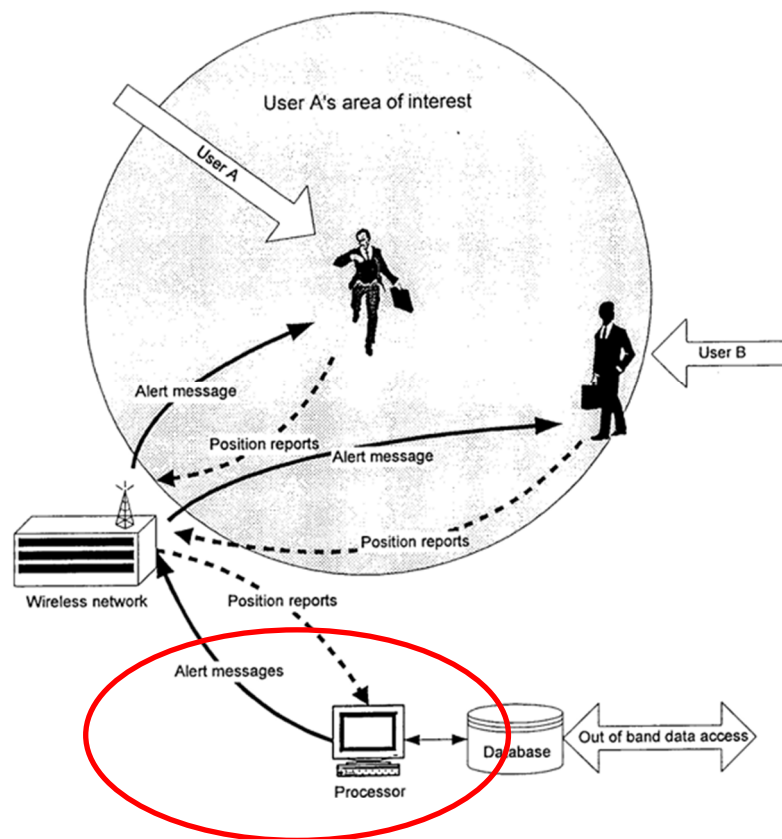


Fig. 1
Degnbol, FIG. 1 (annotated)

[0241] In Sheha-Degnbol-McNulty, these alerts would have been provided by the processor (of the *remote server*) based on a *request* from the user device. Degnbol, 11:1-14.

[0242] Thus, it is my opinion that Sheha-Degnbol-McNulty meets claim 21.

- d. **Claim 22: The wireless telephone of claim 21, wherein said alert is geographic area-based, said programming is further capable of specifying said geographic area, and said alert indicates that said location of said wireless telephone associated with said user of said plurality of users is within said geographic area.**

[0243] In my opinion, POSAs would have found claim 22 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.4). That is because Sheha-Smith-Degnbol incorporates Degnbol’s *geographic-area-based alerts* I discussed above (§VIII.B.c (claim 35)). Degnbol, 11:5-11 (“user” can “*specify*” to be “*alerted* when a buddy comes *within* a certain range”), 6:1-8 (“range may be associated with a *geographic area*” that “may be selected by the user”), 9:34-10:3 (user can “set[] various preferences...directly from the...cellular phone”), 11:1-3, 13:19-21 (user “request[s] to be *alerted* of [other user’s] arrival at a given area”).

[0244] Thus, it is my opinion that Sheha-Smith-Degnbol meets claim 22.

- e. **Claim 23: The wireless telephone of claim 15, wherein said programing is further capable of receiving an alert when a user of said plurality of users locates said wireless telephone.**

[0245] In my opinion, POSAs would have found claim 23 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.4), based on Degnbol's teachings that I discussed above (§VIII.B.4.g, Ground 2, claim 36). Thus, it is my opinion that Sheha-Smith-Degnbol meets claim 23.

- f. **Claim 24: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a watch.**

[0246] In my opinion, POSAs would have found claim 24 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.4), based on Degnbol's teachings that I discussed above (§VIII.B.4.h., Ground 2, claim 37). Thus, it is my opinion that Sheha-Smith-Degnbol meets claim 24.

- g. **Claims 25 & 38**

Claim 25: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a radio.

Claim 38: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a radio.

[0247] In my opinion, POSAs would have found claim 25 to have been obvious over Sheha-Smith-Boling, and claim 38 to have been obvious over Sheha-Degnbol-McNulty-Boling (*supra* §VIII.C.4). Boling teaches, and it was

background knowledge, that a mobile device having position-reporting capability can be a *radio*. Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64; *supra* §VIII.C.2.

[0248] My opinion on the POSAs’ background knowledge in this regard is corroborated by Lelievre (EX1076), which describes “a location-aware radio” that “transmits location information indicating its present location, to a location-based services provider.” Lelievre, Abstract, [0047], FIG. 5. Thus, Lelievre corroborates that it was well known in POSAs’ background knowledge that a mobile device having position-reporting capability can be a radio.

[0249] In light of Sheha’s teachings to *receive and display* various mobile devices’ *locations* (Sheha, 12:58-60, 19:41-46, 12:1-7), in my opinion, POSAs would have been motivated and reasonably expected success to *receive and display* any suitable mobile device’s *location*, such as a *radio* per Boling. *Supra* §VIII.C.3, §VIII.C.4.

[0250] Thus, Sheha-Smith-Boling meets claim 25 and Sheha-Degnbol-McNulty-Boling meets claim 38.

h. Claims 27 & 40

Claim 27: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying information indicating time to reach said second location from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

Claim 40: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying information indicating time to reach a second location associated with said second wireless telephone from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

[0251] In my opinion, POSAs would have found claim 27 to have been obvious over Sheha-Smith-Wako-Bechtolsheim, and claim 40 to have been obvious over Sheha-Degnbol-McNulty-Wako-Bechtolsheim (*supra* §VIII.C.4).

[0252] As discussed *supra* §VIII.C.3, §VIII.C.4, POSAs would have been motivated and reasonably expected success to incorporate in Sheha's system Bechtolsheim's teachings to provide a route to the destination *according to two types of travel: walking and driving*. Bechtolsheim, 1:27-50, 20:45-47. Wako teaches it was "Background" knowledge to display "anticipated *time to reach* the final destination" as "route guidance." Wako, 2:30-34, 9:18-22. In my opinion, POSAs would therefore have been motivated and reasonably expected success to display this information with Sheha's driving directions (Sheha, 3:29-36). In combination with Bechtolsheim, this displayed *time to reach* the destination

(*second location*) is the “summed” *driving* and *walking* time. Bechtolsheim, 19:30-36. Bechtolsheim teaches to *receive* the *information* from a “remote location” where it is computed. Bechtolsheim, 5:16-19.

[0253] Alternatively, Bechtolsheim also teaches to “compare[]” the “travel time using public transportation” (which POSAs would have understood typically includes *subway*) “to the travel time using a private vehicle” (*driving*). Bechtolsheim, 21:53-56. POSAs would have been motivated and reasonably expected success to apply this teaching to allow the user to choose among transportation options. POSAs would have understood an obvious way to allow the user to “compare” the two travel times is to *receive and display* them, meeting claims 27 and 40.

- i. **Claim 32: The wireless telephone of claim 29, wherein said programming is further capable of displaying after receiving said location-based event notification a travel time between a location of said wireless telephone and a location of said second wireless telephone.**

[0254] In my opinion, POSAs would have found claim 32 to have been obvious over Sheha-Degnbol-McNulty-Wako based on Wako’s teachings to *display a travel time* between the mobile devices’ locations, as I discussed above (§VIII.C.5.h, claim 27). Wako, 9:18-22, 2:30-34. In my opinion, it would have been obvious to POSAs to provide this display *after receiving said location-based event notification* for the reasons I discussed above for claim 31 (§VIII.C.4.c).

[0255] Thus, in my opinion, Sheha-Degnbol-McNulty-Wako meets claim 32.

- j. **Claim 41: The wireless telephone of claim 29, wherein said programming is further capable of downloading from said remote system a phone book corresponding to a user of said wireless telephone.**

[0256] In my opinion, POSAs would have found claim 41 to have been obvious over Sheha-Degnbol-McNulty-Smith based on Smith's teachings that I discussed above (§VIII.A.4.f, Ground 1, claim 28). Thus, it is my opinion that Sheha-Degnbol-McNulty-Smith meets claim 41.

D. Ground 4: Claims 15, 17-19, 25-26, and 28 Are Obvious over Randall

[0257] As I explain in this section below, in my opinion claims 15, 17-19, 25-26, and 28 of the '117 patent are obvious over Randall (EX1007-EX1008).

1. Discussion of Randall (EX1007-EX1008)

[0258] Randall is an international (PCT) application filed August 22, 2001, and published in the international stage as EX1008 on February 28, 2002 and then in the U.S. national stage as EX1007. Citations herein are to the U.S. publication (EX1007) paragraph numbers for convenience; 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).

[0259] 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].

[0260] 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].

[0261] 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].

[0262] 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.

[0263] 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].

[0264] 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].

[0265] 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].

[0266] 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 15, 17-19, 25-26, and 28

a. Claim 15

i. Preamble [15PRE]: A wireless telephone comprising:

[0267] Each of Randall’s “*wireless* information device[s]” can be a “radio *telephone*[]” or “smart *phone*[]”—i.e., a *wireless telephone*. 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 *wireless telephone* (as is Alice’s). That is 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 this 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 a potential use case of another user, e.g., Alice, accessing his 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.”

[0268] Thus, Randall meets [15PRE].

ii. Element [15A]: a processor;

[0269] Randall teaches that its “wireless information devices run[] applications which access data...using a standardised set of APIs,” which involves running “[s]oftware.” Randall, [0048], [0450], p. 31 (claim 19). POSAs would have understood that devices such as smart phones (Randall, [0002]) that run software applications and use APIs typically, conventionally, and obviously do so

via a *processor*. My opinion regarding a POSA's background knowledge in this regard is corroborated by the following references.

[0270] De-Vries (EX1013) discusses “mobile...devices” that include “cell phones” (a *wireless telephone*). De-Vries, 4:60-65. De-Vries discloses that a “mobile device[]...typically is configured to include a processing unit...(e.g., a microprocessor...) and system memory.” De-Vries, 12:40-51; *see also* De-Vries, 4:12-14, 12:40-44, FIG. 6 (illustrating an exemplary block diagram of a mobile device that includes “processing unit 602 (e.g., a microprocessor or micro-controller” and volatile and non-volatile system memory).

[0271] Similarly, Stewart (EX1056) discloses that “[m]ost of the functions of portable telephone...are executed by [a] processor” executing “programming code...stored” in “main storage.” Stewart, 5:41-58; *see also* Stewart, 3:56-58, 5:41-46, FIG. 2 (illustrating a block diagram of “the components of a portable telephone” with a “processor 32” that executes “the function of” the device and main storage (memory) 48).

[0272] Smith (EX1023) likewise confirms that wireless telephones conventionally included processors. Smith, 5:19-62 (disclosing that “the hardware elements in mobile telephone 210” includes, among other components, “feature processor 430,” which “provides graphical user interface features” and “[m]emory 440 [that] stores data and program code used by feature processor 430”).

[0273] Thus, Randall meets Element [15A].

iii. Element [15B]: a positioning system for determining a location of said wireless telephone; and

[0274] Randall's wireless device uses "GPS" to *determine* its *location*.

Randall, p. 24 Table 4 ("People tracking"), p. 22 Table 1 ("GPS location"), p. 29 ("Route finder"). POSAs would have known that "GPS" stands for "global *positioning system*." The '117 patent also admits GPS was prior-art "background" knowledge. EX1001, 1:21-34. Thus, Randall meets Element [15B].

iv. Element [15C]: memory storing programming capable of:

[0275] As I discussed above (§VIII.G.2.a.ii), Randall teaches that its "wireless information devices run[] applications which access data...using a standardised set of APIs," which involves running "[s]oftware." Randall, [0048], [0450], p. 31 (claim 19). POSAs would have understood that devices such as smart phones (Randall, [0002]) that run software applications and use APIs typically, conventionally, and obviously do so via *a processor* executing *programming* stored in *memory*. My opinion regarding a POSA's background knowledge in this regard is corroborated by the following references.

[0276] De-Vries (EX1013) discusses "mobile...devices" that include "cell phones" (a *wireless telephone*). De-Vries, 4:60-65. De-Vries discloses that a "mobile device[]...typically is configured to include a processing unit...(e.g., a

microprocessor...) and system memory.” De-Vries, 12:40-51; *see also* De-Vries, 4:12-14, 12:40-44, FIG. 6 (illustrating an exemplary block diagram of a mobile device that includes “processing unit 602 (e.g., a microprocessor or micro-controller” and volatile and non-volatile system memory).

[0277] Similarly, Stewart (EX1056) discloses that “[m]ost of the functions of portable telephone...are executed by [a] processor” executing “programming code...stored” in “main storage.” Stewart, 5:41-58; *see also* Stewart, 3:56-58, 5:41-46, FIG. 2 (illustrating a block diagram of “the components of a portable telephone” with a “processor 32” that executes “the function of” the device and main storage (memory) 48).

[0278] Smith (EX1023) likewise confirms that wireless telephones conventionally included *memory storing programming* for execution by the device’s processor. Smith, 5:19-62 (disclosing that “the hardware elements in mobile telephone 210” includes, among other components, “feature processor 430,” which “provides graphical user interface features” and “[m]emory 440 [that] stores data and program code used by feature processor 430”).

[0279] Thus, Randall meets Element [15C].

v. Element [15D]: displaying a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;

[0280] Each of Randall’s *wireless telephone* 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” (copied below) 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

[0281] 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...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 telephones*, where the claimed “*plurality of users*” can be the whole contact list of a user whose contacts all have wireless devices, or the subset of the contact list wherein *each* of those *users* is associated to a different wireless telephone.

[0282] 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 in the wireless device’s memory 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”).

[0283] Randall’s Table 2 (above) 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"), [0053] ("Consider Alice...and Bob"—language introducing Alice and Bob as generic examples). Even if Randall had not explicitly taught this, it would have been an obvious implementation option to POSAs to allow any wireless device user in Randall's system to subscribe to the same functionality (including contacts functionality and location functionality) in Randall's system, to provide flexibility and allow any user to include any other user in their contacts list.

[0284] Thus, Bob's contact list (with Alice as a contact) is displayed on Bob's *wireless telephone* device and Alice's contact list (with Bob as a contact) is displayed on Alice's *wireless telephone* device. Either demonstrates that Randall meets Element [15D].

vi. Element [15E]: receiving a first manual input in a form of a selection of one of said plurality of users;

[0285] As I discussed above (§VIII.D.2.a.v, Element [15D]), 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” (e.g., 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 “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].

[0286] 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 displayed 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 [15E], 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”).

[0287] 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. 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. My opinion about a POSAs’ background knowledge in this regard is corroborated by the following references.

[0288] Smith (EX1023) 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, 3:30-31. Smith provides example formats of such information and one such format is shown in FIG. 6 of Smith. Smith, 6:53-7:3; *see also* Smith 7:41-49, FIG. 9; *supra* §VIII.A.2 (discussing Smith).

NAME	TITLE	ORGANIZATION	ADDRESS	COMMUNICATION ADDRESS	ICONS	MISC
NAME A	PRESIDENT	ABC CORP.	123 ABC DR. SOMEWHERE, CA 90210	(613)543-9999	(HOME) 	19 1/2 SHIRT SIZE B-DAY 1-2-34
				(613)789-4356	(WORK) 	
				(613)555-3496	(CELLULAR) 	
				NAME@CA	(EMAIL) 	
				(613)789-4357	(FAX) 	
NAME B • • •						
NAME Z						

FIG. 6
Smith, FIG. 6

[0289] Smith further 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, 7:41-49, 9:42-61, 10:29-11:4. Thus, Smith corroborates that manually selecting another user from a displayed contacts list was within a POSAs’ background knowledge.

[0290] 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 Randall-De-Vries combination.

[0291] 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 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 Randall-De-Vries combination.

WELCOME TO THE WORLD WIDE WATCHER		
ACCESS CODE: <u>1582</u>		
		<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

[0292] 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* 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 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 Randall-De-Vries combination.

[0293] Thus, Randall meets Element [15E].

vii. Element [15F]: receiving an input in a form of a login and a second manual input in a form of a password;

[0294] 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 recognising 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].

[0295] 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 *wireless telephone* 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 for 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”). POSAs would have understood that *manual input* on the wireless device was a typical, obvious, and predictable way for such identifier and PIN or answer word to be submitted to the server by a person who is using the wireless device. 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.

[0296] 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.

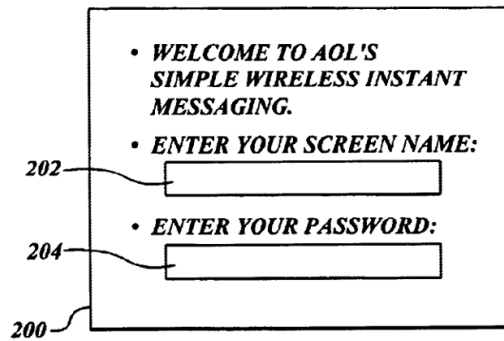


Fig. 8
Carey, FIG. 8

[0297] 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.

[0298] 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.

[0299] Randall’s “authentication” can be used for access control “both locally and on the server” (Randall, [0380]), corroborating that it is *received* locally on the wireless device.

[0300] Alternatively, even if Randall had not explicitly taught its wireless devices *receiving 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 implement Randall *to receive* the claimed *inputs* on Bob’s device to authenticate Bob. Using these *login and password* 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 simple substitution of one known element for another with predictable results. My testimony regarding POSAs’ background knowledge with respect to using these inputs to authenticate a

device user seeking another user's information (including location) is corroborated by several references, as discussed in the paragraphs below.

[0301] Carey (EX1024) describes "instant message communication in a wireless and non-wireless environment." Carey, Abstract; *see also id.*, 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).

[0302] 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 user name 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).

[0303] 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).

[0304] Sandhu (EX1054) relates to "distributing positional information and location specific messages to mobile units by using a data network." Sandhu, 1:8-10. Sandhu discloses users that register with the positioning system receive "a login name and a password" entered via the user's mobile device. Sandu, 5:9-51. 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).

[0305] 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 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 personal information.

[0306] Darling (EX1022) concerns communications with mobile devices. 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 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).

[0307] Thus, Randall meets Element [15F].

viii. Element [15G]: providing said login and said password to a remote server for use in determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users,

[0308] Randall's server *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]. As I discussed above (§VIII.D.2.a.vii, Element [15F]), this involves “the server...authenticating Bob” via his *login* and *password* (Randall, [0067]), which therefore are *provided to the server for use in the determining*. Randall’s server is an “internet server[.]”—a “server on the Internet”—which POSAs would have known is a *remote server*. Randall, [0029], [0053], [0030] (“application resident on the device queries and receives data from the **remote**, extensible database”), FIG. 4 (showing the system’s servers located remotely from the wireless devices).

[0309] “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 (which I highlighted below), 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

<u>Alice’s iData</u>			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all

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)

[0310] 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 iGroups; 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].

[0311] Thus, Randall meets Element [15G].

ix. Element [15H]: said determining including identifying a user of said wireless telephone using said login, determining said password is associated with said login, and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said wireless telephone,

[0312] As I discussed above (§§VIII.D.2.a.vii-VIII.D.2.a.viii, Elements [15F]-[15G]), 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 *wireless telephone*, 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 recognising 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 *said determining* and includes *determining whether Alice has provided access rights for said location information* to Bob. Randall, [0067], [0503]-[0512], [0116]-[0136], p. 24 (“People tracking”).

[0313] Thus, Randall meets Element [15H].

- x. **Element [15I]: assigning location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining said location of said wireless telephone;**

[0314] 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]. Thus, this teaches that Bob can operate his *wireless telephone* to *assign*

location access rights to Alice’s device *for obtaining said location* of Bob’s device, meeting Element [15I].

[0315] 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 (§VIII.D.2.a.viii, Element [15G]), 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 supra* §VIII.D.2.a.v (Element [15D]: explaining that “Bob” and “Alice” are generic examples of users of wireless telephone devices in Randall’s system). 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 [15I].

[0316] 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]. “Access 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.

[0317] Thus, Randall meets Element [15I].

xi. Element [15J]: receiving said location information for said one of said plurality of wireless telephones from a server; and

[0318] 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 (§VIII.D.2.a.viii, Element [15G]), Alice’s data *received* by Bob can include Alice’s *location information*. Thus, Randall meets Element [15J].

xii. Element [15K]: displaying said location information.

[0319] As I explained in the sections above, Randall’s process enables “People tracking,” which “[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 [e.g., Alice's 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 *wireless telephone* has received Alice's *location information* as I discussed above (§VIII.D.2.a.xi, Element [15J]), it can *display* that information—e.g., on a map.

[0320] 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 I discussed in this §VIII.D.2.a (claim 15). *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”).

[0321] Thus, Randall meets Element [15K].

- b. Claim 17: The wireless telephone of claim 15, wherein said programming is further capable of receiving a manual input for modifying said location access rights.**

[0322] In Randall, Bob’s device *assigned location access rights* to Alice’s device as I discussed above (§VIII.D.2.a.x, Element [15I]). Bob can provide on his device *a 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].

[0323] POSAs would have understood these to disclose *a manual input* meeting claim 17, or at minimum to render such manual input obvious because manual input was a well-known way for wireless device users to input selections

and settings. 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”).

[0324] Thus, Randall meets claim 17.

- c. **Claim 18: The wireless telephone of claim 15, wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for an indefinite period of time.**

[0325] Randall teaches that Bob’s *wireless telephone* can *instruct* the i-server *to allow Alice to access Bob’s location*, as I discussed above (§VIII.D.2.b (claim 17); §VIII.D.2.a.x (Element [15I])).

[0326] Randall teaches that when a user “select[s] [a] person and allow[s] access” to “location information,” it may “only be visible for a pre-defined period of time,” but the user (e.g., Bob) can “extend the visibility period to ‘forever’” (i.e., to *an indefinite period of time*). Randall, [0144]. Thus, Bob’s *wireless telephone* can *instruct* the i-server *to allow Alice to access Bob’s location for an indefinite period of time*.

[0327] Thus, Randall meets claim 18.

- d. **Claim 19: The wireless telephone of claim 15, wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for only a specific period of time.**

[0328] Randall teaches that Bob can “select the person and allow access” (as I discussed above §§VIII.D.2.b-c (claims 17-18)) for only “a pre-defined *period of time*,” after which “the location information...again become[s] invisible.” Randall, [0144], [0143] (allowing location access for “*specific period of time*”).

[0329] Thus, Randall meets claim 19.

- e. **Claim 25: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a radio.**

[0330] Randall teaches that “wireless information device[s]” include “*radio* telephones,” and that each wireless information device can “track the location of” any other “GPS wireless information device” for which it is “authorised.” Randall, [0002], p. 24 (“People tracking”), [0021] (teaching “show[ing] the position of” the tracked device “on digital maps”). Bob’s device can thus *receive and display a location of a radio*.

[0331] It is my opinion that, alternatively, it would have been obvious to *receive and display a location of* any type of location-transmitting *radio*, which were well-known in POSAs’ background knowledge. *Supra* §VIII.C.g. My

testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as discussed below.

[0332] Boling (EX1074) describes a “combination personal audio device and emergency phone” that is “an AM/FM radio” that can transmit its “GPS” location to a “private service” via “cellular communications.” Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64. Thus, Boling corroborates that it was well known in POSAs’ background knowledge that a mobile device having position-reporting capability can be a radio.

[0333] Lelievre (EX1076) describes “a location-aware radio” that “transmits location information indicating its present location, to a location-based services provider.” Lelievre, Abstract, [0047], FIG. 5. Thus, Lelievre corroborates that it was well known in POSAs’ background knowledge that a mobile device having position-reporting capability can be a radio.

[0334] Thus, Randall meets claim 25.

f. Claim 26: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a car.

[0335] Randall teaches to provide a “Route finder” service “similar to GPS tracking in cars, but for mobile phones,” where “the phone...give[s] you step by step instructions on how to get” “where you want to go”—“eg. Turn left at the next lights. ...Go straight over the roundabout.” Randall, p. 29. It would have

been apparent to POSAs from these teachings that a user may be using the mobile phone in *a car* when using this service, as users would benefit from such instructions while driving, and instructions to “[t]urn...at...lights” and how to navigate a “roundabout” are typical driving instructions. In this scenario, POSAs would have understood the mobile phone’s location to be *a location of a car*, which Bob’s device can *receive and display* if Bob is authorized by that user.

[0336] Additionally, as I discussed above (§VIII.D.2.e (claim 25)), POSAs would have understood that a typical implementation of a “radio telephone” (Randall, [0002]), was a car phone, whose location is *a location of a car*. My opinion regarding POSAs’ background knowledge of a typical implementation of a “radio telephone[]” for location-tracking was a car phone is corroborated by the following references.

[0337] EX1077 (“Aisaka”) discloses as “Background” that “[m]obile radio telephones are known as radio telephone apparatus and are used in vehicles such as automobiles” where the radio “signals are transmitted from a transceiver unit, installed for example, in the trunk of the automobile, to a base station through which a communication link with a remote land line telephone or a remote radio telephone is established.” Aisaka, 1:14-23.

[0338] Similarly, EX1078 (“Kuge”) discloses that an example of “radio telephone apparatuses such as car telephones,” and describes as background

information that “prior art radio telephone apparatus, for example, a car telephone comprises a transceiver unit and a control unit,” where “[t]he control unit is coupled to a party telephone set (an ordinary home telephone set or another car telephone) through an antenna, a radio circuit and a base station to form a talk path between the control unit and the party telephone set.” Kuge, 1:1-34.

[0339] Thus, Randall meets claim 26.

- g. Claim 28: The wireless telephone of claim 15, wherein said programming is further capable of downloading from a remote system associated with said remote server a phone book corresponding to a user of said wireless telephone.**

[0340] As I discussed above (§VIII.D.2.a.v, Element [15D]), Bob’s “Universe” is his “contacts database” which lists “all the entities known to” Bob with their contact information. Randall, [0511], Table 2, [0509]-[0510], [0060]. POSAs would have understood this to be *a phone book corresponding to Bob*. Randall, p. 25 (“your phone’s address book”). As I also discussed above (§VIII.D.2.a.v, Element [15D]), the “Universe” is stored in a “database” at the i-server (*remote system associated with said remote server*) and also may be “cached on” the user’s “wireless information device[.]” Randall, [0511], p. 23 Table 4 (“Auto-entering address book”), [0062]-[0063], [0069]. Thus, Bob’s device can *download* his “Universe” *phone book from a remote system associated with said remote server*. Thus, Randall meets claim 28.

E. Ground 5: Claims 20-22, 29-31, 33-35, 38-39, and 41 Would Have Been Obvious Over Randall in View of De-Vries

1. Discussion of De-Vries (EX1013)

[0341] De-Vries relates to “notifications to inform when certain people (e.g., friends, family, business contacts, etc.) are nearby” based on “devices carried by the people” such as “cell phone[s].” De-Vries, Abstract, 2:21-26. In De-Vries, a device’s “user can set rules and/or parameters to control when notifications are generated”— “[f]or example, a user may set a proximity parameter designating that notifications are provided only when the other users on his or her buddy list are within a certain proximity.” De-Vries, 2:52-59. “This proximity parameter can have the form of a geographic distance threshold” or “same city/town/neighborhood,” etc. De-Vries, 9:1-18. “This applies both the degree to which a user discloses their location to others, and the relevance of another’s location relative to the user.” De-Vries, 9:19-22. “[T]he user can segregate” their contacts “into separate subsets, such as subsets of family, friends, business contacts, co-workers, etc.” and “set the rules and/or parameters that control notifications to also be based on the subset of the other user who moved.” De-Vries, 3:5-14.

2. Discussion of Randall-De-Vries Combination

[0342] As I discussed above (§VIII.D.1), Randall, like De-Vries, provides notifications via wireless devices when certain contacts are nearby,

including via an “Old buddy finder” service that, e.g., “alerts Bob when a contact happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city and didn’t know it).” Randall, p. 24 (Table 4).

[0343] To the extent that Randall does not specify how the server transmits these alerts or that the user receiving them (e.g., Bob) or the user whose location is the subject of an alert (e.g., Alice) can set the rules/parameters for receiving them and choose among various ways of defining what level of proximity triggers notifications with respect to particular other device users, POSAs would have been motivated to implement Randall’s service that way based on De-Vries’s above-discussed teachings (§VIII.E.1). For example, De-Vries’s techniques beneficially provide the user with control over what alerts they receive and trigger, about whom, and in what circumstances. POSAs would have reasonably expected success based on De-Vries’s teachings of successfully implementing such functionality in a system similar to Randall’s where wireless device users are accessing each other’s locations. *See supra* §VIII.E.1 (discussing De-Vries).

3. Mapping of Randall-De-Vries Combination to Claims 20-22, 29-31, 33-35, 38-39, and 41

- a. Claim 20: The wireless telephone of claim 15, wherein said programming is further capable of receiving an alert regarding a user of said plurality of users based on a location of a wireless telephone associated with said user of said plurality of users.**

[0344] Randall's system provides an "Old buddy finder" service wherein Bob's "device *alerts* Bob when a contact happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city and didn't know it)." Randall, p. 24 (Table 4). This *alert regarding* Alice is *based on* Alice's device's *location* being near Bob's location.

[0345] De-Vries concerns the same type of proximity-based *alerts* as Randall. De-Vries, Abstract ("notifications to inform when certain people...are nearby" as "tracked by positioning equipment based on personal communications/computing devices carried by the people"), 2:18-35 ("mobile personal information devices such as cell phone"), 4:39-44, 4:60-65, 5:20-62 (wireless device GPS locations are "stored in the people/place database" on the server to "provide *alerts*" to other users' devices). De-Vries teaches that the "presence server sends a notification to all that have subscribed," which includes the *wireless telephone*. De-Vries, 8:1-3. De-Vries further teaches that "the information service 100 also supports notification operations," where "the locations of the user and those on the user's buddy list(s)...are tracked." De-Vries,

8:27-31. “Upon an update to the people/place state data 300 in which the relative locations of the user and/or those on the user’s buddy list(s) change, the information service 100 determines which people are in the user’s proximity” and then “transmits a notification message to the user” (“i.e., to the user’s personal mobile data communications device...”). De-Vries, 8:31-40. I further note that De-Vries Figure 1 shows that the “information service” that sends the above-discussed notification message is composed of “servers.” Thus, De-Vries teaches to implement such alerts by the “server send[ing] a notification” to the *wireless telephone*, which thus *receives the alert*. De-Vries, 8:1-3, 8:31-40, FIG. 1.

[0346] Thus, Randall-De-Vries meets claim 20.

b. Claim 21: The wireless telephone of claim 20, wherein said programming is further capable of requesting said remote server to provide said alert.

[0347] De-Vries teaches that “[t]he information service” (the *remote server* in Randall-De-Vries) “supports a parameter for the user to disable and enable notifications from the information service,” by which “user A could enable notifications from a group including person B.” De-Vries, 9:46-62, FIG. 1 (“information service” is server-implemented). In my opinion, POSAs would have understood such “enabl[ing] notifications” to be *requesting said remote server to provide said alert*.

[0348] De-Vries further teaches that a mobile device user can set parameters controlling which other users' locations will trigger alerts and in what circumstances, as I discussed above (§VIII.E.1). De-Vries, 2:52-59, 3:5-14, 9:1-22. The “parameter settings” from “the user’s...mobile...device” are “stored by the information service” to control what alerts the server transmits. De-Vries, 8:41-62. In my opinion, POSAs would have understood setting these parameters to be *requesting said remote server to provide said alert* when the parameters are met.

[0349] Thus, Randall-De-Vries meets claim 21.

- c. **Claim 22: The wireless telephone of claim 21, wherein said alert is geographic area-based, said programming is further capable of specifying said geographic area, and said alert indicates that said location of said wireless telephone associated with said user of said plurality of users is within said geographic area.**

[0350] Randall teaches that *said alert* can be *geographic area-based*—e.g., *indicating that the other user’s location is within a city*. Randall, p. 24 (“Old buddy finder” “alerts Bob when...Bob and Alice are both in the same foreign city”). De-Vries also teaches *geographic area-based alerts*, and teaches that the user on the *wireless telephone* can *specify said geographic area* by setting “proximity parameters, such as same city/town/neighborhood,” within which the server will “provid[e] notifications” that specified other users’ “locations are

within the scope indicated by the parameter.” De-Vries, 8:41-9:18. Thus, Randall-De-Vries meets claim 22.

d. Claim 29

i. Preamble [29PRE]: A wireless telephone comprising:

[0351] Like claim 15, claim 29’s preamble only recites “A wireless telephone comprising.” *See supra* §VIII.D.2.a.i. Thus, Randall-De-Vries meets [29PRE] for the same reason Randall meets [15PRE] (*see supra* §VIII.D.2.a.i). Claim 29 recites a wireless telephone that includes essentially the same limitations as recited in claim 15. Thus, it is my opinion that claim 29 is obvious essentially for the reasons given above with respect to claim 15 (*see supra* §VIII.D.2.a).

ii. Element [29A]: a processor;

[0352] Element [29A] recites the same limitation as Element [15A]. Thus, Randall-De-Vries meets [29A] for the same reason Randall meets [15A] (*see supra* §VIII.D.2.a.ii).

iii. Element [29B]: a positioning system for determining a location of said wireless telephone; and

[0353] Element [29B] recites the same limitation as Element [15B]. Thus, Randall-De-Vries meets [29B] for the same reason Randall meets [15B] (*see supra* §VIII.D.2.a.iii).

iv. Element [29C]: memory storing programming capable of:

[0354] Element [29C] recites the same limitation as Element [15C].

Thus, Randall-De-Vries meets [29C] for the same reason Randall meets [15C] (*see supra* §VIII.D.2.a.iv).

v. Element [29D]: receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login;

[0355] Element [29D] recites the same limitation as Element [15F].

Thus, Randall-De-Vries meets [29D] for the same reason Randall meets [15F] (*see supra* §VIII.D.2.a.vii).

vi. Element [29E]: providing said location for recording on a remote system in association with said user information;

[0356] As I discussed above (§VIII.D.2.a.vii, Element [15F]), Randall teaches that Bob provides *user information* including *login* and *password* to the i-server for “authentication” to access not only Alice’s data, but also “his own personal information” that “Bob...has stored on the server.” Randall, [0067], [0380]. As I discussed above (§VIII.D.2.a.viii, Element [15G]), part of the i-Data that any user can store on the i-server is their wireless device’s *location*. Randall, [0505], [0116]-[0136]. Any user can “up-date[]” the i-server with their “location” as “transmit[ted]” by their “GPS wireless information device.” Randall, p. 24

(“People tracking”). By presenting Bob’s GPS location to the i-server with authentication information for accessing and updating his personal information, Bob’s *wireless telephone provides said location for recording on the i-server in association with said user information*. The i-server is a *remote system* as I discussed above (§VIII.D.2.a.viii, Element [15G]).

vii. Element [29F]: selecting a location-based event that is based, at least in part, on a location of a second wireless telephone, wherein said location-based event is operable to be manually pre-selected from a list of at least three types of location-based events; and

[0357] Randall’s “Old buddy finder” alert is a *location-based event* provided based in part on Alice’s *second wireless telephone’s* location (and in part on Bob’s location), as I discussed above (§VIII.E.3.a (claim 20)). Randall, p. 24.

[0358] De-Vries concerns the same type of proximity-based *location-based events* as Randall. De-Vries, Abstract, 2:18-35, 4:39-44, 4:60-65, 5:20-62; *supra* §VIII.E.3.a (claim 20). In that context, De-Vries teaches to provide *at least three types* of such *location-based events*. One type is distance-based: a “parameter sets a proximity threshold within which people...are to be considered proximate to the user...for purposes of...providing notifications. This proximity parameter can have the form of a geographic distance threshold, e.g., a radius in miles or kilometers, within which the people...must be located to be considered in proximity to the user.” De-Vries, 9:1-8. Another type is region-based: “proximity

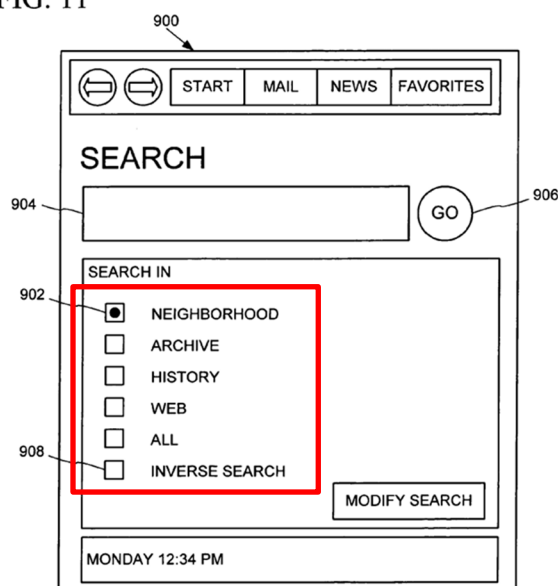
parameters, such as same city/town/neighborhood.” De-Vries, 9:8-13. Other types include “same building, same room,” etc. De-Vries, 9:13-14. Still further types are based on one or both users’ “place context,” which is “place-specific information” beyond simply the “location”—e.g., whether the place the user is currently located is their “home or place of work” or a “public place[],” or whether in “a movie theatre” vs. “a shopping mall or library.” De-Vries, 6:4-7:12, 7:44-54, 8:41-67, 9:63-10:11. Further types of *location-based events* are additionally based on “times of the day or week.” De-Vries, 9:63-10:19. De-Vries thus teaches to provide *at least three types of location-based events*.

[0359] Thus, based on De-Vries’s teachings discussed above, the Randall-De-Vries combination that I discussed above (§VIII.E.2) provides *at least three types of location-based events*—e.g., Bob can be alerted when Alice’s *second wireless telephone* is “within a defined proximity” (Randall, p. 24) defined in “the form of a geographic distance threshold” (De-Vries, 9:5-8), or when Alice’s device in the “same foreign city” (Randall, p. 24) or “town/neighborhood” (De-Vries, 9:12-13), when Alice’s device is in the “same building, same room,” etc. (De-Vries, 9:13), when Alice/Bob is at home or work or in a social place, and at specified times of the day or week (De-Vries, 6:4-7:12, 7:44-54, 8:41-67, 9:63-10:19).

[0360] In the Randall-De-Vries combination, based on obvious implementations of De-Vries's teachings, Bob can *manually pre-select from a list* on his device what type of *location-based event* to receive about Alice's *second wireless device's* location. De-Vries teaches that "parameters can be designated explicitly by the user," who can set them so that "different people have different proximity thresholds." De-Vries, 8:41-46, 9:19-20. For example, "a user may only be interested in notification of the location of a person they see frequently if that person is within a block or so" (a distance-based event), "whereas they may wish to be notified if a close friend who lives in another country happens to be in the same city as the one they currently find themselves in" (a region-based event). De-Vries, 9:26-31.

[0361] De-Vries teaches that parameter settings can be part of "a graphical user interface [GUI]...for accessing the information service from a client device." De-Vries, 8:60-67. And in De-Vries's FIG. 11 (annotated below), De-Vries illustrates a typical graphical user interface (GUI) for the device user to select among a set of available options, by *manually pre-selecting* one of the options from a *list*.

FIG. 11



De-Vries, FIG. 11 (annotated)

[0362] Although the specific example in FIG. 11 above is illustrating a GUI for submitting a search query (De-Vries, 16:34-44), POSAs would have known that this form of GUI was typical and common for user selection among available options. POSAs would, therefore, have been motivated and reasonably expected success in implementing Bob's pre-selection of a type of *location-based event* to receive about Alice's location in this way, by *manually pre-selecting from a list* of the available *at least three types of location-based events* on Bob's device.

[0363] Thus, Randall-De-Vries meets Element [29F].

viii. Element [29G]: receiving a location-based event notification corresponding to said selected location-based event as a result of, at least in part, location access rights of said wireless telephone from said second wireless telephone,

[0364] Randall’s system provides a *location-based event notification* when Bob’s “device alerts Bob” about Alice’s location, such as “when a contact [e.g., Alice] happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city and didn’t know it).” Randall, p. 24 (Table 4, “Old buddy finder”); *see supra* §VIII.E.3.d.vii (Element [29F]). As I discussed above (§§VIII.D.2.a.viii-x, Elements [15G]-[15I]), Randall further teaches that Bob’s device can only access Alice’s location (as is necessary for alerting Bob about Alice’s location) *as a result of* Alice having provided Bob’s *wireless telephone* sufficient *location access rights* from Alice’s *second wireless telephone*. Thus, Randall’s “Old buddy finder” alert provides a *location-based event notification as a result of location access rights of Bob’s wireless telephone from Alice’s second wireless telephone*.

[0365] Additionally, as I discussed above (§VIII.E.3.a (claim 20)), De-Vries teaches *receiving* such *location-based event notifications* at the *wireless telephone* from the server. De-Vries, Abstract (“service provides...**notifications** to inform when certain people ... are nearby...via the user’s personal communications/computing device”), 8:27-39 (“the information service...transmits

a *notification* message...to the user’s personal mobile data communications device”). And De-Vries teaches to provide such *location-based event notifications* as a result of *location access rights of said wireless telephone from said second wireless telephone*. De-Vries, 9:32-45 (a user like Alice can “set the visibility parameters to be either visible or not visible to a particular user” like Bob “or group of users,” such that “by setting the visibility parameter for different groups of people, the person could elect to have the information service inform some groups of his or her contacts about his or her proximity, while not informing others”).

[0366] Thus, Randall-De-Vries meets Element [29G].

ix. Element [29H]: wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based.

[0367] As I discussed above (§VIII.E.3.d.vii, Element [29F]), in the Randall-De-Vries combination, *a first one of the types of location-based events is region-based* (“same foreign city” (Randall, p. 24) or “town/neighborhood” (De-Vries, 9:12-13)), and *a second one of the types of location-based events is distance-based* (“within a defined proximity” (Randall, p. 24) defined in “the form of a geographic distance threshold, e.g., a radius in miles or kilometers” (De-Vries, 9:5-8)). Thus, Randall-De-Vries meets Element [29H].

- e. **Claim 30: The wireless telephone of claim 29, wherein said first wireless device comprises a global positioning system that is operable to provide said location.**¹⁵

[0368] Randall-De-Vries meets claim 30 for the same reasons I discussed above that Randall meets Element [15B] (*supra* §VIII.D.2.a.iii) and Randall-De-Vries meets Element [29B] (*supra* §VIII.E.3.d.iii).

- f. **Claim 31: The wireless telephone of claim 29, wherein said programming is further capable of displaying a display screen on said wireless telephone, after receiving said location-based event notification, that includes a first selectable option for providing a map associated with said location of said second wireless telephone.**

[0369] In Randall's system, "a user [e.g., Alice] might choose to subscribe to a service which allowed other users to track his or her location. ... Once the user has subscribed to the location service, then the friends/parents [e.g., Bob] could add a 'map' application to their own devices, which could show their position on digital maps and...could also show the position of the user." Randall, [0021]. On Bob's *wireless telephone* this application/function *provides a map associated with said location of Alice's wireless telephone*.

¹⁵ Claim 30's "*said first wireless telephone*" lacks antecedent basis. For purposes of this declaration, I have interpreted Claim 30's "*said first wireless telephone*" as encompassing [29PRE]'s "*wireless telephone*."

[0370] In my opinion, POSAs would have found it obvious to *display a display screen with a selectable option to view this map after receiving said location-based event notification*, because POSAs would have understood that many users would want a choice to view the other user’s location after being notified that the other user is nearby (or to ignore the notification or address it at a more convenient time). In my opinion, POSAs would have understood that this would beneficially help the users “locate each other in town” (Randall, [0143]) once notified that they are in the same town (Randall, p. 24, “Old buddy finder”).

[0371] Thus, Randall-De-Vries meets claim 31.

- g. Claim 33: The wireless telephone of claim 29, wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for an indefinite period of time.**

[0372] The limitation that claim 33 adds to claim 29 is essentially the same limitation that claim 18 adds to claim 15. Thus, in my opinion, the Randall-De-Vries combination meets claim 33 for the reasons Randall meets claim 18, as I discussed above (§VIII.D.2.c, Ground 4, claim 18).

- h. Claim 34: The wireless telephone of claim 29, wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for only a specific period of time.**

[0373] The limitation that claim 34 adds to claim 29 is essentially the same limitation that claim 19 adds to claim 15. Thus, in my opinion, the Randall-De-Vries combination meets claim 34 for the reasons Randall meets claim 19 as I discussed above (§VIII.D.2.d, Ground 4, claim 19).

- i. Claim 35: The wireless telephone of claim 29, wherein said programming is further capable of specifying said region, and said region-based location-based event indicates that said location of said second wireless telephone is within said region.**

[0374] The limitation that claim 35 adds to claim 29 is essentially the same limitation that claim 22 adds to claim 21. Thus, in my opinion, the Randall-De-Vries combination meets claim 35 for the reasons the Randall-De-Vries combination meets claim 22 as I discussed above (§VIII.E.3.c, Ground 5, claim 22).

- j. Claim 38: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a radio.**

[0375] The limitation that claim 38 adds to claim 29 is essentially the same limitation that claim 25 adds to claim 15. Thus, in my opinion, the Randall-De-Vries combination meets claim 38 for the reasons Randall meets claim 25 as I discussed above (§VIII.D.2.e, Ground 4, claim 25).

- k. Claim 39: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a car.**

[0376] The limitation that claim 39 adds to claim 29 is essentially the same limitation that claim 26 adds to claim 15. Thus, in my opinion, the Randall-De-Vries combination meets claim 39 for the reasons Randall meets claim 26 as I discussed above (§VIII.D.2.f, Ground 4, claim 26).

- l. Claim 41: The wireless telephone of claim 29, wherein said programming is further capable of downloading from said remote system a phone book corresponding to a user of said wireless telephone.**

[0377] The limitation that claim 41 adds to claim 29 is essentially the same limitation that claim 28 adds to claim 15. Thus, in my opinion, the Randall-De-Vries combination meets claim 41 for the reasons Randall meets claim 28 as I discussed above (§VIII.D.2.g, Ground 4, claim 28).

F. Ground 6: Claims 16, 23-24, 27, 32, 36-37, and 40 Would Have Been Obvious Over Randall in Combinations with De-Vries, Wako, Bechtolsheim, and Degnbol

[0378] As I explain in this section below, in my opinion claims 16, 23-24, 27, 32, 36-37, and 40 of the '117 patent would have been obvious to a POSA in view of the combined teachings of Randall (EX1007-EX1008), De-Vries (EX1013), Wako (EX1025), Bechtolsheim (EX1075), and Degnbol (EX1035).

[0379] Above, I provided a discussion of Randall (§VIII.D.1), DeVries (§VIII.E.1), Randall-DeVries (§VIII.E.2), Wako (§VIII.C.1), Bechtolsheim (§VIII.C.3), and Degnbol (§VIII.B.1).

1. Discussion of Combinations of Randall and Randall-DeVries with Wako, Bechtolsheim, and Degnbol

[0380] As I discussed above (§VIII.D.1), 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.” Randall, p. 29.

[0381] Randall also provides a “Rendezvous” service “on your mobile phone to help you meet friends and family” by “hav[ing] 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 “your phone can display a map of the area you are standing in” (Randall, p. 29) and can also “show [your] position” and “the position of [another] user” (Randall, [0021]). In my opinion, POSAs would have understood and found it obvious from these Randall’s disclosures that another user’s position can be “where you want to go” in Randall’s “Route finder” (Randall, p. 29).

[0382] *Combinations with Wako and Bechtolsheim*: In my opinion, POSAs would have recognized Wako’s and Bechtolsheim’s techniques discussed *supra* §VIII.C.1, §VIII.C.3, §VIII.C.4, as the type of “GPS tracking in cars”

techniques that Randall's "Route finder" is "similar to" (Randall, p. 29). Thus, in my opinion, POSAs would have been motivated and had a reasonable expectation of success incorporating Wako's and Bechtolsheim's navigation information and display techniques when implementing Randall's "Route finder" service in Randall and Randall-De-Vries (*supra* §VIII.E.2), with another user's location as the destination.

[0383] **Combinations with Degnbol:** Randall's system provides proximity-based alerts, as discussed *supra* §VIII.D.1, §VIII.E.2. Randall, p. 24 ("Old buddy finder"). Based on Degnbol's teachings regarding a similar system providing similar location-based alerts, it is my opinion that POSAs would have been motivated to and would have reasonably expected success to "inform[]" a user at his wireless telephone "that he has been the subject of an alert to another user," as well as to "determin[e] the position of" "communication units" including "wristwatches." Degnbol, 21:4-6, 18:27-31, 4:1-5:20, 6:22-7:17, 27:14-16.

2. Mapping of Combinations of Randall with De-Vries, Wako, Bechtolsheim, and Degnbol to Claims 16, 23-24, 27, 32, 36-37, and 40

- a. Claim 16: The wireless telephone of claim 15, wherein said programming is further capable of displaying an option to obtain directions from said first wireless telephone to said one of said plurality of wireless telephones associated to said selected one of said plurality of users.**

[0384] In my opinion, POSAs would have found claim 16 to have been obvious over Randall-Wako (*supra* §VIII.F.1). As I discussed above (§§VIII.D.2.a.v-vi, Elements [15D]-[15E]), Randall’s wireless device displays a contacts list from which a contact can be selected to access their location. The Randall-Wako combination that I discussed above (§VIII.F.1) *displays an option* to select the contact (e.g., Alice) from the displayed contacts list to access Route finder navigation to *obtain directions* to the contact’s location.

[0385] Wako likewise teaches that the user can select a contact’s name from a menu to *obtain directions* to that contact’s location by “show[ing] an address, phone number, a direction by an arrow, and a distance to location of the name highlighted in the name list.” Wako, 12:35-63. “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, FIGs. 12B-12C (copied below).

Fig. 12B

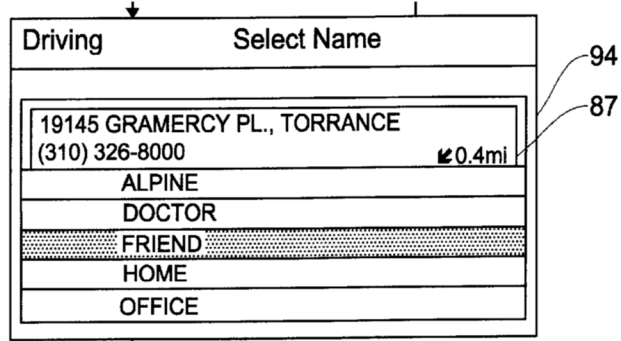
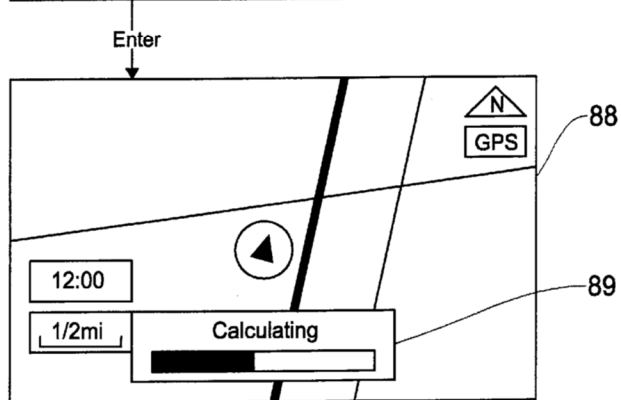


Fig. 12C



Wako, FIGs. 12B-12C

[0386] A user would have expected 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. In my opinion, POSAs would have been motivated to implement, and would have had a reasonable expectation of success in implementing, such a *displayed option* in Randall to allow the user to make use of the received location, such as by choosing to navigate to the location.

[0387] Thus, Randall-Wako meets claim 16.

b. Claims 23 & 36

Claim 23: The wireless telephone of claim 15, wherein said programing is further capable of receiving an alert when a user of said plurality of users locates said wireless telephone.

Claim 36: The wireless telephone of claim 29, wherein said programing is further capable of receiving an alert when a user of said second wireless telephone locates said wireless telephone.

[0388] In my opinion, POSAs would have found claim 23 to have been obvious over Randall-Degnbol, and claim 36 to have been obvious over Randall-De-Vries-Degnbol (*supra* §VIII.F.1).

[0389] Based on Degnbol's teachings discussed *supra* §VIII.C.5.e, it would have been obvious to *receive an alert* at Bob's *wireless telephone* in Randall and Randall-De-Vries when "he has been the subject of an alert to another user" by which that user *locates* Bob's *wireless telephone* as being nearby. Degnbol, 21:4-6, 18:27-31; *see also* EX1001, 2:3-8 ('117 patent disclosing that an "alert may take the form of, for example, a display on Jen's cell phone that communicates to Jen 'Phil is in Pittsburgh'"). It would alternatively have been obvious to *receive an alert* whenever another user requests Bob's location, as this was a known useful option.

[0390] My testimony in this regard is corroborated by Rice (EX1071), which describes providing a user an "option...to *receive* a notification on their wireless communications device whenever a location request is made by a client

application” to access the user’s location. Rice, 9:26-35. Rice teaches that this is useful even where the requesting entity already has access rights. Rice, 7:40-49, 9:36-51, 12:20-33. Thus, Rice corroborates that it would have been obvious to *receive an alert* whenever another user requests Bob’s location and it was well known in POSAs’ background knowledge.

[0391] Thus, Randall-Degnbol meets claim 23 and Randall-De-Vries-Degnbol meets claim 36.

c. Claims 24 & 37

Claim 24: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a watch.

Claim 37: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a watch.

[0392] In my opinion, POSAs would have found claim 24 to have been obvious over Randall-Degnbol, and claim 37 to have been obvious over Randall-De-Vries-Degnbol (*supra* §VIII.F.1).

[0393] Randall teaches that its “wireless information device[s]” can be “any kind of device with one or two way wireless information capabilities,” and teaches *receiving and displaying a location of* a wireless information device as I discussed above (§§VIII.D.2.a.xi-xii, Elements [15J]-[15K]). Randall, [0002], [0021].

[0394] As I discussed above (§VIII.C.5.f, Ground 3 claim 24), Degnbol describes “determining the position of” “communication units,” which include “wireless telephone[s],” “personal digital assistants,” and “wristwatches.” Degnbol, 4:1-31, 6:22-7:17, 27:14-16. Degnbol teaches that any of these units are “communication units” and can receive information. Degnbol, 4:1-5:20, 6:22-7:17. POSAs would have understood Degnbol’s “wristwatches” to be an example of a suitable wireless information device in Randall and Randall-De-Vries (*supra* §VIII.E.2). It would therefore have been obvious to *receive and display the location of* any suitable device, including *a watch*.

[0395] Thus, Randall-Degnbol meets claim 24, and Randall-De-Vries-Degnbol meets claim 37.

d. **Claims 27 & 40**

Claims 27: The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying information indicating time to reach said second location from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

Claim 40: The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying information indicating time to reach a second location associated with said second wireless telephone from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

[0396] In my opinion, POSAs would have found claim 27 to have been obvious over Randall-Wako-Bechtolsheim, and claim 40 to have been obvious over Randall-De-Vries-Wako-Bechtolsheim (*supra* §VIII.F.1)

[0397] As I discussed above (§VIII.C.5.h), Bechtolsheim teaches to provide a route to the destination *according to two types of travel: walking and driving*, since the “user may not necessarily be able to park at the destination location” and will walk there from their parking spot. Bechtolsheim, 1:27-50. Wako teaches to display in the “route guidance screen” the “anticipated *time to reach* the final destination,” and explains that this was “Background” knowledge. Wako, 9:18-22, 2:30-34 (“Background” section). In the Randall-Wako-Bechtolsheim combination (§VIII.F.1) (with/without De-Vries), this displayed *time to reach* the destination (*second location*) is the “summed” *driving and walking*

time. Bechtolsheim, 19:30-36. Bechtolsheim teaches to *receive* the *information* from a “remote location” where it is computed. Bechtolsheim, 5:16-19. Thus, Randall-Wako-Bechtolsheim meets claim 27, and Randall-De-Vries-Wako-Bechtolsheim meets claim 40.

[0398] Alternatively, Bechtolsheim’s teaching to “compare[]” the “travel time using public transportation...to the travel time using a private vehicle” (Bechtolsheim, 21:53-56) also meets claims 27 and 40. *See supra* §VIII.C.5.h. In my opinion, POSAs would have been motivated and would have had a reasonable expectation of success to apply this Bechtolsheim teaching to allow the user in Randall’s system to choose among transportation options.

- e. **Claim 32: The wireless telephone of claim 29, wherein said programming is further capable of displaying after receiving said location-based event notification a travel time between a location of said wireless telephone and a location of said second wireless telephone.**

[0399] In my opinion, POSAs would have found claim 32 to have been obvious over Randall-De-Vries-Wako (§VIII.F.1), because as I discussed above (§VIII.F.2.d (claim 27)), it would have been obvious to POSAs in view of Wako for Randall’s system to *display a travel time* between Bob’s and Alice’s *wireless telephone*’s locations. Wako, 9:18-22, 2:30-34. In my opinion, it would have been obvious to POSAs to provide this display *after receiving said location-based event notification* for the reasons I discussed above (§VIII.E.3.f (claim 31)).

[0400] Thus, Randall-De-Vries-Wako meets claim 32.

IX. COMMENTS ON MULLEN’S CHARACTERIZATION OF MY DEPOSITION TESTIMONY CITED IN IPR2023-00116, PAPER 13

[0401] I am aware that in IPR2023-00116 (117 Patent), Mullen argued that I “conceded” “at ... deposition” that “Sheha does not disclose user-specific location access rights for mobile devices.” IPR2023-00116, Paper 13, at 5 (citing IPR2023-00116, Ex. 2003, 17:6-12, 114:12-25). I did not concede that. What I said at 17:6-12 of Ex. 2003 of IPR2023-00116 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.” IPR2023-00116, 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.” IPR2023-00116, 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.” IPR2023-00116, EX2003, 18:21-24. At 114:12-25 of Ex. 2003 of IPR2023-00116, 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.” IPR2023-00116, Ex. 2003, 114:22-115:3. 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.

[0402] I am aware that in IPR2023-00116 ('117 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.” IPR2023-00116, Paper 13, at 18-19 (citing IPR2023-00116, 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.

[0403] At 17:6-12 of Ex. 2003 of IPR2023-00116, 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.” IPR2023-00116, Ex. 2003, 17:19-20.

[0404] At 20:13-21:19 of Ex. 2003 of IPR2023-00116, 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).

[0405] At 23:22-24:7 of Ex. 2003 of IPR2023-00116, 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.

[0406] At 24:20-25:11 of Ex. 2003 of IPR2023-00116, 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.

[0407] At 114:12-25 of Ex. 2003 of IPR2023-00116, 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.” IPR2023-00116, Ex. 2003, 114:22-115:3.

[0408] At 116:2-7 of Ex. 2003 of IPR2023-00116, 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.” IPR2023-00116, 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.

[0409] At 154:2-5 of Ex. 2003 of IPR2023-00116, 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.

[0410] I consistently testified in my deposition in IPR2023-00116 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.'" IPR2023-00116, 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." IPR2023-00116, 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.*" IPR2023-00116, Ex. 2003, 25:16-24.

[0411] I am aware that in IPR2023-00116 (117 Patent), Mullen argued that I "agreed" 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.'" IPR2023-00116, Paper 13, at 24 (citing IPR2023-00116, Ex. 2004, at 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 IPR2023-00116, 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.” IPR2023-00116, Ex. 2004, at 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.

[0412] I am aware that in IPR2023-00116 (’117 Patent), Mullen argued that I “conceded” that Sheha’s “No Phone Call embodiment descriptions were ambiguous.” IPR2023-00116, Paper 13, at 26 (citing IPR2023-00116, Ex. 2003, 28:16-29:7, 29:19-30:14, 29:5-32:4). I did not concede that. At 28:16-29:10 of Ex. 2003 in IPR2023-00116, 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 29:5-30:18 of Ex. 2003 in IPR2023-00116, 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” “objective[s]” (Sheha, 4:13-17), as I’ve discussed above. And at 31:19-32:4 of Ex. 2003 in IPR2023-00116, 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. *See supra* §VIII.A.1.

[0413] I am aware that in IPR2023-00116 (’117 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 well 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’).” IPR2023-00116, Paper 13, at 27 (citing IPR2023-00116, Ex. 2003, at 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.” IPR2023-00116, Ex. 2003, at 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.” IPR2023-00116, Ex. 2003, at 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.

[0414] I am aware that in IPR2023-00116, Mullen argued that I “conceded...at [my] deposition” that “Sheha does not disclose one device user providing rights exclusively to another device user” “[r]ather, 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.” IPR2023-00116, Paper 13, at 28 (citing IPR2023-00116, Ex. 2004, 189:16-22). That is not what I said. At 189:16-22 of Ex. 2004 of IPR2023-00116, 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.

[0415] I am aware that in IPR2023-00116 (117 Patent), Mullen argued that I “agreed” that Degnbol’s “first aspect” and “second aspect” described in Degnbol’s “Summary of the Invention” “both require ‘generating a message when the distance between the first and second unit is within a predetermined range.’” IPR2023-00116, Paper 13, at 35 (citing IPR2023-00116, Ex. 2003, 122:21-126:23). I am aware that Mullen further argued that I “agreed” that “Degnbol’s reference to the ‘predetermined range [that] may be selected by the user associated with a unit’ ‘refers to the distance between the first and second unit.’” IPR2023-

00116, Paper 13, at 35 (citing IPR2023-00116, Ex. 2003, 124:24-126:16). That is not an accurate characterization of my testimony. The testimony Mullen cited at 122:21-126:23 of Ex. 2003 in IPR2023-00116 consists mostly of me agreeing that the questioning attorney accurately read portions of Degnbol into the record—specifically Degnbol’s title, a sentence in Degnbol’s Abstract, and portions at 3:3-6, 4:1-21, and 6:1 of Degnbol. At no point did I agree that those aspects “require” generating a message or that the message can only be generated based on the first and second units being a pre-determined distance apart. But even if I had, the cited testimony concerns only one small portion of Degnbol, not the entirety of Degnbol’s disclosure. At no point did I agree that all disclosures in Degnbol are based only on a distance between the first and second units. As discussed in other portions of my deposition in IPR2023-00116 and in my declaration for this matter, other disclosures in Degnbol include other types of location-based events, such as based on whether a buddy is within a particular country, district, street, etc. E.g., IPR2023-00116, Ex. 2004, at 134:6-135:5, 135:19-147:5, Degnbol, 6:6-17, 10:17-11:8, 12:10-12, 13:17-21, 18:5-7.

[0416] I am aware that in IPR2023-00116 (’117 Patent), Mullen argued that my deposition testimony was “[i]nconsistent with [my] own admissions and Degnbol’s clear disclosures” because (according to Mullen’s characterization) I testified that “that Degnbol’s reference on page 6 to geographic

areas – ‘such as a continent, country, district, city, co-ordinate range or a street’ – discloses a new embodiment unrelated to the distance-based ranges described in the Summary of the Invention.” IPR2023-00116, Paper 13, at 35-38 (citing IPR2023-00116, Ex. 2003, 140:5-141:8, 141:17-142:8, 143:4-25, 145:25-146:24). As explained below, I disagree that any of my testimony was inconsistent with any other testimony that I gave at deposition or in my declaration.

[0417] At 140:5-141:8 of Ex. 2003 in IPR2023-00116, I explained that when Degnbol discloses that “Each predetermined range may be associated with a geographic area such as a continent” (Degnbol, 6:6-7), “a continent is a geographical area” and “continents can vary from really wide” to “really narrow,” and so “whether or not you’re in a continent would be a type of event” not necessarily measurable as a “distance range.” IPR2023-00116, Ex. 2003, 140:5-141:8. That is also what I explained at 141:17-142:8, where I testified that Degnbol’s disclosure that “Each predetermined range may be associated with a continent” is “talking about...whether or not something is within a continent or not” because “what a POSITA would recognize as being a predetermined range associated with a content is that’s the area and boundaries associated with a continent.” IPR2023-00116, Ex. 2003, 141:17-142:8. I further explained that “continents and countries and cities, they all have specific boundaries and areas

contained within those boundaries” and “all of those are predetermined and consisting of ranges.” IPR2023-00116, Ex. 2003, 142:24-143:3.

[0418] At 143:4-25, I was asked how, “based on the technology at the time,” Degnbol could determine the range of a geographic area. IPR2023-00116, Ex. 2003, 142:24-143:6. I explained that one way it could have been done was by using “the country code of the telephone number,” and another way was that “every country has been well known from a coordinate, a world geospacic [sic: Geodetic] coordinate system for many, many years.” IPR2023-00116, Ex. 2003, 143:10-25. I further explained that “a person of the ordinary skill in the art...would realize that all continents and nations and states and counties and cities and towns have...well-defined boundaries represented by specific sets of coordinates that you could then do a calculation to see if you’re inside or outside of that,” and that this was so well known that it was not “necessary” for Degnbol “to explain in gruesome detail.” IPR2023-00116, Ex. 2003, 144:4-13.

[0419] At 145:25-146:24, I was asked whether if Degnbol’s said that “each predetermined range may be associated with a geographic area such as continent [sic],” that “could be a distance-based location-based event.” IPR2023-00116, Ex. 2003, 145:25-146:3. I responded that “I don’t know that I said” that in the way the questioning attorney phrased it, and I explained that states, for example, “can vary greatly” in terms of the “ranges involved,” meaning the

“amounts of area covered and boundaries” and I explained that “I’ve articulated” “region, distance-based, as well as other types of things, such as covering the home or the street or a geofence,” all of which “are different types of events” “that I would view as being distinct from a region or distance-based.” IPR2023-00116, Ex. 2003, 146:7-24.

[0420] Thus, I disagree with Mullen that I provided testimony that was hypothetical regarding Degnbol’s disclosures. Rather, I explained how Degnbol does, in fact, disclose embodiments that are not restricted to providing location messages that are based only the distance between two users or devices. The fact that Degnbol can use distance between users as a factor for a generating an alert is not inconsistent with Degnbol’s disclosure of using other factors (like geographic location), with or without regard for the relative distance between the two users, as I discussed above, at deposition in IPR2023-00116, and in my declaration in this matter (*see supra* §VIII.C.5.b).

[0421] I am aware that in IPR2023-00116 (’117 Patent), Mullen argued that I was “unable to make sense of” an allegedly “spontaneous theor[y]” about how Degnbol discloses using geographic areas to trigger notifications, and that Mullen argued that I “conceded” that “the ‘predetermined range’ described by Degnbol in the context of geographic area was indeed based on distance.” IPR2023-00116, Paper 13, at 38-39 (citing IPR2023-00116, Ex. 2003, 148:14-

149:18). I disagree that my testimony was “spontaneous” or that I “conceded” that Degnbol’s predetermined range based on geographic area was based on distance.

[0422] My testimony at 148:14-149:18 of Ex. 2003 in IPR2023-00116 concerned Degnbol’s disclosure on page 6, lines 1-6. IPR2023-00116, Ex. 2003, 148:14-149:18. I testified that the “predetermined range” that Degnbol mentions at 6:1 “may well be associated with distance between two units” in some examples, but as I explained, “that distance” “is being assessed as to whether it’s, for example, on the same continent or in the same country or in a district, city, coordinate range, or street.” IPR2023-00116, Ex. 2003, 148:23-149:3. I stated that a “primary set of embodiments” in Degnbol may involve distance between two units, but I also explicitly noted that “all of the other ones” need not all be distance-based, regardless of whether any specific examples were in my memory at that particular moment. IPR2023-00116, Ex. 2003, 149:6-18. Thus, the cited deposition testimony explained how Degnbol discloses using geographic locations to trigger notification, and that testimony was consistent with my opinions then and now that Degnbol discloses providing messages about the location of users based on distance and/or location of the users and is not restricted to providing messages based only on the users being a predetermined distance apart, as I discussed above. I did not testify otherwise at deposition in IPR2023-00116.

[0423] I am aware that in IPR2023-00116 ('117 Patent), Mullen argued that “Sheha only teaches that mobile devices respond to position requests by providing information or indicating a denial” and cited deposition testimony I provided as alleged support for Mullen’s argument and further argued that I “admitt[ed] that Sheha does not disclose the privacy settings on the system server.” IPR2023-00116, Paper 15, at 44 (citing IPR2023-00116, Ex. 2003, 26:7-8, 156:21-157:13. As explained below, I disagree that my cited testimony supports Mullen’s argument or that I admitted that Sheha does not disclose the privacy settings on the system server.

[0424] At 26:7-8 of Ex. 2003 in IPR2023-00116, I explained that while some privacy settings are “stored on the phone generally,” the “group delineation” in particular would “generally be stored on the ODAS to provide a permissions capability to filter out people who the original phone doesn’t want to have their location information.” IPR2023-00116, EX2003, at 26:7-13. At 156:21-157:13 of Ex. 2003 in IPR2023-00116, I was asked, “[S]itting here now, *without looking*, you don’t know whether Sheha explicitly teaches privacy settings stored on a system server...?” and I said, “I don’t know for certain in terms of a particular passage.” I did not know for certain in that moment simply because the questioning attorney specifically instructed me *not to look* at Sheha. Nonetheless, I testified that storing privacy and permission settings on the server would have

been at minimum obvious because “it would make more sense in embodiments where a fresh location is not needed to store privacy and permission settings on the server to avoid needing to ping the device each time you’re wanting that information.” IPR2023-00090, Ex. 2003, 157:14-21. I consistently testified that Sheha’s system “encompasses the various privacy and permissions aspects associated with the invention” and “it would be a far more efficient design to” have “privacy settings or groups” “stored on the server” “as opposed to having to constantly access that information on the target’s [sic] device itself.” IPR2023-00116, Ex. 2003, at 156:1-19. In any event, as discussed above in my declaration for this matter (§VIII.A.4.a.ix), Sheha discloses that the group database is stored in the ODAS server, which teaches or at least renders obvious having privacy settings stored on Sheha’s remote ODAS server. Thus, Sheha does not only teach that mobile devices respond to position requests by providing information or indicating a denial.

[0425] I am aware that in IPR2023-00116 (’117 Patent), Mullen argued that I “admitted” at deposition that Sheha’s disclosure regarding privacy settings and its group database are not “user-specific.” IPR2023-00116, Paper 13, at 44-45 (citing IPR2023-00116, Ex. 2003, at 17:6-12; 114:12-25; 116:2-7; 20:13-21:9; 23:22-24:7; 24:20-25:11; 154:2-5; IPR2023-00116, Ex. 2004, at 189:20-22).

As explained below, that is not what I agreed to in any of the cited portions of my deposition.

[0426] What I said at 17:6-12 of Ex. 2003 of IPR2023-00116 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.” IPR2023-00116, 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.” IPR2023-00116, 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.” IPR2023-00116, EX2003, 18:21-24. At 114:12-25 of Ex. 2003 of IPR2023-00116, 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.” IPR2023-00116, Ex. 2003, 114:22-115:3. 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.

[0427] At 116:2-7 of Ex. 2003 of IPR2023-00116, 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.” IPR2023-00116, Ex. 2003, at 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.

[0428] At 20:13-21:19 of Ex. 2003 of IPR2023-00116, 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).

[0429] At 23:22-24:7 of Ex. 2003 of IPR2023-00116, 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.

[0430] At 24:20-25:11 of Ex. 2003 of IPR2023-00116, 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.

[0431] At 154:2-5 of Ex. 2003 of IPR2023-00116, 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

[0432] I consistently testified in my deposition in IPR2023-00116 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.’” IPR2023-00116, Ex. 2003, at 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.” IPR2023-00116, Ex. 2003, at 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.*” IPR2023-00116, Ex. 2003, at 25:16-24.

[0433] At 189:20-22 of Ex. 2004 of IPR2023-00116, I testified that Sheha’s telephone and position information “is available to the people who are listed in the group as being able to have access to that information.” I did not say that no access permissions are user-specific. As I discussed above, I consistently testified that I that “the group permutation, in my view, can have a group of one.” IPR2023-00116, Ex. 2003, 114:22-115:3. Thus, 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.

* * *

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: 12-30-2024



X. APPENDIX: CLAIM LISTING

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

Claim 15
[15PRE] A wireless telephone comprising
[15A] a processor;
[15B] a positioning system for determining a location of said wireless telephone; and
[15C] memory storing programming capable of:
[15D] displaying a plurality of users, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;
[15E] receiving a first manual input in a form of a selection of one of said plurality of users;
[15F] receiving an input in a form of a login and a second manual input in a form of a password;
[15G] providing said login and said password to a remote server for use in determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users,
[15H] said determining including identifying a user of said wireless telephone using said login, determining said password is associated with said login, and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said wireless telephone,
[15I] assigning location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining said location of said wireless telephone;
[15J] receiving said location information for said one of said plurality of wireless telephones from a server; and
[15K] displaying said location information.

Claim 16
The wireless telephone of claim 15, wherein said programming is further capable of displaying an option to obtain directions from said first wireless telephone to said one of said plurality of wireless telephones associated to said selected one of said plurality of users.
Claim 17
The wireless telephone of claim 15, wherein said programming is further capable of receiving a manual input for modifying said location access rights.
Claim 18
The wireless telephone of claim 15, wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for an indefinite period of time.
Claim 19
The wireless telephone of claim 15, wherein said programming is further capable of instructing said remote server to allow at least one of said users to access said location of said wireless telephone for only a specific period of time.
Claim 20
The wireless telephone of claim 15, wherein said programming is further capable of receiving an alert regarding a user of said plurality of users based on a location of a wireless telephone associated with said user of said plurality of users.
Claim 21
The wireless telephone of claim 20, wherein said programming is further capable of requesting said remote server to provide said alert.
Claim 22
The wireless telephone of claim 21, wherein said alert is geographic area-based, said programming is further capable of specifying said geographic area, and said alert indicates that said location of said wireless telephone associated with said user of said plurality of users is within said geographic area.
Claim 23
The wireless telephone of claim 15, wherein said programming is further capable of receiving an alert when a user of said plurality of users locates said wireless telephone.

Claim 24
The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a watch.
Claim 25
The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a radio.
Claim 26
The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying a location of a car.
Claim 27
The wireless telephone of claim 15, wherein said programming is further capable of receiving and displaying information indicating time to reach said second location from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.
Claim 28
The wireless telephone of claim 15, wherein said programming is further capable of downloading from a remote system associated with said remote server a phone book corresponding to a user of said wireless telephone.
Claim 29
[29PRE] A wireless telephone comprising:
[29A] a processor;
[29B] a positioning system for determining a location of said wireless telephone; and
[29C] memory storing programming capable of:
[29D] receiving user information comprising a manually entered login associated with a user of said wireless telephone and a manually entered password associated with said login;
[29E] providing said location for recording on a remote system in association with said user information;

[29F] selecting a location-based event that is based, at least in part, on a location of a second wireless telephone, wherein said location-based event is operable to be manually pre-selected from a list of at least three types of location-based events; and

[29G] receiving a location-based event notification corresponding to said selected location-based event as a result of, at least in part, location access rights of said wireless telephone from said second wireless telephone,

[29H] wherein a first one of said at least three types of location-based events is, at least in part, region-based, and a second one of said at least three types of location-based events is, at least in part, distance-based.

Claim 30

The wireless telephone of claim 29, wherein said first wireless device comprises a global positioning system that is operable to provide said location.

Claim 31

The wireless telephone of claim 29, wherein said programming is further capable of displaying a display screen on said wireless telephone, after receiving said location-based event notification, that includes a first selectable option for providing a map associated with said location of said second wireless telephone.

Claim 32

The wireless telephone of claim 29, wherein said programming is further capable of displaying after receiving said location-based event notification a travel time between a location of said wireless telephone and a location of said second wireless telephone.

Claim 33

The wireless telephone of claim 29, wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for an indefinite period of time.

Claim 34

The wireless telephone of claim 29, wherein said programming is further capable of instructing said remote system to allow a user of said second wireless telephone to access said location of said wireless telephone for only a specific period of time.

Claim 35
The wireless telephone of claim 29, wherein said programming is further capable of specifying said region, and said region-based location-based event indicates that said location of said second wireless telephone is within said region.
Claim 36
The wireless telephone of claim 29, wherein said programing is further capable of receiving an alert when a user of said second wireless telephone locates said wireless telephone.
Claim 37
The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a watch.
Claim 38
The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a radio.
Claim 39
The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a car.
Claim 40
The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying information indicating time to reach a second location associated with said second wireless telephone from said location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.
Claim 41
The wireless telephone of claim 29, wherein said programming is further capable of downloading from said remote system a phone book corresponding to a user of said wireless telephone.