

Paper No. ____

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. IPR2025-00197
Patent No. 11,109,218

**PETITION FOR INTER PARTES REVIEW
UNDER 35 U.S.C. §§311-319 AND 37 C.F.R. §42.1 et seq**

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APPENDIX LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 11,109,218 (“the ’218 patent”)
1002	Prosecution History of U.S. Patent No. 9,204,218
1003	Declaration of David H. Williams (“Williams-Decl.”)
1004	Curriculum Vitae of David H. Williams
1005	U.S. Patent No. 7,333,820 (“Sheha”)
1006	U.S. Provisional Patent Application No. 60/305,975 (“Sheha-Prov.”)
1007	U.S. Patent Application Publication No. 2004/0024846 (“Randall”)
1008	International Patent Application Publication No. WO 02/17075 (“Randall-WIPO”)
1009	RESERVED
1010	RESERVED
1011	RESERVED
1012	RESERVED
1013	U.S. Patent No. 6,968,179 (“De-Vries”)
1014	U.S. Patent No. 6,920,328 (“Wollrab”)
1015	U.S. Patent No. 6,714,791 (“Friedman”)
1016	RESERVED
1017	RESERVED
1018	RESERVED
1019	U.S. Patent No. 7,366,522 (“Thomas”)
1020	RESERVED
1021	RESERVED
1022	International Patent Application Publication No. WO 01/91486 (“Darling”)
1023	RESERVED
1024	U.S. Patent No. 6,714,793 (“Carey”)
1025	U.S. Patent No. 6,415,224 (“Wako”)

Exhibit	Description
1026	RESERVED
1027	RESERVED
1028	RESERVED
1029	U.S. Patent No. 6,456,854 (“Chern”)
1030	U.S. Patent No. 6,754,665 (“Futagami”)
1031	RESERVED
1032	RESERVED
1033	RESERVED
1034	RESERVED
1035	RESERVED
1036	Civil Docket Report in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (last checked November 14, 2024)
1037	Federal Court Management Statistics–Profiles, U.S. District Courts–Combined Civil and Criminal (June 30, 2024) (available at https://www.uscourts.gov/file/78871/download)
1038	Docket Control Order in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (June 14, 2024) (Dkt. 30)
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	RESERVED
1041	U.S. Patent Application Publication No. 2003/0074209 (“Tobin”)
1042	U.S. Patent No. 6,813,499 (“McDonnell”)
1043	U.S. Patent No. 6,133,853 (“Obradovich”)
1044	RESERVED
1045	RESERVED
1046	RESERVED
1047	RESERVED

Exhibit	Description
1048	RESERVED
1049	RESERVED
1050	RESERVED
1051	U.S. Patent No. 6,674,849 (“Froeberg”)
1052	RESERVED
1053	RESERVED
1054	U.S. Patent No. 6,867,733 (“Sandhu”)
1055	RESERVED
1056	U.S. Patent No. 6,049,718 (“Stewart”)
1057	U.S. Patent No. 6,609,005 (“Chern-005”)
1058	RESERVED
1059	RESERVED
1060	RESERVED
1061	RESERVED
1062	RESERVED
1063	RESERVED
1064	RESERVED
1065	RESERVED
1066	RESERVED
1067	U.S. Patent No. 6,127,945 (“Mura-Smith”)
1068	U.S. Patent No. 6,633,813 (“Deworetzki”)
1069	U.S. Patent No. 7,143,443 (“Song”)
1070	U.S. Patent No. 6,107,944 (“Behr”)
1071	U.S. Patent No. 7,203,752 (“Rice”)
1072	U.S. Patent No. 6,366,856 (“Johnson”)

MANDATORY NOTICES

A. Real Party-In-Interest

Google LLC,¹ Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. are the real parties-in-interest.

B. Related Matters

A decision in this proceeding could affect or be affected by the following:

1. United States Patent & Trademark Office

The application from which U.S. Patent No. 11,109,218 (“the ’218 patent”) issued (U.S. Patent Application No. 11/841,734) is a Continuation of U.S. Patent Application No. 10/400,296 (U.S. Patent No. 9,635,540), filed March 25, 2003.

The following applications are also Continuations of U.S. Patent Application No. 10/400,296 (U.S. Patent No. 9,635,540):

- U.S. Patent Application No. 11/387,384 (U.S. Patent No. 8,374,575), filed March 22, 2006;
- U.S. Patent Application No. 11/485,161 (U.S. Patent No. 11,122,418), filed July 12, 2006;

¹ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

- U.S. Patent Application No. 11/462,201 (U.S. Patent No. 9,204,283), filed August 3, 2006;
- U.S. Patent Application No. 11/834,674 (U.S. Patent No. 11,234,117), filed August 6, 2007;
- U.S. Patent Application No. 11/841,750 (U.S. Patent No. 11,096,039), filed August 20, 2007;
- U.S. Patent Application No. 11/841,765 (U.S. Patent No. 11,246,024), filed August 20, 2007;
- U.S. Patent Application No. 17/665,568 (abandoned), filed February 6, 2022.

U.S. Patent No. 11,109,218 also claims priority to U.S. Provisional Application No. 60/367,967, filed March 25, 2002.

2. USPTO Patent Trial and Appeal Board

The '218 patent was at issue in *Apple Inc. v. Mullen Industries LLC*, Case No. IPR2023-00087.

Petitioners have filed the following copending petitions for *inter partes* review of patents listed above:

- IPR2025-00018 challenging U.S. Patent No. 11,122,418;
- IPR2025-00019 challenging U.S. Patent No. 9,204,283;
- IPR2025-00021 challenging U.S. Patent No. 11,096,039;

- IPR2025-00124 challenging U.S. Patent No. 8,374,575.

3. U.S. District Court for the Eastern District of Texas

The '218 patent is currently asserted in *Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:24-cv-00049.

4. U.S. District Court for the Northern District of California

The '218 patent was previously asserted in *Mullen Industries LLC v. Apple Inc.*, Case No. 5:23-cv-00437 (terminated).

5. U.S. District Court for the Western District of Texas

The '218 patent was previously asserted in *Mullen Industries LLC v. Apple Inc.*, Case No. 6:22-cv-00145 (transferred and terminated).

C. Counsel and Service Information - §42.8(b)(3) and (4)

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Powers of attorney are submitted with the Petition. Counsel for Petitioners consent to service of all documents via electronic mail.

Petitioners request *inter partes* review and cancellation of claims 1-19 of the '218 patent (EX1001).

I. INTRODUCTION

The '218 patent is one of eight related patents that Patent Owner ("Mullen") accuses Petitioners' products of infringing in pending litigation. Previously, Mullen asserted these patents against Apple Inc., and Apple filed IPRs, most of which were instituted and then terminated due to settlement during trial. Apple's IPR2023-00087 challenging the '218 patent was not instituted.

This Petition presents two sets of grounds against all claims. One is a new set of grounds based on Randall, which has not previously been before the Board. The other set of grounds is based on Sheha, which was a primary reference in Apple's IPR2023-00087. This Petition presents Sheha in combination with Wollrab and with Song, which teach the features the Board found missing in IPR2023-00087's Sheha-based grounds. Declaration of David H. Williams (EX1003, "Williams-Decl."), [0086].

II. STANDING

Petitioners certify that the '218 patent is available for *inter partes* review and that Petitioners are not barred or estopped from requesting *inter partes* review as to the challenged claims. 37 C.F.R. §42.104(a).

III. GROUNDS FOR UNPATENTABILITY

Ground Number and Reference(s)		Claims	Basis
1	Randall (EX1007-EX1008), Wollrab (EX1014), Obradovich (EX1043)	1-5, 11-15	§103
2	Randall, Wollrab, Obradovich, Mura-Smith (EX1067)	6-10	§103
3	Randall, Song (EX1069)	16-19	§103
4	Sheha (EX1005), Wollrab	1, 3-4	§103
5	Sheha, Wollrab, Obradovich	6-9, 11-14	§103
6	Sheha, Wollrab, Obradovich, McDonnell (EX1042)	2, 5, 10, 15	§103
7	Sheha, Song	16-19	§103

Each reference above is prior art under at least pre-AIA 35 U.S.C. §102(e). Obradovich and Mura-Smith are prior art under §102(b). Randall is prior art under §102(a).

None of these references were discussed by the Examiner during prosecution of the '218 patent.

IV. THE '218 PATENT

A. Specification Embodiments

Generally, the '218 patent discusses techniques for determining and sharing a wireless device's location, such as using the Global Positioning System ("GPS"). EX1001, 1:16-27. Cellphones in the '218 patent can share their locations with a remote system, from which other users can obtain them. EX1001, 4:52-5:26. A

user can also restrict access to their location by identifying authorized users or groups. EX1001, 3:23-27.

Figure 2's example method (below) 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.

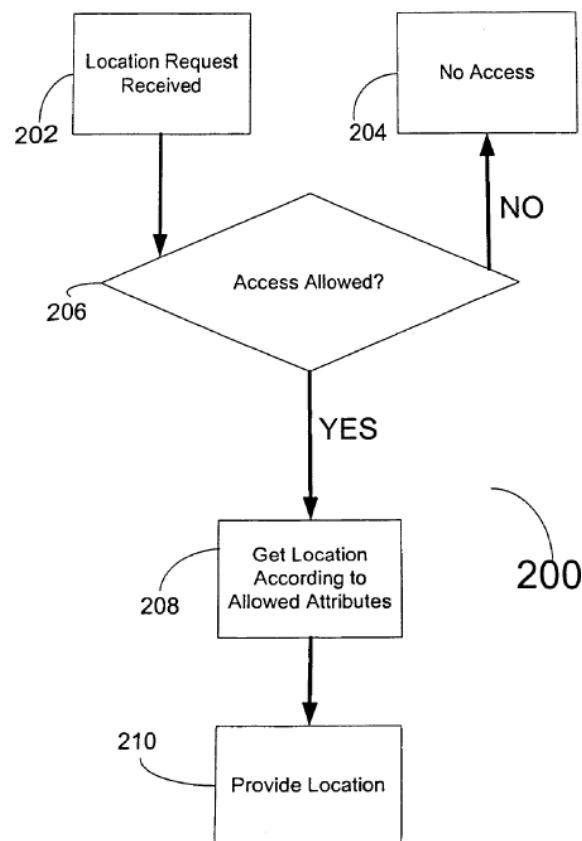


FIG. 2

Williams-Decl., [0055]-[0058].

B. Person of Ordinary Skill in the Art (“POSA”)

A POSA as of the ’218 patent’s earliest claimed priority date 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. Williams-Decl., [0053]-[0054].

C. Prosecution History

The ’218 patent’s prosecution spanned 14 years and twelve office actions. The claims were only allowed once amended to recite that the map is “provided with respect to the location of” or “from [a/the] perspective of” the wireless device or its location. EX1002, pp. 527-529. The Examiner did not provide reasons for allowance. EX1002, pp. 548, 617, 632. Williams-Decl., [0059].

D. Challenged Claims

The ’218 patent’s four independent claims (1, 6, 11, and 16) each recite a device operable to provide a display screen including a map with respect to the device’s location or from the device’s perspective. In claims 1, 6, and 11, the map includes indicia representative of two other (devices’) locations, and other information including a distance to one of the locations. In claim 16, a “user identification” can be identified on both first and second devices by a login and

password. The devices display maps and are at different locations. The locations can be provided to a “third device not associated with said user identification.”

V. CLAIM INTERPRETATION

Claim terms are construed herein using the standard used in civil actions under 35 U.S.C. §282(b), in accordance with the ordinary and customary meaning as understood by a POSA and the patent’s prosecution history. 37 C.F.R. §42.100(b).

VI. GROUND 1: CLAIMS 1-5, 11-15 ARE UNPATENTABLE OVER RANDALL+WOLLRAB+OBRADOVICH

A. Randall (EX1007-EX1008)

Randall is an international (PCT) application filed August 22, 2001, and published in the international stage on February 28, 2002, as EX1008 (in English, designating the United States) and then in the U.S. national stage as EX1007.

Randall is thus prior art under pre-AIA 35 U.S.C. §102(a) and §102(e). Citations herein are to the U.S. publication (EX1007) paragraph numbers for convenience; the identical description is present in the international publication (EX1008).

Williams-Decl., [0078]-[0080] (mapping paragraph numbers of EX1007 to page numbers of EX1008).

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]. 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”), [0080]-[0081], [0085]-[0115]; Williams-Decl., [0088]-[0089].

“As 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 users 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]; Williams-Decl., [0090]-[0094].

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; Williams-Decl., [0095]. 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].

B. Wollrab (EX1014)

Wollrab relates to "members of an identified family, work, or other group" tracking each other's wireless device GPS locations "as coordinates on a graphic map." Wollrab, 5:50-61, 6:28-31. The tracked device locations are "shown simultaneously relative to one another" as "symbols" on the map on each wireless device. Wollrab, 4:40-58, FIG. 4B (symbols 44-1 through 44-5).

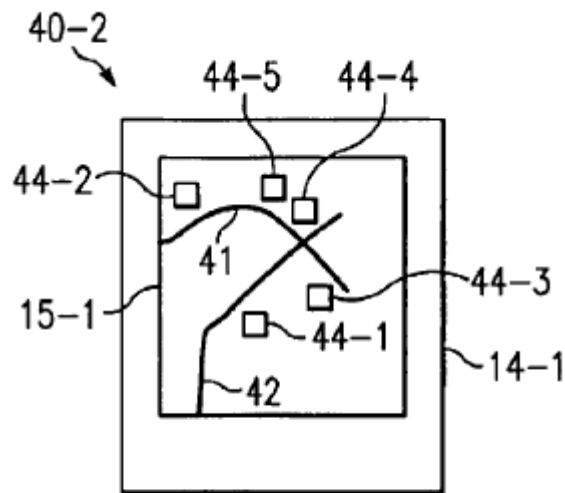


FIG. 4B

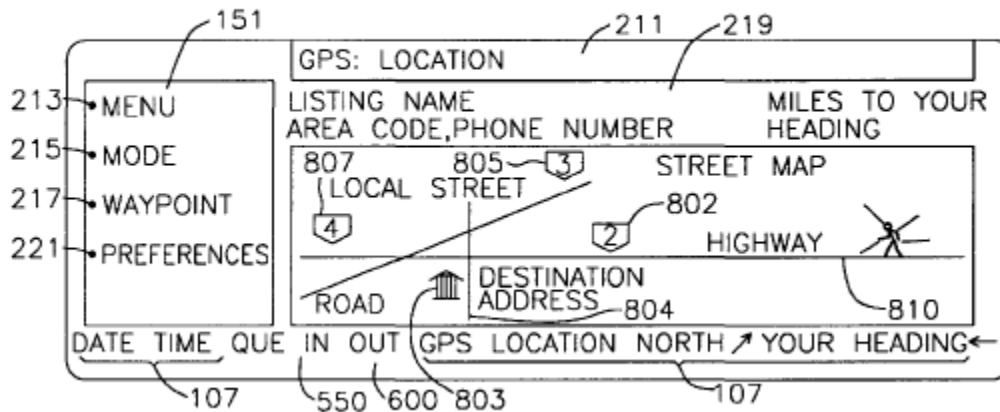
Williams-Decl., [0096].

C. Obradovich (EX1043)

Obradovich teaches “display” techniques for “maps and location tagged data” on a “personal communication device (PCD).” Obradovich, Abstract. “The PCD is a cellular-phone-sized electronic device, combining the capabilities of a GPS receiver, transceiver, digital beeper, cell phone and projection system into one compact unit.” Obradovich, 2:60-63. Obradovich’s system “allows users to request detailed information relating to their present location” and location information for destinations and other individuals. Obradovich, 3:45-47, 4:1-5. “The PCD can...provide distances and directions to locations of interest...to the user via the screen of the PCD,” and can also “display...travel times for the...route.” Obradovich, 3:17-21, 22:47-54. PCD users “can meet or find each

other” by “sending and receiving GPS encoded data.” Obradovich, 4:1-3. The PCD displays a “GPS map” that “indicates the PCD position” as well as navigation information including “destination address,” “heading and north,” “miles to your heading,” etc. Obradovich, 10:30-62, FIG. 8 (below). “[B]oth the user’s and [a] third party’s location can be shown on the same map.” Obradovich, 11:48-12:14.

FIG. 8



Obradovich also teaches techniques to control information sent to remote parties, by allowing the user to assign a security level index to requesting individuals and to provide specific restrictions on what information about the user is shared with each security level, including information about the user’s location. Obradovich, 26:20-27:10. Williams-Decl., [0097].

D. Randall-Wollrab-Obradovich Combination

Randall teaches that its wireless device’s “‘map’ application” can show the device’s “position on digital maps and also, by using the location attribute of

[another] user's data object, it could also show the position of the [other] user.”

Randall, [0021]. POSAs would have recognized Wollrab's techniques as beneficial for implementing Randall's teaching of showing the positions of the tracking and tracked users on a map, in an intuitive manner that would be easily comprehensible to the tracking user, and in a way that allows the tracking user to “simultaneously” view where various friends and/or family members are located, as Wollrab describes. Williams-Decl., [0098]; Wollrab, 4:40-58, 5:50-61. POSAs would have been motivated to incorporate Wollrab's techniques to further Randall's objectives, e.g., of allowing “[t]he user's friends or parents etc...to track the users location” and allowing a “group of friends...to locate each other in town” by making their locations “visible” to each other “so using your phones everyone in your group can tell precisely where the others are,” thus “help[ing] you meet friends and family.” Randall, [0021], [0143]-[0144], p. 29 (“Rendezvous”); Williams-Decl., [0098]. POSAs would have reasonably expected success because Wollrab's functionality operates in the same context as Randall's, of wireless devices tracking and mapping each other's locations. Williams-Decl., [0098].

Randall additionally teaches another objective of providing “Route finder” functionality “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. POSAs would have recognized Obradovich’s map display techniques to be beneficial in achieving this objective, and would have been motivated to incorporate any of Obradovich’s displayed navigational information to aid the device user in navigating to a destination such as another user’s location. Williams-Decl., [0099], [0063]-[0071]. POSAs would have reasonably expected success because Obradovich’s graphical display is provided on a portable wireless GPS-enabled device similar to Randall’s. Obradovich, 2:60-63, FIG. 8; Williams-Decl., [0099].

E. Mapping to Challenged Claims²

1. Claim 1: [1PRE]

Randall teaches a “***system***” that allows “wireless applications to access and share information.” Randall, [0028], [0052]-[0053], [0071].³ As discussed *supra* §VI.A, the system provides access control for a wireless device user to track the location of another wireless device user. Williams-Decl., [0100].

a. [1A]

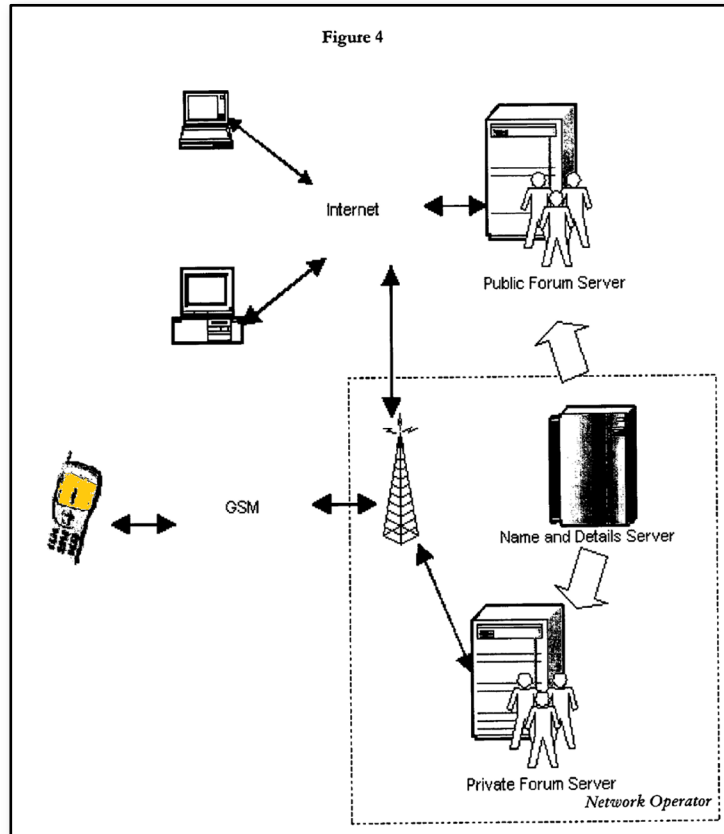
Randall’s system includes “***wireless*** information ***device***[s],” which can be “radio ***telephones***, smart ***phones***,” etc. Randall, [0002]-[0004]. Randall discusses some examples involving Alice and Bob, who are both users of wireless

² See Claim Listing appendix *infra* for claim language of labeled elements.

³ Emphases are added unless otherwise specified.

information devices. Randall, [0053], [0491] (“Bob’s...mobile phone”), [0505] (“Alice’s mobile device”); Williams-Decl., [0101]. Bob’s device is an exemplary *first wireless telephonic device* and Alice’s device is an exemplary *second wireless telephonic device* (or vice versa, 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). Williams-Decl., [0101].

Each of Randall’s wireless devices is *operable to provide a display screen*. Randall, FIG. 4 (highlighted below), [0008] (“applications resident on the wireless information device...*display* data”); Williams-Decl., [0102].



“[R]esident on the wireless information device” is a “location application (which gives a user’s location and includes digital maps).” Randall, [0009], [0021]. Once Alice has “subscribe[d] to a service which allowed others to track...her location,” her “friends” (e.g., Bob) “could add a ‘map’ application to their own devices, which could show their position on digital maps and also...show the position of the user” (Alice). Randall, [0021]. In this way, Bob’s *first wireless telephonic device is operable to provide a display screen* showing a map of Bob’s and Alice’s locations. Williams-Decl., [0103].

Alice’s “location data can be obtained via [her] GPS wireless information device, which transmits location information to [an] i-server, enabling authorised people to track the location of the GPS wireless information device by polling the server.” Randall, p. 24 (Table 4, “People tracking”). Alice’s *second wireless telephonic device’s* “GPS location” is stored in Alice’s “i-Data” (“Identity”) database on the i-server. Randall, [0503]-[0512], [0116]-[0136] (“Identity” used for sharing “Location information”); Williams-Decl., [0104].

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	all
Company Address	work	Device gets R Us 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 (highlighted).

Bob's *first wireless telephonic device* can request to access Alice's data on the i-server (which includes her GPS location) "by sending to the server an unchanging pointer or key (an 'ADS Number') which is unique to" Alice. Randall, [0049]; Williams-Decl., [0105]. Thus, as Alice's data changes (e.g., as "[t]he I-server is up-dated" with Alice's current location), "Bob can pull the new data into his device" by "polling the server." Randall, p. 24 ("People tracking"), [0053],

[0015] (“pull[ing]” information from server is “*request[ing]*” it); Williams-Decl., [0105]. “When Bob’s device sends Alice’s ADS Number to the server, then the server recognises Bob’s device and allows that device to read Alice’s information held on the database which is specified as being accessible to Bob”—i.e., “the server passes to Bob’s device the information it *requests*.” Randall, [0049], [0067], [0512]; Williams-Decl., [0105]. Bob’s device indicates which “relevant information” it is requesting (which may be, e.g., Alice’s location information) by “sending various data tags defining its enquiry.” Randall, [0067]; Williams-Decl., [0105]. This is how “authorised people...track the location of the GPS wireless information device by polling the server.” Randall, p. 24 (“People tracking”); Williams-Decl., [0105]. Thus, Bob’s device provides the *display screen* that “track[s]” Alice’s “location” on a “map” (Randall, [0021]) *after a request to locate Alice’s second wireless telephonic device from Bob’s first wireless telephonic device has occurred*. Williams-Decl., [0105].

Before “the server passes to Bob’s device the information it requests,” the “server recognis[es] Bob’s device and determin[es] the database access rights which Alice has given him.” Randall, [0067]. “The database can define which entities can read different fields: Alice can therefore give Bob rights to read only certain fields in her database.” Randall, [0047]. As shown in Table 1 (above), one of the fields in Alice’s 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]; Williams-Decl., [0106]. “[S]ensitive information is only available to people in certain i-Groups; allowing Alice to control what data they see.” Randall, [0509], [0136] (“Location information” is “[v]isible to specific people (or groups)”). 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,” which Alice can use via her *second telephonic wireless device* to give *permission* for Bob’s *first wireless telephonic device* to access her device’s location. Randall, [0509], [0495]; Williams-Decl., [0106]. “Access rights can be associated with individual entities, and can also be associated with groups of entities.” Randall, [0070], [0052], [0146] (“users will be prepared to allow specific people access to more of their data than others”). Thus, in one example, if Alice assigns Bob to the “partner” i-Group having access to Alice’s GPS location and Alice has only one partner, then Alice is assigning location access rights only to Bob (and his device). Williams-Decl., [0106]; Randall, Table 1 (excerpted and highlighted below).

TABLE 1

Alice's iData			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all
[....]			
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

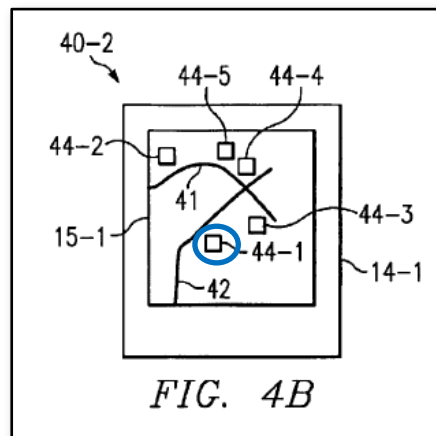
Because “the server recognis[es] Bob’s device and determin[es] the database access rights which Alice has given him” before it “passes to Bob’s device the information it requests” (Randall, [0067]), Bob’s device provides the *display screen* that “track[s]” Alice’s “location” on a “map” (Randall, [0021]) *after a confirmation that Bob’s first wireless telephonic device has been given a permission by Alice’s second telephonic wireless device to locate said second telephonic wireless device.* Williams-Decl., [0107]-[0108].

b. [1B]

In Randall’s system, Bob’s *display screen* “could show ***their*** [Bob’s] ***position*** on digital ***maps*** and also...the position of the user [Alice].” Randall, [0021], p.29 (“Your map and then some: At the touch of a button, your phone can

display a *map* of the area *you* are standing in.”). Bob’s *display screen* thus includes a map provided with respect to the location of said first wireless telephonic device (i.e., Bob’s location). Williams-Decl., [0109].

Additionally, Wollrab’s teachings and other prior-art knowledge reinforce providing the map *with respect to the location of said first wireless telephonic device* on which the map is displayed. Wollrab, 4:40-58 (“screen of display device 15-1 of PDA device 14-1” includes “map image 40-2” showing “location[] 44-1” of “PDA device[] 14-1...relative to” other device locations), FIG. 4B (annotated below); Obradovich, 10:22-49 (“Location page comprises the current map, the location on the map of the device” as “indicated by a walking person”), FIGs. 8, 11; Williams-Decl., [0110]-[0112] (citing corroborating EX1067 (“Mura-Smith”), 7:40-56, FIG. 8B).

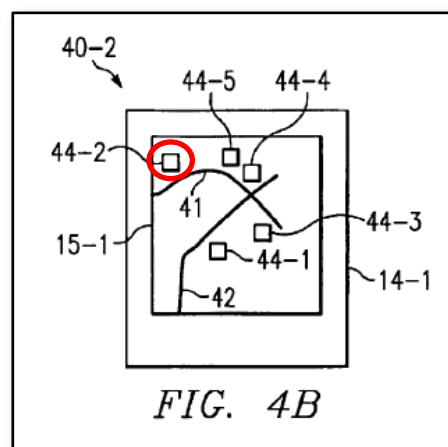


c. [1C]

As discussed *supra* §VI.E.1.b ([1B]), in Randall’s system, Bob’s *display screen* “could show their [Bob’s] position on digital *maps* and also...*the position*

of the user [Alice].” Randall, [0021]. Thus, Bob’s *display screen includes indicia on said map representative of Alice’s first location*. Williams-Decl., [0113].

Additionally, Wollrab’s teachings and other prior-art knowledge reinforce displaying *indicia on said map representative of a first location* (e.g., Alice’s *second wireless telephone device’s location*). Wollrab teaches that “[i]n map image 40-2 the **locations** 44-1 through 44-5 of...PDA devices 14-1 through 14-5 respectively are shown simultaneously relative to one another” using “**symbols**,” where 44-1 is the *first wireless telephonic device’s location*, and the symbol at any of 44-2 through 44-5 may be *indicia representative of a first location*. Wollrab, 4:40-58, FIG. 4B (annotated below); *see also* Obradovich, 11:48-12:14 (“third party location can be displayed on maps” as “an icon 951” and “both the user’s and third party’s location can be shown on the same map”), FIG. 11; Williams-Decl., [0114]-[0117] (citing corroborating EX1067 (“Mura-Smith”), 7:40-56, FIG. 8B).



d. [1D]

Randall discusses examples where a user like Bob is interested in the location of not only one of his friends/contacts, but in more than one of his friends/contacts' locations. For instance, Randall teaches to provide "Rendezvous" functionality "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; *see also* [0143] (teaching to use "Location information" to allow a "*group* of friends...to locate each other in town"), p. 30 ("The Beacon Button...lets you send...information to friends who may be waiting for you somewhere....[Y]ou can tell the phone to send your location to them in an instant, letting them see how far away you are."). Randall thus teaches and suggests to display to a user the locations of more than one other user in a group (e.g., of friends or family). Williams-Decl., [0118].

Wollrab similarly teaches techniques to aid "families or other groups to plan meetings" using their "wireless telephone[s]" to display "[l]ocation information" for "members of" the "family, work, or other group" on a "graphic map." Wollrab, 1:11-17, 5:50-61. POSAs would have recognized Wollrab's techniques as beneficial for implementing Randall's above-discussed functionality, and would have reasonably expected success as discussed *supra* §VI.D. Williams-Decl., [0119]. Wollrab teaches to "display a map image" on each group member's device

“depicting the relative locations of all members/PDA devices within” the group as “locations 44-1 through 44-5...shown simultaneously relative to one another” as “symbols.” Wollrab, 4:43-58, FIG. 4B (annotated below—location 44-1 of exemplary *first wireless telephonic device* in blue, location 44-2 of exemplary *second wireless telephonic device* in red, location 44-3 of exemplary *third wireless telephonic device* in green).

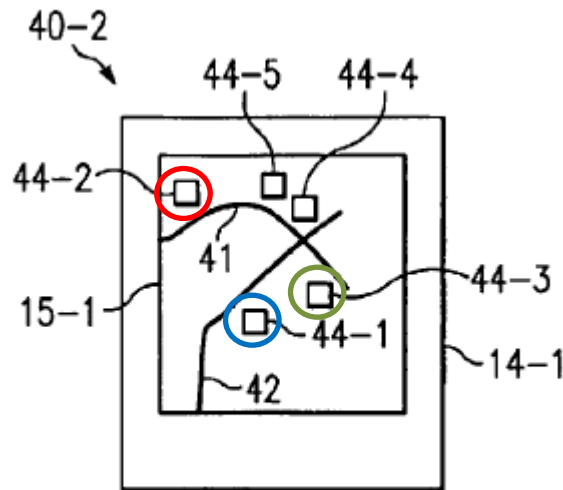


FIG. 4B

Thus, in the Randall-Wollrab-Obradovich combination, Bob’s *display screen* can simultaneously include both *indicia on said map representative of Alice’s first location* (discussed *supra* §VI.E.1.c ([1C])) and *indicia representative*

*of a second location obtained from a third wireless telephonic device*⁴ of another of Bob’s friends/contacts. Williams-Decl., [0120].

e. [1E]

Randall teaches to provide “Route finder” functionality “similar to GPS tracking in cars, but for mobile phones. You identify where you want to go, the phone knows where you are already. It can therefore give you step by step instructions on how to get there (eg. Turn left at the next lights. Carry on 100 metres. Go straight over the roundabout).” Randall, p. 29. Randall also teaches to provide “Rendezvous” functionality “on your mobile phone to help you meet friends and family in crowded or unfamiliar places,” where “using your phones everyone in your group can tell precisely where the others are.” Randall, p. 29. POSAs would have understood and found it obvious from these disclosures that another user’s position can be “where you want to go” in Randall’s “Route finder” functionality. Williams-Decl., [0121].

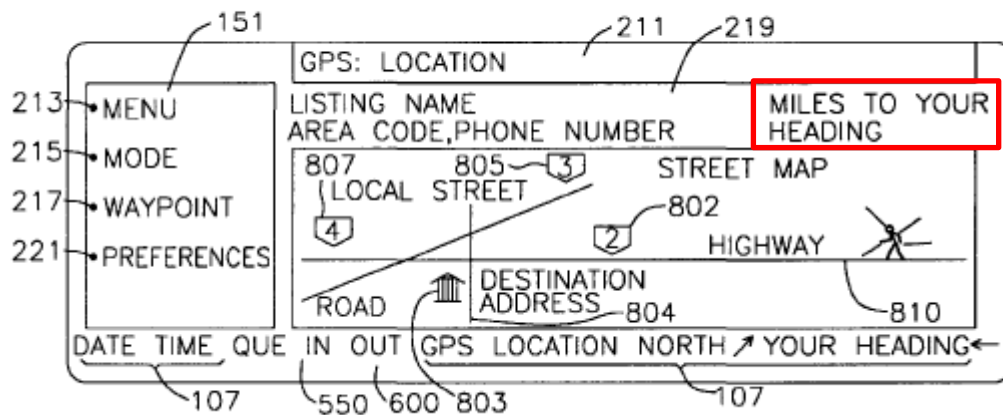
Obradovich teaches map display techniques by which users “can meet or find each other” that incorporate “typical GPS system functions.” Obradovich, 4:1-5, 11:6-7; *see supra* §VI.C. POSAs would have been motivated to use any

⁴ The Board interpreted “*said third wireless telephonic device*” in [1D] as “[a] *third wireless telephonic device*” in IPR2023-00087, Paper 10 at 14-15 n.6.

of Obradovich's display techniques in implementing Randall's above-discussed functionality for accomplishing the same purposes, and would have reasonably expected success as discussed *supra* §VI.D. Williams-Decl., [0122].

Obradovich teaches to display *a distance* from the displaying device to the user's destination in the map *display screen*. Obradovich, FIG. 8 (annotated below). POSAs would have found it obvious that "miles to your heading" in FIG. 8 is a *distance* ("miles") to the destination to which the user is "heading." Williams-Decl., [0123].

FIG. 8



Thus, in the Randall-Wollrab-Obradovich combination, Bob's *display screen includes a distance from Bob's first wireless telephonic device to Alice's first location* (which may be Bob's destination heading). Williams-Decl., [0123]-[0124].

Additionally, Randall's exemplary instruction provided on the *display screen* of "[c]arry on 100 metres" (Randall, p. 29, "Route finder") is also *a distance from Bob's first wireless telephonic device to Alice's first location*. Williams-Decl., [0125].

It was also well-known, conventional background knowledge for "system[s] similar to GPS tracking in cars" (Randall, p. 29 "Route finder") to *include* in the map *display screen* "information regarding the remaining *distance* to the final destination." Williams-Decl., [0126]-[0129] (quoting EX1025 ("Wako"), 2:12-34 ("BACKGROUND" section), FIG. 1B, FIG. 7, 9:8-22; citing corroborating EX1041 ("Tobin"), [0028]).

POSAs would have been motivated and reasonably expected success to implement Bob's *display screen* to display Alice's *first location*, another selected *second location*, and navigational information including *a distance* to Alice's location as it was known to display such items together on a portable unit to "clearly show[] a user 'where the user is with respect to where the user wants to go.'" Williams-Decl., [0130]-[0132] (quoting corroborating EX1067 ("Mura-Smith"), 9:12-14, 7:40-56, 8:45-52, FIG. 8B).

f. [1F]

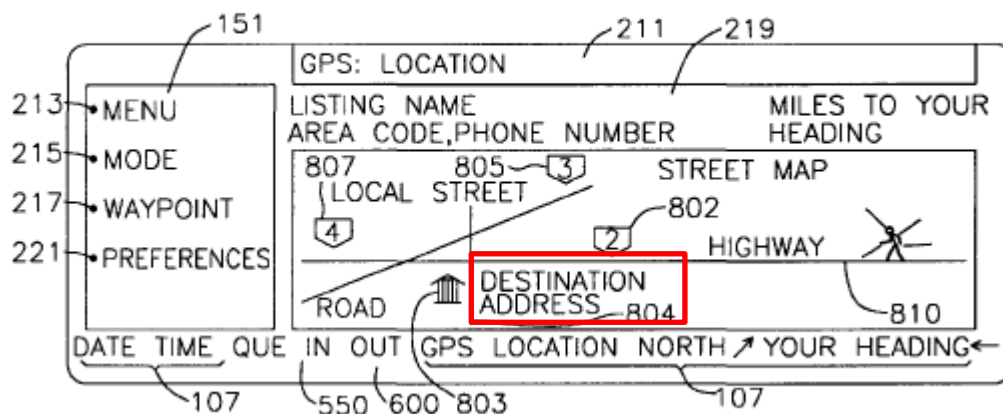
As discussed *supra* §VI.E.1.e ([1E]), POSAs would have understood and found it obvious from Randall's disclosures that another user's position can be

“where you want to go” (i.e., a desired destination) in Randall’s “Route finder” functionality. Randall, p. 29; Williams-Decl., [0133].

As discussed *supra* §VI.C, Obradovich teaches to display “the desired destination address” in the map *display* as part of navigation information.

Obradovich, 10:47-55, FIG. 8 (annotated below).

FIG. 8



POSAs would therefore have been motivated to implement Bob’s *display* to include an address associated with Alice’s first location (which may be a desired destination) to aid Bob in finding his way to Alice, and would have reasonably expected success as discussed *supra* §VI.D. Randall teaches in Table 1 (excerpted and highlighted below) that the system knows *an address associated with Alice’s* “GPS location,” e.g., as “London W1, Seymour St.” Randall, [0505]; Williams-Decl., [0134]-[0135].

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
[....]			
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

Reverse geo-coding a wireless device's GPS coordinates (e.g., Alice's *first location*) into a nearby associated street address was also well-known background knowledge to POSAs. Williams-Decl., [0136]-[0140] (citing corroborating EX1051 ("Froeberg"), 4:4-7, 7:5-46; EX1056 ("Stewart"), 8:12-23; EX1054 ("Sandhu"), 4:34-5:8; EX1057 ("Chern-005"), 3:7-14). And consistent with Obradovich's teaching, it was well-known background knowledge to display a destination address on a handheld wireless device's map display with reasonable expectation of success. Williams-Decl., [0141]-[0144] (citing corroborating EX1070 ("Behr"), FIG. 10, 5:22-32; EX1005 ("Sheha"), FIG. 5, 4:52-58, 11:36-44).

2. Claim 2

Randall teaches that “the data provided by or on behalf of the user will have varying levels of visibility assigned to it,” and “some users will want to define this for themselves.” Randall, [0132]. As to *said permission to locate Alice’s second telephonic wireless device*, Randall teaches that Alice “allow[s] others to track...her location...using the location attribute of [Alice’s] data object.”

Randall, [0021]. The location attribute can be “at ***different levels of granularity***—for example, location might be defined in very approximate terms...no better than a given city,” or as “enriched location information” that is exact “to within a few meters.” Randall, [0024]. “[S]ince the objects can be sent between users,...access control” is “invoked to ensure that access to enriched data is only provided to those entitled.” Randall, [0023]. Randall thus teaches and renders obvious that *said permission* can include *several location access rights*, each associated with *different location resolutions*. Williams-Decl., [0145].

It would further have been obvious to implement these *several location access rights*, e.g., based on Obradovich’s teaching to assign access-level “indexes for each item of information” and specifying “which security level index each such other individual should be provided.” Obradovich, 26:29-36; Williams-Decl., [0146]; *see infra* §§XI.B-XI.C.1.

Implementing Randall's *permission* to include *several location access rights*, each *associated with different location resolutions* also would have been obvious in view of POSAs' background knowledge of the benefits of allowing users to share their locations with higher resolution to more trusted contacts, and reasonable expectation of success in wireless-device location-sharing systems like Randall's. Williams-Decl., [0147]-[0151] (citing corroborating EX1013 ("De-Vries"), 9:1-31; EX1071 ("Rice"), 9:36-51; EX1042 ("McDonnell"), 6:43-52, 8:30-53, 9:45-55).

3. Claim 3

Randall's i-server is an "internet *server*[]"—a "*server* on the Internet"—which POSAs would have understood is a *server remote to the wireless telephonic devices*. 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); Williams-Decl., [0152].

As discussed *supra* §VI.E.1.a ([1A]), Randall's i-server determines whether Bob has permission to locate Alice's wireless device by consulting Alice's iData database stored on the i-server. "Each piece of data on the server (the 'i-server')" has "an associated list of groups ('i-Groups[']) allowed to access the data." Randall, [0502]-[0505]. In Table 1 ("Alice's iData"), Alice's designation of the "i-

Groups” allowed to access her “GPS location” (where, e.g., Alice can give Bob permission by assigning him to the “partner” i-Group in Table 1) provides *said permission*, as discussed *supra* §VI.E.1.a ([1A]). Williams-Decl., [0153].

TABLE 1

Alice's iData			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all
[...]			
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

Randall, Table 1 (excerpted, highlighted).

Thus, *said permission is stored on the i-server*. Williams-Decl., [0154].

4. Claim 4

As discussed *supra* §VI.E.1.a ([1A]), POSAs would have understood Randall’s example of Alice permitting Bob to access her location to be a generic example that equally discloses how another wireless device user can permit Bob to access their location. Williams-Decl., [0155]; Randall, [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 allow any wireless device users to subscribe to the same functionality (including contacts functionality and location functionality) in Randall's system. Williams-Decl., [0155]. 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, Randall teaches and renders obvious that *said third wireless device associates a second permission with its second location to permit Bob's first wireless telephonic device to access said second location.* Williams-Decl., [0155].

5. Claim 5

Claim 5 is met for the reasons discussed *supra* §VI.E.1.a ([1A]), §VI.E.1.c ([1C]), §VI.E.2 (claim 2). Williams-Decl., [0156].

6. Claim 11:

a. Previously Addressed Elements

Randall-Wollrab-Obradovich meets the following elements of claim 11 for the reasons discussed in the corresponding sections above. In claim 11, Bob's device meets the claimed *wireless device* and Alice's device meets the claimed *first wireless device*. Williams-Decl., [0157]-[0171].

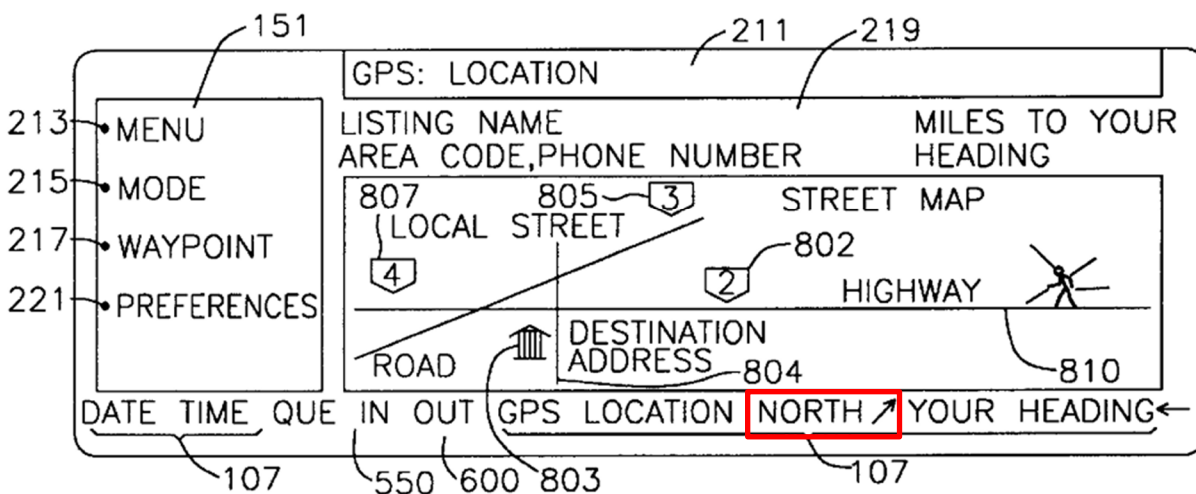
Element:	Addressed in Section:
[11PRE]	§VI.E.1 ([1PRE])
[11A]	§VI.E.1.a ([1A]), where [1A]’s “ <i>first wireless telephonic device</i> ” corresponds to [11A]’s “ <i>wireless device</i> ” and “ <i>said wireless telephonic device,</i> ” and [1A]’s “ <i>second telephonic wireless device</i> ” corresponds to [11A]’s “ <i>first wireless device</i> ”
[11B]	§VI.E.1.b ([1B]), where Randall’s map “of the area <i>you</i> are standing in” (Randall, p. 29) is <i>from the perspective of said wireless device</i>
[11C]	§VI.E.1.c ([1C])
[11D]	§VI.E.1.d ([1D]), where [1D]’s “ <i>third wireless telephonic device</i> ” corresponds to [11D]’s “ <i>second wireless device</i> ”
[11E]	§VI.E.1.e ([1E])
[11G]	§VI.E.1.f ([1F])

b. [11F]

Obradovich teaches to *include* in the *display screen* “an arrow pointing to north,” which POSAs would have understood to present *a compass*. Obradovich, 9:57-60, 10:54-55, FIG. 8 (annotated below), FIG. 11. POSAs would have found it obvious that the illustrated “north” arrow would update to continue pointing north

as the device changes orientation. Williams-Decl., [0164] (citing corroborating EX1072 (“Johnson”), Abstract, FIGs. 2A-2D, 1:41-53, 3:56-5:20, 6:6-13).

FIG. 8



POSAs would have been motivated to incorporate this feature in Randall’s *display screen* and would reasonably have expected success as discussed *supra* §VI.D. Williams-Decl., [0165].

It was also well-known, conventional background knowledge for “system[s] similar to GPS tracking in cars” (Randall, p. 29 “Route finder”) to *include a compass* in the map *display screen*. Williams-Decl., [0166]-[0168] (citing corroborating EX1025 (“Wako”), FIG. 12C, 7:25-33; EX1041 (“Tobin”), [0028]).

POSAs would have been motivated and reasonably expected success to implement Bob’s *display screen* to display Alice’s *first location*, another selected *second location*, and navigational information including *a compass* as it was

known to display such items together on a portable unit to “clearly show[] a user ‘where the user is with respect to where the user wants to go.’” Williams-Decl., [0169]-[0170] (quoting corroborating EX1067 (“Mura-Smith”), 9:12-14, 7:40-56, 8:28-52, FIG. 8B).

c. [11H]

Obradovich teaches to display *a travel time based on* the displaying device’s *location* and the destination to which the user is navigating (i.e., *the first location* in the combination with Randall discussed *supra* §VI.D). Obradovich, 2:60-63, 22:55-65; Fig. 47; Williams-Decl., [0172]. Obradovich teaches “to determine travel times for the various route and route alternative segments. Real time calculation and *display* of segment *travel times* accordingly allows the [displaying device’s] user to accurately determine and estimate travel times to particular destinations over a plurality of different roads and road segments.” Obradovich, 22:47-54. “[T]he process determines travel times for each of the route segments; and the route as a whole.” Obradovich, 22:62-65, 8:18-22 (“arrival time estimates can be included”).

POSAs would have been motivated to incorporate this feature in Randall’s *display screen* and would reasonably have expected success as discussed *supra* §VI.D. Williams-Decl., [0173].

It was also well-known, conventional background knowledge for “system[s] similar to GPS tracking in cars” (Randall, p. 29 “Route finder”) to *include* in the map *display screen* “an estimated **time** to reach the final destination.” Williams-Decl., [0174]-[0176] (quoting EX1025 (“Wako”), 2:12-34 (“BACKGROUND” section), FIG. 1B, FIG. 7, 9:8-22; citing corroborating EX1041 (“Tobin”), [0028], FIG. 1C).

POSAs would have been motivated and reasonably expected success to implement Bob’s *display screen* to display Alice’s *first location*, another selected *second location*, and navigational information including *a travel time* to Alice’s location as it was known to display such items together on a portable unit for navigation purposes. Williams-Decl., [0177]-[0178] (citing corroborating EX1067 (“Mura-Smith”), 9:12-14, 7:40-56, 8:45-57, FIG. 8B).

7. Claims 12-15

Randall-Wollrab-Obradovich meets the limitations added by the following claims for the reasons discussed in the corresponding section above.

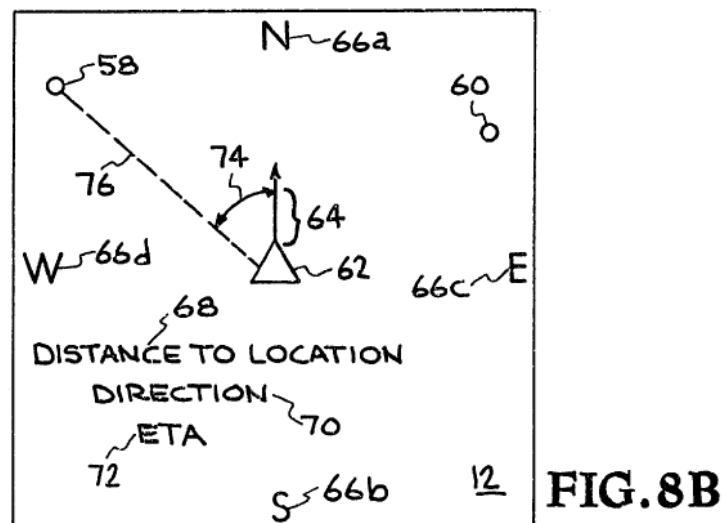
Claim:	Limitation Addressed in Section:
12	§VI.E.1.a ([1A])
13	§VI.E.1.a ([1A]), §VI.E.3 (claim 3)
14	§VI.E.1.a ([1A]) §VI.E.4 (claim 4)
15	§VI.E.1.a ([1A]), §VI.E.5 (claim 5)

Williams-Decl., [0179]-[0182].

VII. GROUND 2: CLAIMS 6-10 ARE UNPATENTABLE OVER RANDALL+WOLLRAB+OBRADOVICH+MURA-SMITH

A. Mura-Smith (EX1067)

Mura-Smith teaches “graphic display” options for a “portable hand-held unit” used in “personal navigation.” Mura-Smith, Abstract. The portable unit displays “[t]he relative position of the user with respect to at least one selected location,” with the selected locations “visually represented by icons” to “allow[] a user to easily navigate to...a selected location.” Mura-Smith, 5:10-36. The “display screen” also displays “navigational information” such as “Distance to Destination,” “Direction,” and “ETA,” and the direction of “the most expedient path” (“dotted line”) to the “destination.” Mura-Smith, 8:45-67, FIG. 8B:



Williams-Decl., [0183]-[0185].

B. Randall-Wollrab-Obradovich-(Mura-Smith) Combination

POSAs would have been motivated by Randall’s objectives of aiding friends and family in viewing each other’s locations and meeting up with each other (discussed *supra* §VI.D) to incorporate any of Mura-Smith’s graphic display techniques to provide navigational information to aid the device user in navigating to another user’s location. Williams-Decl., [0186]. POSAs would have reasonably expected success because Mura-Smith’s graphical display is provided on a portable wireless GPS-enabled device similar to Randall’s. Mura-Smith, 7:10-29, FIG. 8A; Randall, p. 24 (“GPS wireless information device”), p. 29 (“Route finder”); Williams-Decl., [0186].

C. Mapping to Challenged Claims

1. Claim 6

a. Previously Addressed Elements

Randall-Wollrab-Obradovich-(Mura-Smith) meets the following elements of claim 6 for the reasons discussed in the corresponding sections above. In claim 6, Bob’s device meets the claimed *wireless telephonic device* and Alice’s device meets the claimed *first wireless device*. Williams-Decl., [0187]-[0204].

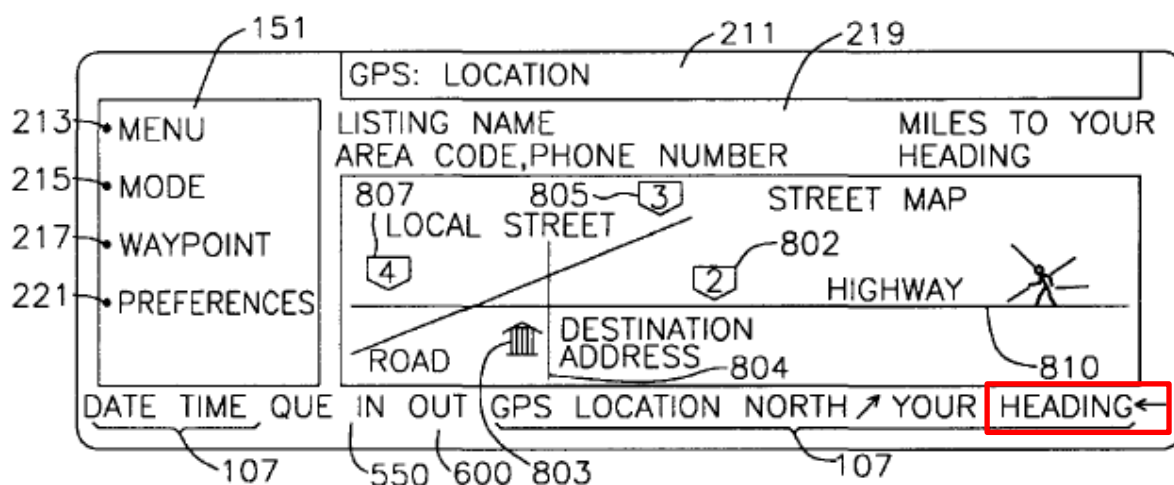
Element:	Addressed in Section:
[6PRE]	§VI.E.1 ([1PRE])
[6A]	§VI.E.1.a ([1A])

[6B]	§VI.E.1.b ([1B])
[6C]	§VI.E.1.c ([1C])
[6D]	§VI.E.1.d ([1D])
[6E]	§VI.E.1.e ([1E])
[6F]	§VI.E.6.b ([11F])
[6H]	§VI.E.6.c ([11H])

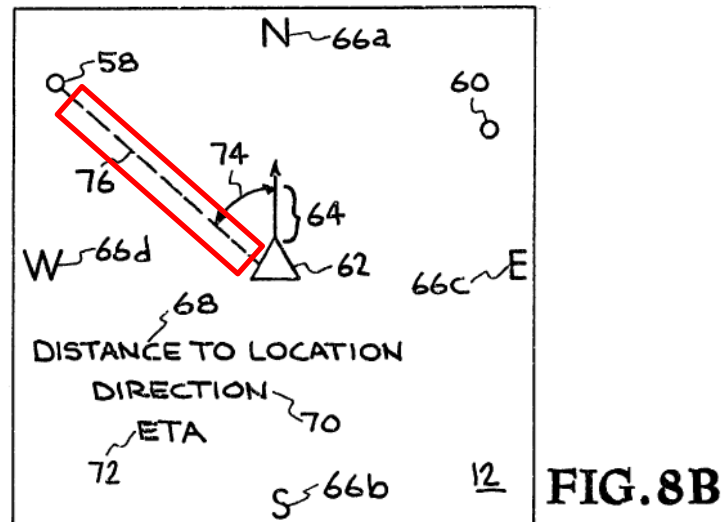
b. [6G]

Obradovich's FIG. 8 (annotated below) teaches to *include* in the *display screen a directional arrow representative of the direction of* "your heading," which in FIG. 8 is pointing toward the user's "destination" (i.e., *the first location* in the combination with Randall discussed *supra* §VI.D, §VII.B). Williams-Decl., [0196].

FIG. 8



Additionally, Mura-Smith teaches to *include* in the “*display screen 12*” a “dotted line 76” which “indicates the most expedient path as the crow flies to destination 58.” Mura-Smith, 8:45-67, FIG. 8B (annotated below).

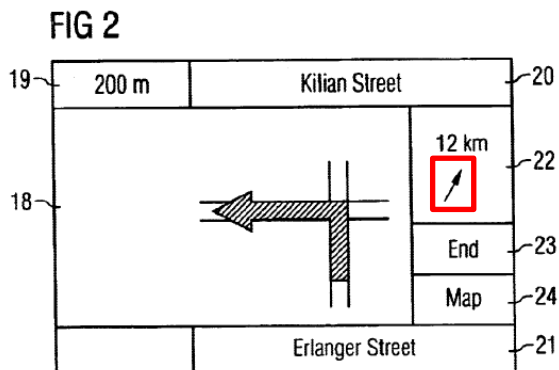


POSAs would have understood line 76 to provide *a directional arrow representative of the direction of the destination (said first location) with respect to the location of said wireless telephonic device.* Williams-Decl., [0197]-[0198].

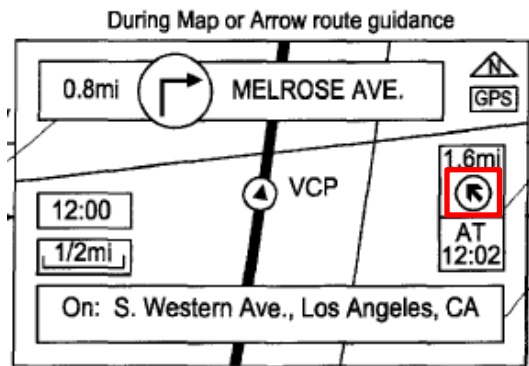
POSAs would have been motivated to incorporate this feature in Randall’s *display screen* and would reasonably have expected success as discussed *supra* §VII.B. Williams-Decl., [0198].

It was also well-known, conventional background knowledge for “system[s] similar to GPS tracking in cars” (Randall, p. 29 “Route finder”) to include in the map display screen *a directional arrow representative of the direction of the destination with respect to the device’s current position*, and implementing Mura-

Smith's line 76 to have an arrowhead pointing to the destination would have been an obvious variation based on this background knowledge. Williams-Decl., [0199]-[0203] (citing corroborating EX1068 ("Deworetzki"), 4:64-66, FIG. 2; EX1025 ("Wako"), 9:18-22, 12:60-63, FIG. 7).



Deworetzki, FIG. 2 (annotated)



Wako, FIG. 7 (annotated)

2. Claims 7-10

Randall-Wollrab-Obradovich-(Mura-Smith) meets the limitations added by the following claims for the reasons discussed in the corresponding sections above. Williams-Decl., [0205]-[0210].

Claim:	Limitation Addressed in Section:
7	§VI.E.1.a ([1A])
8	§VI.E.1.a ([1A]), §VI.E.3 (claim 3)
9	§VI.E.1.a ([1A]), §VI.E.4 (claim 4)
10	§VI.E.1.a ([1A]), §VI.E.5 (claim 5)

VIII. GROUND 3: CLAIMS 16-19 ARE UNPATENTABLE OVER RANDALL+SONG

A. Song (EX1069)

Song teaches techniques for use with “personal devices includ[ing] wireless telephones,” where a user may have more than one device and a device may be shared among different users. Song, 4:66-67, Abstract, 2:22-36, 5:9-19. The same “owner” can be the “primary user” of multiple devices. Song, 5:10, 8:13-14. A “server...provid[es] an authentication and authorization function for the personal device(s).” Song, 7:4-7. The server stores data “for each owner,” including “owner data 30 and at least one device record 32 for at least one personal device 14,” forming “a list of personal devices 14 commonly owned by that owner.” Song, 8:9-22. “The owner data 30...includes an owner identity 34 and...user name, password or any other personal information.” Song, 8:30-37. The device record can also include “a user name” of another “user anticipated to operate the personal device” (i.e., to share it). Song, 9:30-40.

“When the...personal device 150 is activated, the...user is prompted to provide login information” which “is transmitted to the...server 162 to identify the user” so the “user may launch an application with the...personal device.” Song, 13:32-41. Additionally, “the device record 32 is cached in the personal device 14 for situations where the registry server 16 is not available. In these situations, the

personal device 14 may use the locally stored information for authorization and verification related activities.” Song, 11:48-52. Williams-Decl., [0211]-[0212].

B. Randall-Song Combination

Like Song’s, Randall’s is a system where a user may have more than one device and a device may be shared among different users. Randall, [0054] (“the server transparently decides which device an entity should be contacted on at any particular time”—teaching that a user may have more than one device), [0067] (user may “borrow[] someone else’s wireless information device or use[] a public device”); Williams-Decl., [0213]. Based on Song’s teachings, POSAs would have been motivated and reasonably expected success to incorporate in Randall authentication and authorization functionality that receives the user’s login information to identify the user on each device he/she uses, to ensure that the user only accesses data and functionality that he/she is authorized to access, and to allow for authenticating a user when the remote server is offline/unavailable and/or when the wireless device has a poor network connection. Williams-Decl., [0213].

C. Mapping to Challenged Claims

1. Claim 16

a. [16PRE]-[16A]

In Randall’s *system*, Alice’s device is an exemplary *first device*, and it can have the same generic functionality as Bob’s or any other user’s device, as

discussed *supra* §§VI.E.1-VI.E.1.a ([1PRE]-[1A]), §VI.E.4 (claim 4). Williams-Decl., [0214]-[0215].

Randall teaches that a user (e.g., “Bob (as opposed merely to Bob’s device)”) may be “authenticated” by inputting “a PIN” or “correctly” “select[ing] [his] favourite colour/restaurant/recent film etc.” 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]; Williams-Decl., [0216].

Because Bob can be authenticated as “Bob the person” 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 device he is using, from which the server receives it. Randall, [0067]; Williams-Decl., [0217]. The “PIN” or “select[ed] answer[] from a multiple choice” is a *password* that, if it “correctly” matches what the server has stored as Bob’s “PIN” or “favourite colour/restaurant/recent film” (Randall, [0067]), authenticates that the user is truly Bob. Williams-Decl., [0217]; Randall, [0380] (“authentication can use...a basic WID and *password*/passphrase”). Randall’s “authentication” can be used for access control “both locally and on the server” (Randall, [0380]), corroborating

that it is input locally on the wireless device and then received by the server.

Williams-Decl., [0217].

It would also have been obvious to *receive a login and password* on the wireless device to authenticate its user, as doing so was well-known in POSAs' background knowledge as a beneficial and commonly used option. Williams-Decl., [0218]-[0224] (citing corroborating EX1024 ("Carey"), FIG. 8; EX1019 ("Thomas"), 1:15-55, 2:58-3:6, 5:49-54, 6:53-7:49; EX1029 ("Chern"), 6:55-7:20; EX1054 ("Sandhu"), 5:9-51; EX1030 ("Futagami"), 8:56-67, 10:9-17; EX1022 ("Darling"), 2:1-12, 8:32-34).

Randall teaches that the same "need for authentication of the user" applies "when they access their data" (Randall, [0380]), such as when Alice uses her *first device* to access "Alice's i-Data" on the i-server (Randall, [0503]-[0505]) or the "cached version of all of her information" stored locally on her wireless device (Randall, [0069]). POSAs would thus have understood that Randall *receives a login and password from Alice's first device* to authenticate Alice to update her i-Data. Williams-Decl., [0225].

Randall's "authentication" can be used for access control "both *locally* and on the server." Randall, [0380]. Thus, Alice's *user information* is *identified* locally on her *first device* before she accesses her "cached" i-Data on her device

and before she uses her device to access and update her i-Data on the i-server. Williams-Decl., [0226].

Additionally, Song teaches to “cache[] in the personal device” a “device record” that includes sufficient “login information” that “the personal device 14 may use the locally stored information for authorization and verification related activities” in “situations where the...server...is not available.” Song, 11:1-52, 5:48-55 (“The personal device...prompt[s] for login information when the personal device 14 is activated,” including “user name and password...for identifying [the] user”). Song teaches that the record can contain sufficient login information to identify Alice if she owns the device or is using someone else’s device. Song, 8:18-9:45, FIG. 3; *see supra* §VIII.A. As discussed *supra* §VIII.B, POSAs would have been motivated and reasonably expected success to incorporate such functionality into Randall’s system, whereby Alice’s *first device is operable to identify Alice’s user identification on said first device by receiving a login and password from said first device*. Williams-Decl., [0227]-[0228].

b. [16B]

As discussed *supra* §VI.E.1.a ([1A]), Alice’s *first location is operable to be recorded of Alice’s user identification (in Alice’s i-Data), based on a location of her first device*. As discussed *supra* §VIII.C.1.a ([16A]), this occurs *after said user identification is identified on Alice’s first device*. Williams-Decl., [0229]-[0230];

Song, 5:48-55 (“The personal device...prompt[s] for login information when...activated.”).

c. [16C]

Alice’s *first device* can “***display a map*** of the area [Alice is] standing in.”

Randall, p. 29. Williams-Decl., [0231]-[0232]; *see supra* §VI.E.1.b ([1B]).

d. [16D]

As discussed *supra* §VI.E.1.a ([1A]), Alice’s *first location is operable to be provided* to Bob’s device (*a third device*). Bob’s device is *not associated with Alice’s user identification* if Alice is not registered as an owner/user of Bob’s device. Williams-Decl., [0233]-[0234].

e. [16E]

As discussed *supra* §VIII.B, Randall teaches that a user can be authenticated to access their own i-Data (and other users’ information that they are authorized to view) from more than one device. Randall, [0054], [0067]; Williams-Decl., [0235]. Therefore Alice’s *user identification is operable to be identified on a second device* as well as the *first device*. Williams-Decl., [0235].

As discussed *supra* §§VIII.A-VIII.B, Song’s teachings in Randall-Song implement this functionality by storing a record associating the “user name, password” and “identifier” of the device owner in association with all of that owner’s devices (Song, 8:18-47, FIG. 3), such that the same *login and password* is used to identify the user’s *user identification* on each device. Williams-Decl.,

[0236]. And Song teaches to store the user's same "user name" login information in association with devices owned by others that the user will use. Song, 9:30-40; Williams-Decl., [0236]. Song further teaches to "cache[]" this login information on the associated device so the device "may use the locally stored information for authorization and verification related activities." Song, 11:48-52, 5:48-55 ("The personal device...prompt[s] for login information when the personal device 14 is activated," including "user name and password...for identifying [the] user").

Thus, in Randall-Song, when Alice is using a second device of her own or borrowing someone else's device, Alice's *user identification is operable to be identified on a second device by receiving said login and password from a second device* the same way as on the *first device* discussed *supra* §VIII.C.1.a ([16A]). Williams-Decl., [0237]-[0238].

f. [16F]

When Alice is using the *second device*, that device's *second location is operable to be recorded of Alice's user identification after said user identification is identified on said second device*, in the same manner discussed *supra* §VIII.C.1.b ([16B]), §VI.E.1.a ([1A]). Williams-Decl., [0239]-[0240].

g. [16G]

When Alice is using the *second device*, she can use "Your map and then some" (Randall, p. 29) to display *a second map provided from the perspective of*

said second location, in the same manner discussed *supra* §VIII.C.1.c ([16C]), §VI.E.1.b ([1B]). Williams-Decl., [0241]-[0242].

h. [16H]

POSAs would have understood that when Alice uses a *first device* and later switches to using a *second device*, she may use the devices at *different locations* (e.g., one at home, another at work, and/or another while traveling). Williams-Decl., [0243]-[0244]; *see* Song, 14:22-30 (example where user switches devices when “leav[ing] the office”), 1:47-52 (similar).

i. [16I]

Alice’s *second device’s second location* is operable to be provided to Bob’s *third device* in the same manner discussed *supra* §VIII.C.1.d ([16D]), §VI.E.1.a ([1A]). Williams-Decl., [0245]-[0246].

2. Claim 17

Randall teaches that any wireless device can use “**GPS**” to provide its “**location**” to the i-server as discussed *supra* §VI.E.1.a ([1A]). Randall, p. 24 (“People tracking”). Thus, Alice’s *first* and *second devices* and Bob’s *third device* each include GPS (global **positioning systems**) used to *determine* each device’s *location*. Williams-Decl., [0247]-[0248].

3. Claim 18

Alice's first location is provided to Bob's third device based on an access permission Alice provides on her first device. Williams-Decl., [0249]-[0250]; *supra* §VI.E.1.a ([1A]).

4. Claim 19

Alice's first location is recorded on the i-server, remote to the wireless devices (*supra* §VI.E.3 (claim 3)). Williams-Decl., [0251]-[0252]; *supra* §VI.E.1.a ([1A]).

IX. **GROUND 4: CLAIMS 1, 3-4 ARE UNPATENTABLE OVER SHEHA+WOLLRAB**

Grounds 4-6 together challenge claims 1-15 over similar combinations of Sheha with Obradovich and McDonnell as presented in IPR2023-00087, but with Wollrab added. Wollrab teaches the feature of elements [1D], [6D], and [11D] that the Board preliminarily found Sheha did not disclose in IPR2023-00087 (Paper 10 at 14-20).

A. Sheha (EX1005)

Sheha claims priority to a provisional application filed July 17, 2001. The provisional's disclosure (EX1006) is substantively identical to that of Sheha and provides written description for Sheha's claim 1. Williams-Decl., [0072]-[0077].

Sheha enables mapping, routing, and direction finding by allowing telephone devices—landline or mobile, such as cellphones or PDAs—to share their locations

with other authorized landline and mobile devices. Sheha, 2:60-4:18, 10:66-11:9. The mobile devices may report their positions (e.g., determined using GPS) to an online database and application server (“ODAS”) which stores them. Sheha, 10:5-16, 10:66-11:51, 7:19-23. The mobile devices may specify groups of authorized users to the ODAS, identifying who may obtain their respective location information. Sheha, 11:55-12:7.

A mobile device may request a target mobile device’s location 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 one or both mobile devices’ locations and navigational information. Sheha, 9:23-39. Figure 3 (below) illustrates an example system.

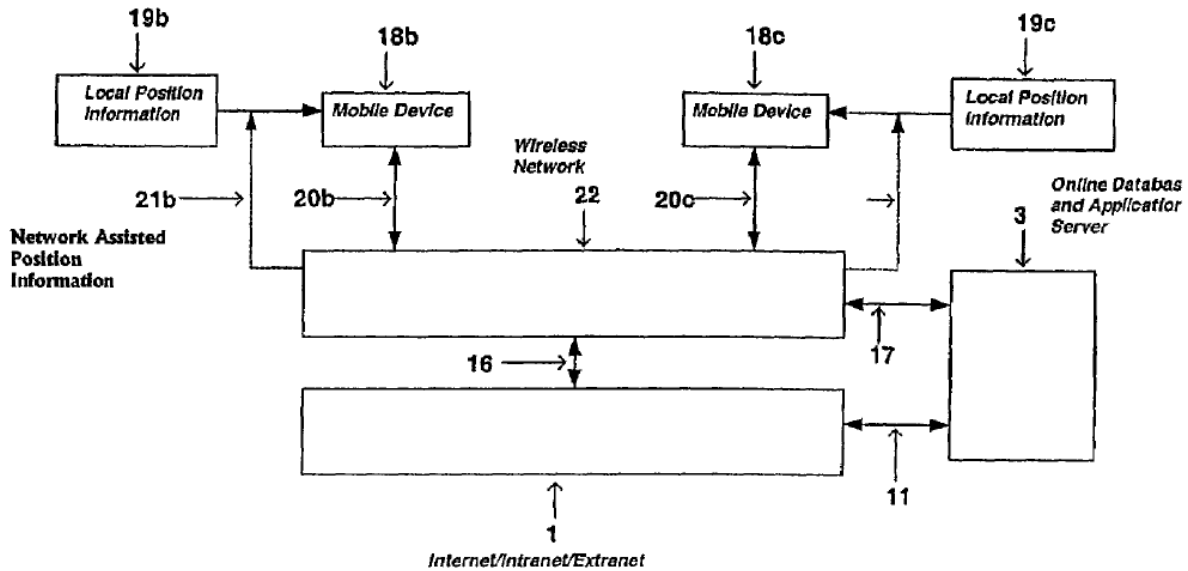


FIG. 3

Williams-Decl., [0253]-[0258].

B. Sheha-Wollrab Combination

Sheha teaches that a “user[] can define a group of specific users that have access to” the user’s location, which the users in the group can request “without having to initiate a telephone call.” Sheha, 11:55-12:7. An “object” of Sheha’s system is “to determine position information and to pass that information *between a plurality* of unique users or applications on various devices.” Sheha, 3:4-10. As discussed *supra* §VI.B, Wollrab teaches that mobile device users may wish to view “the relative locations” of more than one other device user (e.g., “family, work, or other group”) “simultaneously relative to one another” in a “map image.” Wollrab,

4:40-54, 5:50-61. Based on Sheha's and Wollrab's teachings, POSAs would have been motivated to implement Sheha's map to display locations of more than one target user whose locations the requesting user is interested in and authorized to access. Williams-Decl., [0259], [0063]-[0071]. POSAs would have reasonably expected success because Wollrab's functionality operates in the same context as Sheha's, that of mobile devices mapping each other's locations. *Id.*

C. Mapping to Challenged Claims

1. Claim 1: [1PRE]

Sheha discloses "a *system*...for providing real-time position information." Sheha, Abstract; Williams-Decl., [0260].

a. [1A]

Sheha discloses a first wireless telephone operable to provide a display screen after requesting to locate a second wireless telephone. Williams-Decl., [0261]. For example, "Map Caller-ID information about the destination telephone number can be transferred to the originating caller" for "display." Sheha, 3:14-28; Williams-Decl., [0261].

Sheha teaches that a first wireless phone may request the location of a target second wireless phone: "if a mobile device user specifies a telephone number of another position-enabled mobile device, the system would query the remote mobile device and verify its privacy setting." Sheha, 4:62-66; *see also* 19:3-8 ("receiving, from the communication device of the first user, a request for position information

of the second user,...said position information indicating a location of the communication device of the second user”); Williams-Decl., [0262].

After the system receives a position request, it queries the targeted mobile device to determine if the requesting mobile device has permission to receive the position information. Sheha, 5:21-32; Williams-Decl., [0263]. Sheha also discloses that mobile devices can have privacy settings that allow the device to “prevent or limit other calling devices from obtaining position information,” and confirming the requesting device has permission to obtain the target device’s location information. Sheha, 5:38-48; *see also id.*, 10:17-26, 19:9-15 (“accessing privacy information of the second user, said privacy information of the second user identifying an authorized user group, ... determining whether the first user is a member of the authorized user group”); Williams-Decl., [0263]. Sheha discloses “users can define a group of specific users that have access to this information” so “[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, 11:63-12:7; Williams-Decl., [0263].

Sheha discloses displaying a Map Caller-ID screen in FIG. 5, which displays location information of a remote wireless phone. Williams-Decl., [0264]. Sheha discloses that this location information can be displayed directly on a mobile phone, explaining that “a map and address of the destination telephone number can

be displayed on the mobile telephone.” Sheha, 4:52-58; Williams-Decl., [0264]-[0265].

b. [1B]

Sheha discloses displaying a Map Caller-ID screen in FIG. 5, which displays location information of a remote wireless phone. Williams-Decl., [0266]. Sheha discloses that this location information can be displayed directly on a mobile phone, explaining that “[i]f 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, 4:52-58; Williams-Decl., [0266]. FIG. 5 (annotated below) shows the map displaying the locations of the target and requesting devices (labels 33-34):

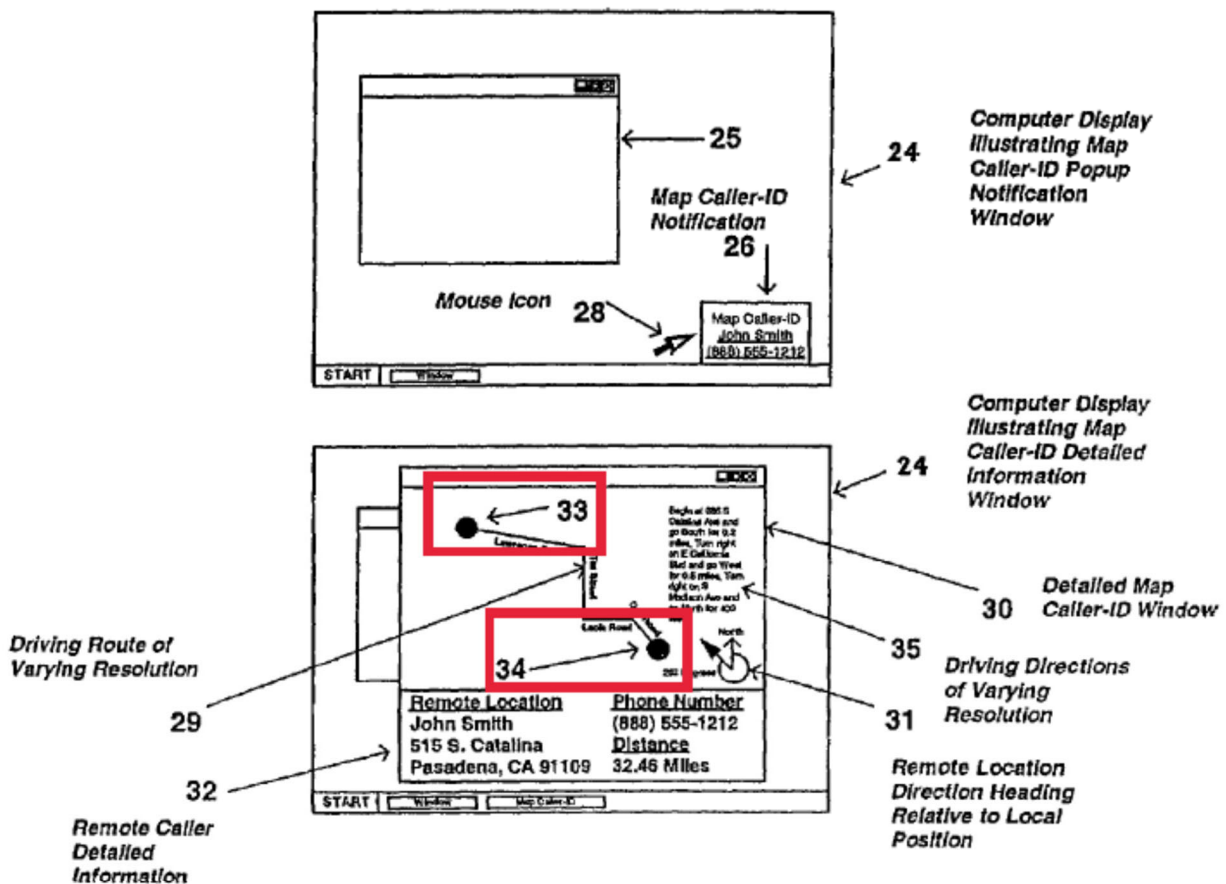


FIG. 5

Sheha, 9:23-28; Williams-Decl., [0266]. While FIG. 5 is presented in the context of an example involving two landline telephones, the same information is provided in the mobile-to-mobile context, which Sheha explains is “similar to a landline-to-mobile application.” Sheha, 4:59-5:20, 4:13-18, 11:36-12:7 (“In one embodiment, prior to the destination mobile device 18c receiving the telephone call from the originating mobile device 18b, the wireless network sends the position

information, obtained from the ODAS 3, in the form of a Map Caller-ID, as previously described.”); Williams-Decl., [0267].

In IPR2023-00087 (Paper 8 at 31), Mullen argued that Sheha “does not teach showing a *map* from the perspective of the requesting device.” Mullen was incorrect. Sheha teaches that the “Map Caller-ID information window...display[s] 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.” Sheha, 9:23-28. Thus, the map displays **both** devices’ locations, including that of the device providing the *display screen*, and the *map is provided with respect to the location of that first wireless telephonic device*. Williams-Decl., [0268].

Sheha further teaches that “**both** the originating and destination mobile device receive the Map Caller-ID information,” which is the “Map Caller-ID information window” of FIG. 5 “as previously described.” Sheha, 11:36-44, 9:23-39; Williams-Decl., [0269]. This allows “**each** mobile device” to be “provid[ed] real-time driving directions and route information” based on “the other’s position information.” Sheha, 11:36-54, 4:59-5:20 (“[T]he destination remote mobile device receiving the telephone call obtains the position information from the calling mobile device, based on permission settings of the calling local mobile device, for the performance of various operations, such as **mapping** and calculating

driving directions,” *and* “the system would request the position information from the remote mobile device and forward it back to the local mobile device” so that it can “navigate in real-time to the remote mobile device.”); Williams-Decl., [0269]. The way Sheha describes providing this navigation/driving/route information in all scenarios is via the Map Caller-ID exemplified in FIG. 5. Sheha, 9:23-39 (“Map Caller-ID information window...provide[s] a driving route...and driving directions” and other navigation information), 10:44-65 (“All of the Map Caller-ID information provided in the landline-to-mobile example is similar...except the mobile device’s 18a position can change,” so the “map” provided to “both” devices “display[s] driving direction information as the mobile device changes its position.”), 11:36-54 (mobile-to-mobile example uses “Map Caller-ID, as previously described” for “providing real-time driving directions and route information” to both mobile devices 18b-18c); Williams-Decl., [0269].

Thus, Sheha teaches that both mobile devices 18b and 18c can display a Map Caller-ID showing both devices’ locations, with the displayed map at each device showing the other device as the remote location and providing navigation information to the other device’s location. Williams-Decl., [0270].

Additionally, POSAs would have understood Sheha to teach or at least fairly suggest that the same map display of navigation information (exemplified in FIG. 5) can be provided on a requesting mobile device in the scenario without a phone

call. Sheha, 4:59-5:3 (“[I]f a mobile device user specifies a telephone number of another position-enabled mobile device,” it is provided the other mobile device’s “position information” so it can “navigate in real-time to the remote mobile device.”), 5:21-46 (“[A] user can initiate a position request by entering a unique identification token,” and if permission is granted, “both parties have access to each other’s position information, which can be used for real-time driving directions....”), 11:55-12:7 (teaching that the no-call example only differs from the phone-call examples in how the device “request[s] position information,” not in how that information is displayed); Williams-Decl., [0271]. In that scenario also, *the display screen includes a map provided with respect to the location of said first wireless telephonic device that made the position request, by displaying the local (requesting) device’s location as well as the remote (target) device’s location.* Williams-Decl., [0271]-[0272].

c. [1C]

For the reasons discussed *supra* §VI.E.1.b ([1B]), Sheha’s *display screen includes indicia on said map representative of a first location* of the remote mobile device (i.e., the other device than the device providing the display). Williams-Decl., [0273]. In the example illustrated in FIG. 5 (annotated below), *indicia 33 represents a first location.* Williams-Decl., [0273]-[0274].

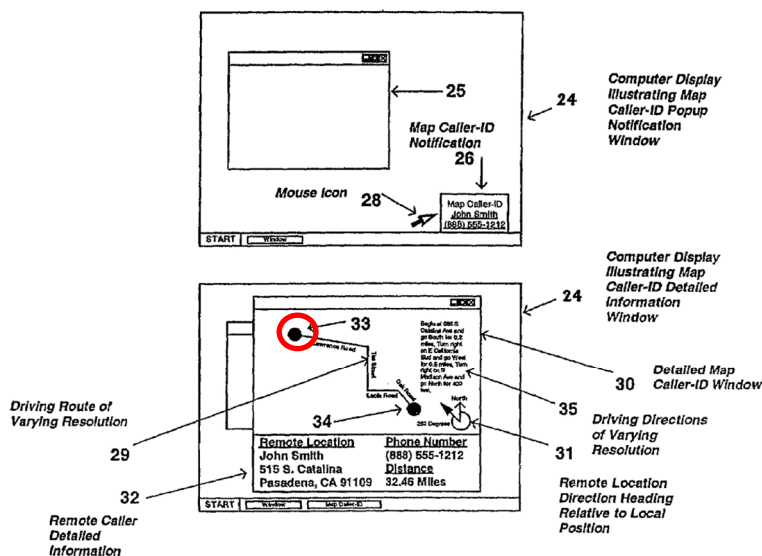


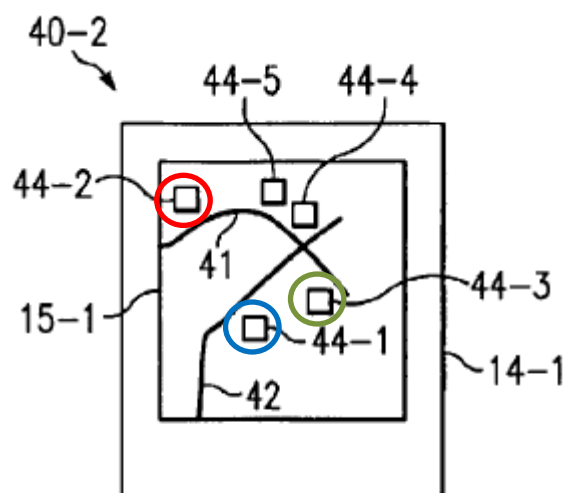
FIG. 5

d. [1D]

In IPR2023-00087 (Paper 10 at 16), the Board preliminarily interpreted [1D] (together with [1C]) to require “that the display screen simultaneously includes both indicia representative of the first location and indicia representative of the second location.” The Board found that “Sheha teaches displaying the location of one target device on the display screen along with the location of a caller” (i.e., first and second wireless telephonic devices), but “does not teach displaying the locations of second *and third devices* simultaneously.” *Id.* at 17. This Petition’s combination of Sheha with Wollrab was not considered in IPR2023-00087.

As discussed *supra* §IX.B, it would have been obvious in view of Sheha’s and Wollrab’s combined teachings to implement Sheha’s system to allow its map

display to display on a requesting user's device the locations of more than one target user whose locations the requesting user is interested in and is authorized to access. Sheha teaches that an "object" of Sheha's system is "to determine position information and to pass that information *between a plurality* of unique users...on various devices." Sheha, 3:4-10. Wollrab teaches techniques to aid "families or other groups to plan meetings" using their "wireless telephone[s]" to display "the relative locations" of "members of" the "family, work, or other group" "simultaneously relative to one another" on a "graphic map." Wollrab, 1:11-17, 4:40-54, 5:50-61; Williams-Decl., [0275]-[0276]. As discussed *supra* §VI.B, §VI.E.1.d, Wollrab teaches to "display a map image" on each group member's device "depicting the relative locations of all members/PDA devices within" the group as "locations 44-1 through 44-5...shown simultaneously relative to one another" as "symbols." Wollrab, 4:43-58, FIG. 4B (annotated below—location 44-1 of exemplary *first wireless telephonic device* in [blue], location 44-2 of exemplary *second wireless telephonic device* in [red], location 44-3 of exemplary *third wireless telephonic device* in [green]).



Based on these teachings, POSAs would have been motivated and reasonably expected success using only ordinary skill and software programming to modify Sheha's map display (as exemplified in Sheha's FIG. 5) to display not only the locations of the displaying device and one other device (elements 33-34), but also one or more additional devices (e.g., *a second location obtained from a third wireless telephonic device*). Williams-Decl., [0275]-[0278].

e. **[1E]**

Sheha discloses displaying *a distance* from the requesting mobile device to the location of the target device. Williams-Decl., [0279]. Sheha states the display window of the requesting device displays “driving direction *distance* information for the optimal route” between the two devices. Sheha, 9:30-39; *see also id.*, 7:44-

51. Sheha shows an example display in FIG. 5 (annotated below), which *includes a distance* of “32.46 Miles.” Williams-Decl., [0279]-[0280].

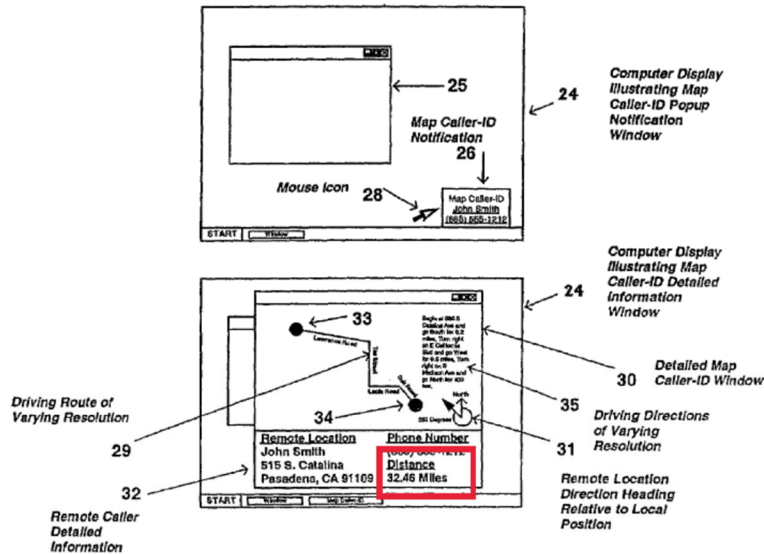


FIG. 5

f. [1F]

Sheha discloses displaying an address associated with the target device’s location: “the display unit on the destination telephone 8 can display the caller’s name, telephone number, *address*, and can provide a map illustration of varying resolutions configured by the user through the telephone network.” Sheha, 7:44-48, 9:34-39 (Map Caller-ID “window 30 can display all of the identification information 32 of *both* the originating and destination users, such as *addresses* and telephone numbers”), FIG. 5 (annotated below); Williams-Decl., [0281]-[0282].

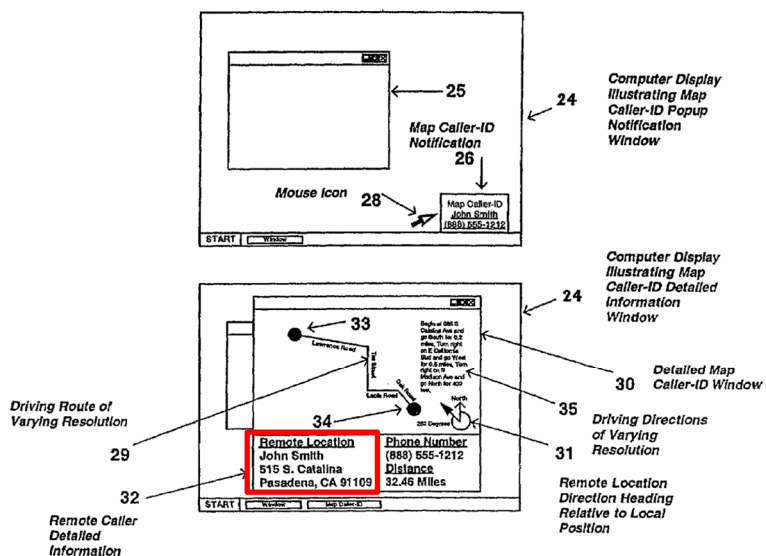


FIG. 5

2. Claim 3

Sheha's ODAS ("online database and application *server*"—Sheha, 7:21-23) is *remote to the wireless telephonic devices*, as shown in FIG. 3 (annotated below). Williams-Decl., [0283].

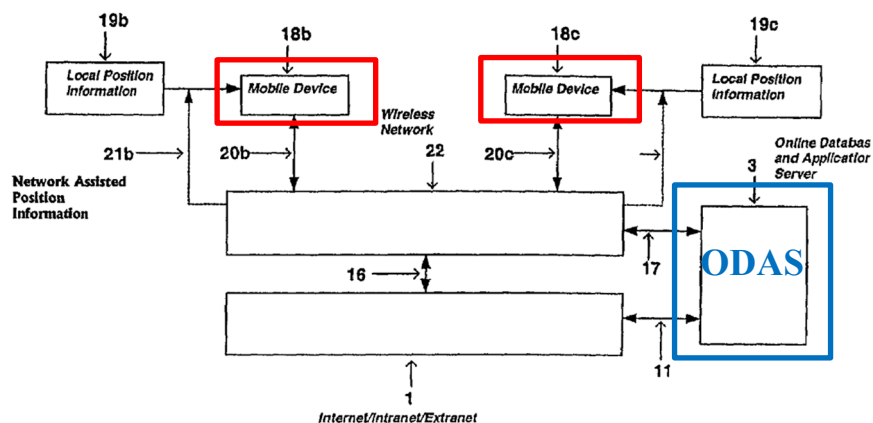


FIG. 3

Sheha teaches that in both landline and mobile scenarios, “users can define a group of specific users that have access to” the user’s location 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; Williams-Decl., [0284]; *see supra* §IX.C.1.a ([1A]).

Sheha teaches embodiments where the ODAS implements the “authorization and authentication protocols” and the “group database” described in 11:63-12:7 for storing permissions for specific users. *See* Sheha, 3:4-13 (“networked server system utilizing authentication and authorization procedures”), 4:8-18 (“online database and/or networked authentication and authorization connection server”), 7:21-23 (“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; Williams-Decl., [0285]. Alternatively, implementing the group database (including *said permission*) and its utilization at the *server* would have been an obvious variation because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. Williams-Decl., [0286]-[0290] (citing corroborating EX1054 (“Sandhu”), 5:8-6:22; EX1007 (“Randall”), [0511]-[0514]; EX1015 (“Friedman ”), 12:60-13:21; EX1022 (“Darling”), 3:1-5). Also, with respect to any privacy settings set locally at the target device, POSAs would have understood that an obvious

implementation was to store those settings *on the server* after verifying them by querying the device (Sheha, 4:64-66), so the server can then apply them to determine whether to release the device’s location to a requesting user. Williams-Decl., [0291]-[0292].

3. Claim 4

As discussed *supra* §IX.C.1.a ([1A]), Sheha discloses a system wherein a user can have privacy settings allowing the device to “prevent or limit other calling devices from obtaining position information.” Sheha, 5:38-48; *see also id.*, 10:17-26, 18:65-19:19; Williams-Decl., [0293]. Thus, any wireless device in Sheha’s system can establish privacy settings, whether at the wireless device or stored in the ODAS, permitting the requesting device to access its location. Williams-Decl., [0293]-[0294].

X. GROUND 5: CLAIMS 6-9, 11-14 ARE UNPATENTABLE OVER SHEHA+WOLLRAB+OBRADOVICH

A. Sheha-Wollrab-Obradovich Combination

A POSA would have been motivated to modify the Sheha-Wollrab system to enhance the amount of navigation information available to users, such as by including travel time between locations as Obradovich teaches. Williams-Decl., [0295]; *see supra* §VI.C. A POSA would have reasonably expected success determining and displaying travel times in Sheha’s system, as described in Obradovich and known in POSAs’ background knowledge, given that both

systems obtain the same location information necessary for such a calculation, so it would be a simple operation for Sheha's system to perform. Williams-Decl., [0295].

B. Mapping to Challenged Claims

1. Claim 6

a. Previously Addressed Elements

Sheha-Wollrab-Obradovich meets the following elements of claim 6 for the reasons discussed in the corresponding sections above. Williams-Decl., [0296]-[0301].

Element:	Addressed in Section:
[6PRE]	§IX.C.1 ([1PRE])
[6A]	§IX.C.1.a ([1A])
[6B]	§IX.C.1.b ([1B])
[6C]	§IX.C.1.c ([1C])
[6D]	§IX.C.1.d ([1D])
[6E]	§IX.C.1.e ([1E])

b. [6F]

Sheha's *display screen includes a compass*, shown in FIG. 5 (excerpt annotated below) as a "North"-pointing arrow with element 31:

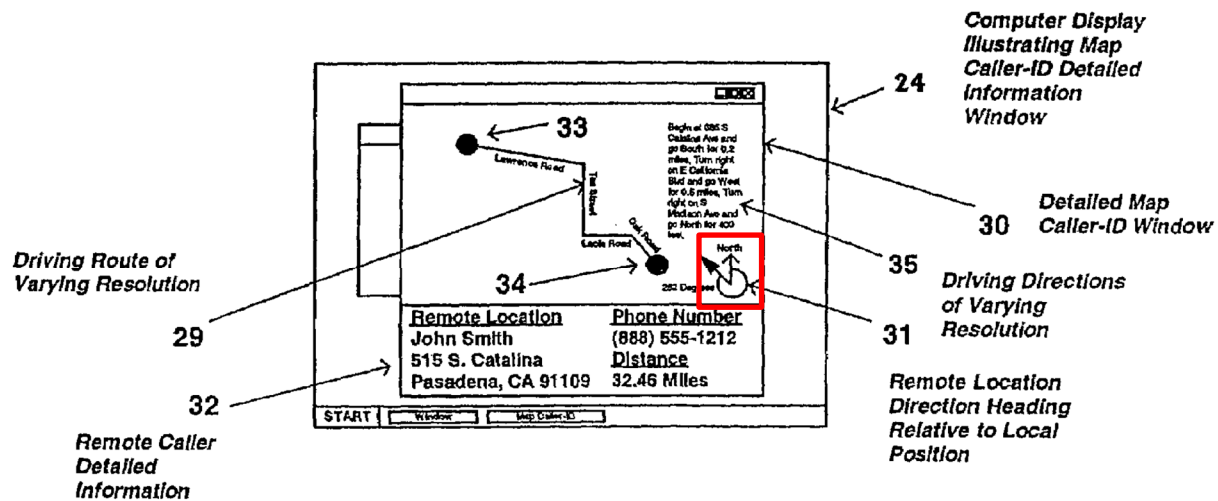


FIG. 5

POSAs would have found it obvious that the illustrated “North” arrow would update to continue pointing north as the mobile device changes orientation.

Williams-Decl., [0302] (citing corroborating EX1072 (“Johnson”), Abstract, FIGs. 2A-2D, 1:41-53, 3:56-5:20, 6:6-13).

Obradovich also teaches to display *a compass*, as discussed *supra* §VI.E.6.b. It was also well-known, conventional background knowledge to *include a compass* in the map *display screen*. Williams-Decl., [0303]-[0306] (citing corroborating EX1025 (“Wako”), FIG. 12C, 7:25-33; EX1041 (“Tobin”), [0028]).

c. [6G]

Sheha’s *display screen includes a directional arrow* representing the direction of the remote device’s location with respect to the requesting device’s

location. Sheha, 7:44-51, 9:30-39; Williams-Decl., [0307]. The Map Caller-ID “display[s] *remote location direction* heading information relative to local position information 31,” shown as *a directional arrow* pointing north-west toward the “remote location” 33 in FIG. 5 (annotated below). Sheha, 9:30-32; Williams-Decl., [0307].

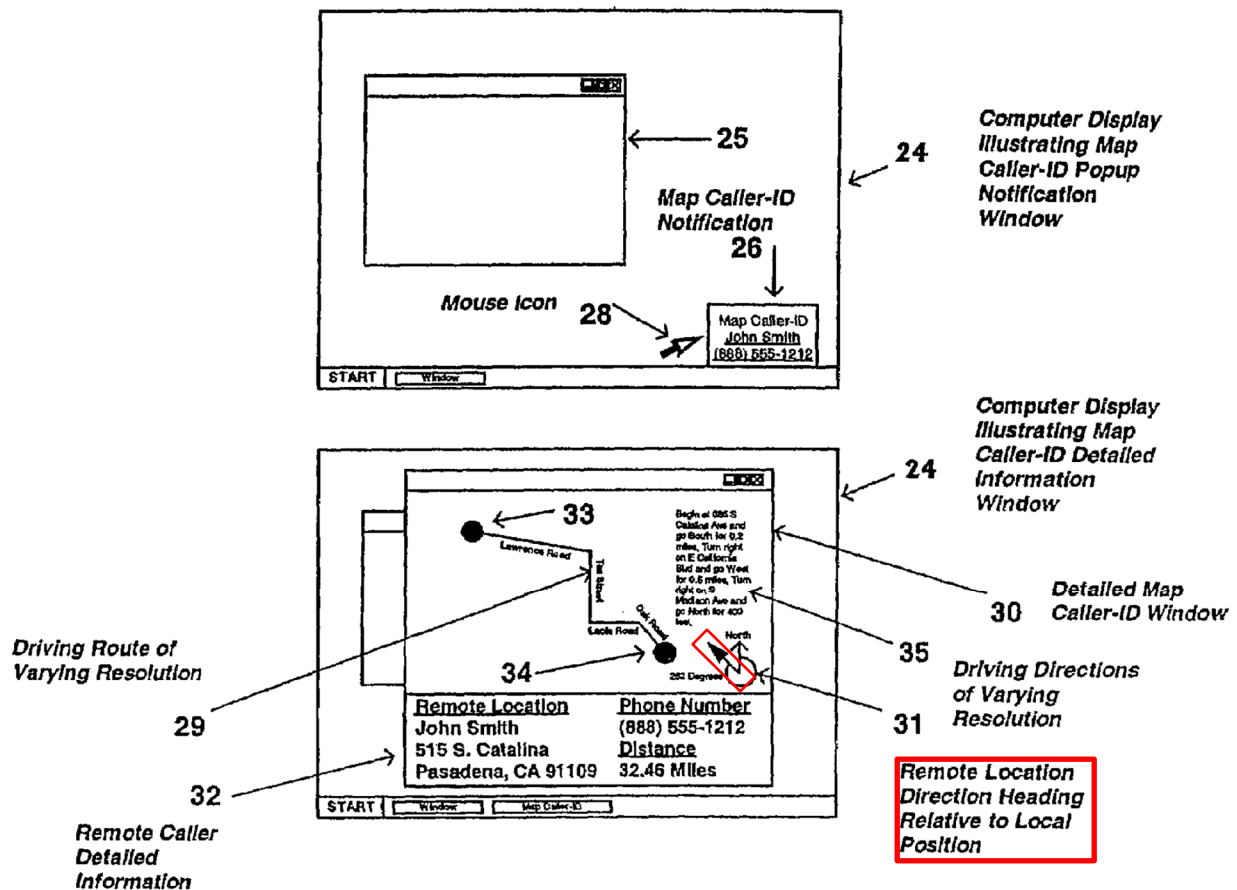


FIG. 5

In IPR2023-00087 (Paper 8 at 39-40), Mullen argued that “the arrow in Sheha [FIG. 5] points toward the caller (33),” and “Sheha thus does not describe displaying a ‘directional arrow’ in the direction of the called device (34) from the perspective of the caller (33).” Mullen was incorrect. As discussed *supra* §IX.C.1.b ([1B]), Sheha teaches (or at minimum renders obvious) that **both** devices display a Map Caller-ID showing **both** devices’ locations, and the Map Caller-ID displayed on each device is from the perspective of that (local) device providing directions to the other (remote) device. Williams-Decl., [0308]. Thus, the Map Caller-ID displayed on the calling device will have a “remote location direction heading” arrow pointing toward the called device. Williams-Decl., [0308]. Additionally, as also discussed *supra* §IX.C.1.b ([1B]), Sheha teaches (or at minimum renders obvious) that in the no-call scenario, the requesting device displays a map with directions to the target device’s location, which will likewise have a “remote location direction heading” arrow pointing toward the target device. Williams-Decl., [0308].

It was also well-known, conventional background knowledge to *include* in the map *display screen a directional arrow representative of the direction of the destination with respect to* the device’s current position. Williams-Decl., [0309]-[0312] (citing corroborating EX1068 (“Deworetzki”), 4:64-66, FIG. 2; EX1025 (“Wako”), 12:60-63; EX1067 (“Mura-Smith”), 8:45-67, FIG. 8B).

d. [6H]

Sheha discloses “providing real-time location information, maps, routing, and direction finding.” Sheha, 1:16-22. Further, Sheha discloses providing “the calculation of position and route information, such as driving directions, as well as the ability to provide azimuth, elevation, altitude, altitude difference, line-of-sight (LOS) distance, and curved earth LOS distance measurements, between the local and remote positions calculated from the position information.” Sheha, 3:29-37. A POSA would have known this information could be used to calculate a travel time and would have been motivated to provide a travel time as being standard navigational information a user would be interested in. Williams-Decl., [0313].

To the extent Sheha does not expressly disclose determining a travel time, Obradovich discloses determining and displaying a travel time between locations. Obradovich, 2:60-63, 22:55-65; FIG. 47; Williams-Decl., [0314]. Obradovich states “[t]he PCD therefore is able to make use of the traffic speed information and the distance information to determine travel times for the various route and route alternative segments. Real time calculation and *display* of segment *travel times* accordingly allows the PCD user to accurately determine and estimate travel times to particular destinations over a plurality of different roads and road segments.” Obradovich, 22:47-54. “[T]he process determines travel times for each of the route segments; and the route as a whole.” Obradovich, 22:62-65, 8:18-22

(“arrival time estimates can be included”). A POSA would have been motivated to include determination and display of the travel time from the requesting device to the location of the target device with reasonable expectation of success to improve the quality of available navigation information to the requestor. Williams-Decl., [0314]; *supra* §X.A.

It was also well-known, conventional background knowledge to include in the map display screen “an estimated *time* to reach the final destination.”

Williams-Decl., [0315]-[0318] (quoting EX1025 (“Wako”), 2:12-34 (“BACKGROUND” section), FIG. 1B, FIG. 7, 9:8-22; citing corroborating EX1041 (“Tobin”), [0028]).

In IPR2023-00087 (Paper 8 at 35-37), Mullen argued that POSAs would not “have incorporated the complex ‘travel time’ system of Obradovich that involves remotely-positioned ‘condition reporting devices’ sending information to a unique device that Obradovich calls the ‘PCD,’ or ‘Personal Communication Device.’” Mullen’s argument was incorrect. “The test for obviousness is not...bodily incorporat[ion]” of features, but “what the combined teachings of the references would have suggested.” *MCM Portfolio v. Hewlett-Packard*, 812 F.3d 1284, 1294 (Fed. Cir. 2015). The combination of Sheha’s and Obradovich’s teachings need not use “a unique device that Obradovich calls the ‘PCD’”—POSAs would have understood Sheha’s mobile devices to be capable of providing travel time with

only modified data and computer programming well within the POSA's skill. Williams-Decl., [0319]. And applying to Sheha's system Obradovich's general teaching to display a travel time for the route from the mobile device to the destination need not bodily incorporate all details of specific ways Obradovich discloses to perform the travel-time computation. Other obvious implementation options for determining travel time were background knowledge for POSAs, including, e.g., estimating the travel time by simply dividing the route distance by the speed the mobile device is traveling. Williams-Decl., [0319]-[0321] (citing corroborating EX1041 ("Tobin"), [0028]; EX1067 ("Mura-Smith"), 8:45-57).

Additionally, even if Obradovich's specific implementation using "condition reporting devices" at "points along the streets and highways" to report "traffic speed" to the mobile device were used in the combination "to accurately determine and estimate travel times" (Obradovich, 22:42-54), POSAs would have had motivation to do so to determine the travel time "accurately," and would have reasonably expected success because Obradovich teaches how to do so. Williams-Decl., [0322]-[0323]. Assertions of "increased cost and complexity" do "not show that [the technique] was unknown or could not have practical applications," and thus do not support non-obviousness. *In re Cree*, 818 F.3d 694, 700-701 (Fed. Cir. 2016).

2. Claim 11

Sheha-Wollrab-Obradovich meets the following elements of claim 11 for the reasons discussed in the corresponding sections above.

Element:	Addressed in Section:
[11PRE]	§IX.C.1 ([1PRE])
[11A]	§IX.C.1.a ([1A]), where [1A]’s “ <i>first wireless telephonic device</i> ” corresponds to [11A]’s “ <i>wireless device</i> ” and “ <i>said wireless telephonic device,</i> ” and [1A]’s “ <i>second telephonic wireless device</i> ” corresponds to [11A]’s “ <i>first wireless device</i> ”
[11B]	§IX.C.1.b ([1B]), where Sheha’s map showing the displaying device’s location is <i>from the perspective of said wireless device</i>
[11C]	§IX.C.1.c ([1C])
[11D]	§IX.C.1.d ([1D]), where [1D]’s “ <i>third wireless telephonic device</i> ” corresponds to [11D]’s “ <i>second wireless device</i> ”
[11E]	§IX.C.1.e ([1E])
[11F]	§X.B.1.b ([6F])
[11G]	§IX.C.1.f ([1F])
[11H]	§X.B.1.d ([6H])

Williams-Decl., [0324]-[0333].

3. Claims 7-9, 12-14

Sheha-Wollrab-Obradovich meets the limitations added by the following claims for the reasons discussed in the corresponding sections above. Williams-Decl., [0334]-[0340]

Claims:	Limitation Addressed in Section:
7, 12	§IX.C.1.a ([1A])
8, 13	§IX.C.1.a ([1A]), §IX.C.2 (claim 3)
9, 14	§IX.C.1.a ([1A]) §IX.C.3 (claim 4)

XI. GROUND 6: CLAIMS 2, 5, 10, 15 ARE UNPATENTABLE OVER SHEHA+WOLLRAB+OBRADOVICH+MCDONNELL

A. McDonnell (EX1042)

McDonnell teaches “obscuring the location of a mobile entity to a specified accuracy level.” McDonnell, Abstract. A “user of a mobile entity can limit the accuracy of location data provided.” McDonnell, 8:5-7, 8:30-45. For example, “the accuracy of the location data is decreased” if it was originally “higher tha[n] the specified accuracy limit.” McDonnell, 9:24-36, 8:46-9:39. The user can “specif[y] an accuracy limit” for a particular recipient of the user’s location. McDonnell, 8:30-38; Williams-Decl., [0341].

B. Sheha-Wollrab-Obradovich-McDonnell Combination

A POSA would have been motivated to modify the Sheha-Wollrab-Obradovich system based on Obradovich and/or McDonnell to specify different access levels and rights for location information. Williams-Decl., [0342]. Sheha, Obradovich, and McDonnell each describe sharing location information and allowing a user to set access rights specifying who has access and the type of information that can be accessed. Sheha, 11:55-12:1; Obradovich, 26:29-49; McDonnell, 6:47-55, 8:30-45; Williams-Decl., [0342]. Thus, a POSA would have been familiar with assigning access rights to various types of information and motivated to include the ability to set access rights for different types of location information to give users more versatility and specificity when assigning rights to other users. Williams-Decl., [0342]. For example, a user wanting to control not only who has access to their location information, but also what type of location information users can access, would have been motivated to incorporate the security level index and security settings in Obradovich into Sheha's privacy settings. Williams-Decl., [0342].

Additionally, a POSA would have been motivated to use the functionality allowing a user to establish different limits on the accuracy of location information provided to different requesters as described in McDonnell to provide location information at different levels of precision. Williams-Decl., [0343]. McDonnell

explains that, in some cases, “because of privacy concerns, the user of the mobile entity does not want the service system to know his/her location with a high degree of accuracy and accordingly specifies an accuracy limit.” McDonnell, 8:30-36. A POSA would have been motivated to use the protections described in McDonnell, for example, to authorize another user to obtain his/her location information without providing the exact location. Williams-Decl., [0343].

A POSA would have reasonably expected success incorporating the security/privacy functionalities described in Obradovich and McDonnell into Sheha’s system as it would have required only routine and conventional programming to update Sheha’s privacy configuration options. Williams-Decl., [0344]. Because Sheha’s system is configured to receive location information from wireless devices, a POSA would have reasonably expected success implementing security index functionality as described in Obradovich and location obscuring functionality as described in McDonnell. Williams-Decl., [0344].

C. Mapping to Challenged Claims

1. Claim 2

Sheha describes different amounts of permission a mobile device may provide “to prevent or limit other calling devices from obtaining position information.” Sheha, 5:38-41. Privacy settings “can include allowance of position information transfers only when a voice or video connection is established and/or

only with the device owner's permission” and “allowing any remote device to request position information for any specified amount of time.” Sheha, 5:41-46, 10:20-26; Williams-Decl., [0345]. Additionally, Sheha teaches that different specificity of location information can be obtained and shared. Sheha, 15:54-57 (“position information includes one of graphical mapping information, GPS information, longitudinal and latitudinal information, altitude information, and address information.”), 16:4-6 (“location of the caller is one of a metropolitan area, a state within the United States of America, and an international political territory.”).

To the extent Sheha does not expressly disclose *several location access rights associated with different location resolutions*, this would have been obvious based on Obradovich and/or McDonnell. Williams-Decl., [0346]. Obradovich teaches that a mobile device user may provide varying levels of access to items of information, including geographic location information, by assigning “security level indexes for each item of information” and specifying “which security level index each such other individual should be provided.” Obradovich, 26:29-36; Williams-Decl., [0346]. McDonnell teaches to allow a mobile device user to obscure its location information to a specified accuracy level before sending it to a requesting party. McDonnell, Abstract, 6:44-52, 8:30-45; Williams-Decl., [0346]. In McDonnell’s system, when the mobile entity sends its location data to the

service system, it specifies “an accuracy limit,” which the service system then sends to the decryption entity to “reliably limit the accuracy of the location data it returns to the level specified by the mobile entity.” McDonnell, 8:30-53, 8:60-9:44, FIGs. 7-8; Williams-Decl., [0346].

Given that Sheha’s system contemplates limiting location sharing to other devices, a POSA aware of Obradovich’s security level index and McDonnell’s accuracy limiting capabilities would have been motivated to incorporate such functionality into Sheha’s system to allow a user to have more control over what location information is shared with others. Williams-Decl., [0347]. For example, a POSA would have been motivated to customize the level of specificity of information such that exact location information can be shared with immediate family and/or close friends while less accurate information is provided to coworkers or service provider contacts. McDonnell, 8:30-45, 9:45-55; Williams-Decl., [0347]. POSAs would have reasonably expected success in doing so as discussed *supra* §XI.B. Williams-Decl., [0347].

2. Claims 5, 10, 15

As discussed *supra* §XI.C.1 (claim 2), Sheha describes different amounts of permission a mobile device may provide to another mobile device to access its location information, and those permissions include *several access levels*. Sheha, 5:37-45, 10:20-26; Williams-Decl., [0348]. POSAs would have understood that,

by preventing or limiting the users that can access a device's location information, a device has created multiple access levels (those allowed to access and those prevented from accessing) for a location. Williams-Decl., [0348].

Sheha describes access levels beyond these two. Williams-Decl., [0349]. The privacy settings “can include allowance of position information transfers only when a voice or video connection is established and/or only with the device owner's permission” and “allowing any remote device to request position information for any specified amount of time.” Sheha, 5:41-46; *see also id.*, 10:20-26; Williams-Decl., [0349]. Thus, Sheha discloses that the mobile device's permission may include different access levels, such as transferring location information at any time, transferring location information “only when a voice or video connection is established,” “for the duration of the call,” or “only for a given period of time,” and not transferring location information. Sheha, 5:9-14, 5:37-46, 10:20-26; Williams-Decl., [0349].

Additionally, as discussed *supra* §XI.C.1 (claim 2), POSAs would have been motivated and reasonably expected success to implement Sheha to allow users to specify a level of position accuracy that a requester is allowed to receive when requesting the user's location, as described in McDonnell and Obradovich, both of which teach to allow users to specify different access levels for different requestors as discussed *supra* §VI.C, §§XI.A-B. Williams-Decl., [0350]. Each accuracy

limit in McDonnell and each security level in Obradovich corresponds to a different access level. Williams-Decl., [0350]. Thus, Sheha in view of McDonnell and/or Obradovich allows a user (e.g., via the *first wireless device* in claims 10 and 15) to associate any number of access levels with its location and particular requesting devices, and one of the access levels permits a requesting device to access the *first location*. Williams-Decl., [0350].

XII. GROUND 7: CLAIMS 16-19 ARE UNPATENTABLE OVER SHEHA+SONG

Ground 7 challenges claims 16-19 over Sheha with Song, which teaches the features of independent claim 16 that the Board preliminarily found Sheha did not disclose in IPR2023-00087 (Paper 10 at 21-25).

A. Sheha-Song Combination

As discussed *supra* §VIII.A, Song teaches that the same user may have more than one device and/or share devices with other users. POSAs would have been motivated and reasonably expected success based on Song's teachings to implement Sheha's system so the same user uses the same login information on each device he/she uses, to consistently access that user's account data and avoid having to unnecessarily remember multiple logins. Williams-Decl., [0351]. Based on Song's teachings, POSAs would also have been motivated and reasonably expected success to receive the user's login information locally to identify the user on each device he/she uses in Sheha's system, to ensure that the user only accesses

data and functionality that he/she is authorized to access, and to allow for authenticating a user when the remote server is offline/unavailable and/or when the wireless device has a poor network connection. Williams-Decl., [0351].

B. Mapping to Challenged Claims

1. Claim 16

a. [16PRE]-[16A]

Sheha discloses a *system* as discussed *supra* §IX.C.1 ([1PRE]).

Sheha describes that “*user identification* information” is received by the ODAS and “every telephone account user has a *username and password*,” which “correlates both the origin and destination telephone *users’ identifications* to verify if the user is signed-on to the ODAS” and can be used according to “authentication and authorization protocols [to] establish that a user is genuine.” Sheha, 8:38-50. Thus, Sheha describes *identifying a user identification by receiving a login and password from said first device*. Williams-Decl., [0352]-[0353].

In Sheha’s system, the *first device*’s user “is logged on to [the] wireless...device,” and then signs on to the ODAS to be “verified by the networked server’s authentication and authorization protocol procedures.” Sheha, 5:26-29. Therefore, before the *user identification* is identified at the ODAS, it is first identified by the *first device* via the *login and password*. Williams-Decl., [0354].

Additionally, Song’s teachings incorporated in Sheha-Song (*supra* §XII.A) “cache[] in the personal device” a “device record” that includes sufficient “login information” including *login and password* to “use the locally stored information for authorization and verification” in “situations where the...server...is not available,” meeting [16A]. Song, 11:1-52, 5:48-55, 8:18-9:45, FIG. 3; *see supra* §VIII.A, §VIII.C.1.a. Williams-Decl., [0355]-[0356].

b. [16B]

Sheha’s *first device* determines its *first location* and provides it to the ODAS for *recording of said user identification*. Sheha, 2:25-29, 4:66-5:2, 6:57-59, 10:5-6, 10:48-50, 11:15-37, 8:31-52 (“***user identification*** information...is also sent to the ODAS” for “authentication and authorization protocols”), 9:61-10:4 (“the system verifies, by using authorization and authentication protocols, if the user” is “signed-on to the system” and then can “request the location of the mobile device”), 3:4-13; Williams-Decl., [0357].

As discussed *supra* §XII.B.1.a ([16A]), *said user identification is identified on said first device* before the device interacts with the ODAS as discussed above. Williams-Decl., [0358]-[0359].

c. [16C]

Sheha-Song discloses [16C] for reasons discussed *supra* §IX.C.1.b ([1B]). Williams-Decl., [0360].

d. [16D]

As discussed *supra* §IX.C.1.a ([1A]), the *first location is operable to be provided to a third device* of a different user who is *not associated with said user identification*. Williams-Decl., [0361].

e. [16E]

As discussed *supra* §VIII.A, §XII.A, Song's teachings in Sheha-Song authenticate the same user to access their data from more than one device, such that *said user identification is operable to be identified on a second device*, using the same *login and password*, meeting [16E]. Song, 5:48-63, 8:18-47, 9:30-40, 11:48-52, 14:57-15:3, 15:51-56, FIG. 3; Williams-Decl., [0362]; *see supra* §VIII.C.1.e.

f. [16F]

When the *first device's* user is using the *second device*, that device's *second location is operable to be recorded of that user's user identification after said user identification is identified on said second device*, the same way discussed *supra* §XII.B.1.b ([16B]), §IX.C.1.a ([1A]). Williams-Decl., [0363]; *see supra* §XII.B.1.e ([16E]).

g. [16G]

The *second device* can display *a second map provided from the perspective of said second location*, the same way discussed *supra* §XII.B.1.c ([16C]), §IX.C.1.b ([1B]). Williams-Decl., [0364].

h. [16H]

As discussed *supra* §VIII.C.1.h, POSAs would have understood that when a *first device* user switches to a *second device*, it may be at a *different* location.

Williams-Decl., [0365]; Song, 14:22-30, 1:47-52.

i. [16I]

The *second location* is operable to be provided to the other user's *third device* the same way discussed *supra* §XII.B.1.d ([16D]), §IX.C.1.a ([1A]).

Williams-Decl., [0366].

2. Claim 17

Each Sheha mobile device determines its location using “an onboard *positioning*” system (e.g., GPS). Sheha, 10:5-16, 11:3-17; Williams-Decl., [0367].

3. Claim 18

The *first location* is provided to said *third device* based on an access *permission* the user provides on the *first device*. Williams-Decl., [0368]; *supra* §IX.C.1.a ([1A]).

4. Claim 19

The *first location* is recorded on Sheha's ODAS, a server remote to the users' devices (*supra* §IX.C.2 (claim 3)). Williams-Decl., [0369]; *supra* §XII.B.1.b ([16B]).

XIII. NO BASIS EXISTS FOR DISCRETIONARY DENIAL

A. Section 314(a)

1. *Fintiv*

This Petition presents “compelling evidence of unpatentability,” which should end the *Fintiv* analysis. Director’s Interim Procedure for Discretionary Denials, 5 (June 21, 2022) (“Interim Procedure”) (discussing *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (Mar. 20, 2020) (precedential)).

If considered, the *Fintiv* factors weigh against denial.

a. Stay Potential

Currently this factor is neutral. *Sand Revolution II, LLC, v. Cont’l Intermodal Group–Trucking LLC*, IPR2019-01393, Paper 24 at 7 (June 16, 2020) (informative).

b. Trial Timing

A motion is pending to transfer the district-court proceeding to the Northern District of California (EX1036 at 8), where the median time-to-trial is 48.9 months (EX1037 at 66). Even the current District Court’s scheduled trial date of November 3, 2025, is only about six months before likely FWD, favoring institution. *See Zynga Inc. v. IGT*, IPR2022-00368, Paper 7 at 8-15 (July 8, 2022).

c. Litigation Investment

The district-court parties have invested little in invalidity-related issues, the scheduled *Markman* hearing is six months away (EX1038 at 3), and “a significant

portion of work remains to be done” including “fact and expert discovery and dispositive motions.” *Protect Animals With Satellites LLC v. OnPoint Sys., LLC*, IPR2021-01483, Paper 11 at 14-15 (Mar. 4, 2022).

Moreover, Mullen’s district-court complaint asserted nine patents, collectively including 378 claims. Mullen’s infringement contentions assert 272 of those claims. EX1039. Nevertheless, Petitioners diligently filed this Petition six months after receiving infringement contentions and over two months before any statutory bar. *See Samsung Elecs. Co., Ltd. v. Mojo Mobility Inc.*, IPR2023-01089, Paper 11 at 19 (Jan. 11, 2024).

d. Issue Overlap

This Petition challenges all nineteen claims of the ’218 patent, only five of which are asserted. EX1039 at 2. This weighs against denial. *Markforged Inc. v. Continuous Composites*, IPR2022-00679, Paper 7 at 32-33 (Oct. 25, 2022).

e. Litigation Defendants

This factor is neutral. *Id.* at 33.

f. Other Circumstances

The Petition’s “strong showing on the merits” weighs against denial. Interim Procedure, 3-5.

2. General Plastic

Discretionary denial under *General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (Sept. 6, 2017) (precedential as to

§II.B.4.i) “is not justified” where, as here, first and second petitioners “do not have a significant relationship.” *Videndum Production Sols., Inc. v. Rotolight Ltd.*, IPR2023-01218, Paper 12 at 7 (Apr. 19, 2024) (“*Videndum*”) (director review). “Petitioner’s reliance on [an] earlier-filed” IPR, “even as a menu and roadmap, is not sufficient to create a significant relationship that favors denial.” *Id.* at 5 (internal quotation marks and citations omitted).

This “Petition is the first filed by Petitioner[s] against the” ’218 patent. *Id.* Petitioners have “different allegedly infringing products and in different district court proceedings” than Apple, have not coordinated with Apple regarding the ’218 patent, and thus have no “significant relationship” with Apple. *Ford Motor Co. v. Neo Wireless LLC*, IPR2023-00763, Paper 28 at 7, 10 (Mar. 22, 2024) (director review).

Moreover, this Petition presents new Randall-based Grounds 1-3 developed subsequent to Apple’s IPR2023-00087.

Discretionary denial “is not justified.” *Videndum* at 7.

B. Section 325(d)

Of the references combined in this Petition’s grounds, only Wollrab was of record during prosecution of the ’218 patent. The examiner did not apply Wollrab in any rejection, and did not consider it in combination with Randall or Sheha. De-

Vries, Chern, and Rice were of record, but are used herein only as corroborating background references, different from any application in prosecution.

The Board considered Sheha, Obradovich, and McDonnell in IPR2023-00087, but not in combination with Wollrab or Song, which teach the features the Board found missing. *See BMW of North America, LLC v. Michigan Motor Techs. LLC*, IPR2023-01031, Paper 12 at 13-14 (Jan. 23, 2024) (granting institution).

Furthermore, Grounds 1-3 based on Randall, which was not of record in prosecution or IPR2023-00087, warrant institution regardless of the status of Sheha-based Grounds 4-7. *Current Lighting Sols., LLC v. Jiaxing Super Lighting Electric Appliance Co., Ltd.*, IPR2023-00270, Paper 18 at 51 (Aug. 16, 2023).

XIV. CONCLUSION

The Board should institute review and cancel claims 1-19.

Dated: 2024-11-15

Respectfully submitted,

/Elisabeth Hunt/

Elisabeth Hunt, Reg. #67,336

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. §42.24, the undersigned certifies that the foregoing Petition for *Inter Partes* Review contains 13,993 words excluding a table of contents, a table of authorities, Mandatory Notices under §42.8, a certificate of service or word count, or appendix of exhibits or claim listing. Petitioner has relied on the word count feature of the word processing system used to create this paper in making this certification.

Date: November 15, 2024

/Dara Del Rosario/
Dara Del Rosario
Paralegal
WOLF, GREENFIELD & SACKS, P.C.

CERTIFICATE OF SERVICE UNDER 37 C.F.R. §42.6(E)(4)

I certify that on November 15, 2024, I will cause a copy of the foregoing document, including any exhibits or appendices filed therewith, to be served via Overnight FedEx at the following correspondence address of record for the patent:

Jeffrey D. Mullen
2212 Hassinger Lane
Glenshaw, PA 15116

Date: November 15, 2024

/Dara Del Rosario/
Dara Del Rosario
Paralegal
WOLF, GREENFIELD & SACKS, P.C.

XV. CLAIM LISTING

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

Claim 1
[1PRE] A system comprising:
[1A] a first wireless telephonic device operable to provide a display screen after a request to locate a second wireless telephonic device from said first wireless telephonic device has occurred and after a confirmation that said first wireless telephonic device has been given a permission by said second telephonic wireless device to locate said second telephonic wireless device,
[1B] wherein said display screen includes a map provided with respect to the location of said first wireless telephonic device,
[1C] said display screen includes indicia on said map representative of a first location,
[1D] said display screen includes indicia representative of a second location obtained from said third wireless telephonic device,
[1E] said display screen includes a distance from said first wireless telephonic device to said first location, and
[1F] said display includes an address associated with said first location.
Claim 2
The system of claim 1, wherein said permission includes several location access rights, wherein each one of said several location access rights are associated with different location resolutions
Claim 3
The system of claim 1, wherein said permission is stored on a server remote to said second wireless telephonic device, said third wireless telephonic device, and said first wireless telephonic device.
Claim 4
The system of claim 1, wherein said third wireless device associates a second permission with said second location to permit said first wireless telephonic device to access said second location.

Claim 5

The system of claim 1, wherein said permission of said second wireless telephonic device is associated with one of several access levels with said first location, said one of said several access levels permits said first wireless telephonic device to access said first location.

Claim 6

[6PRE] A system comprising:

[6A] a wireless telephonic device operable to provide a display screen after a request from said wireless telephonic device for access to a first location of a first wireless device,

[6B] wherein said display screen includes a map provided from a perspective of said wireless telephonic device,

[6C] said display screen includes indicia on said map representative of said first location,

[6D] said display screen includes indicia on said map representative of a second location obtained from a second wireless device, and

[6E] said display screen includes a distance from said wireless telephonic device to said first location,

[6F] said display screen includes a compass,

[6G] said display screen includes a directional arrow representative of the direction of said first location with respect to the location of said wireless telephonic device, and

[6H] a determination is operable to be made to provide on said wireless telephonic device for a travel time from said first location to said wireless telephonic device.

Claim 7

The system of claim 6, wherein said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said first location.

Claim 8

The system of claim 6, wherein said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said

first location and said permission is stored on a server remote to said first wireless device, said second wireless device, and said wireless telephonic device.

Claim 9

The system of claim 6, wherein said first wireless device associates a first permission with said first location to permit said wireless telephonic device to access said first location and said second wireless device associates a second permission with said second location to permit said wireless telephonic device to access said second location.

Claim 10

The system of claim 6, wherein said first wireless device associates one of several access levels with said first location, said one of said several access levels permits said wireless telephonic device to access said first location.

Claim 11

[11PRE] A system comprising:

[11A] a wireless device operable to provide a display screen after a request from said wireless telephonic device for access to a first location of a first wireless device,

[11B] wherein said display screen includes a map from the perspective of said wireless device,

[11C] said display screen includes indicia on said map representative of said first location,

[11D] said display screen includes indicia on said map representative of a second user according to a second location obtained from a second wireless device, and

[11E] said display screen includes a distance from said wireless telephonic device to said first location,

[11F] said display screen includes a compass,

[11G] said display screen includes an address of said first location, and

[11H] said display screen includes a travel time based on at least the first location and the location of said wireless telephonic device.

Claim 12

The system of claim 11, wherein said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said first location.

Claim 13

The system of claim 11, wherein said first wireless device associates a permission with said first location to permit said wireless telephonic device to access said first location and said permission is stored on a server remote to said first wireless device, said second wireless device, and said wireless telephonic device.

Claim 14

The system of claim 11, wherein said first wireless device associates a first permission with said first location to permit said wireless telephonic device to access said first location and said second wireless device associates a second permission with said second location to permit said wireless telephonic device to access said second location.

Claim 15

The system of claim 11, wherein said first wireless device associates one of several access levels with said first location, said one of said several access levels permits said wireless telephonic device to access said first location.

Claim 16

[16PRE] A system comprising:

[16A] a first device operable to identify a user identification on said first device by receiving a login and password from said first device,

[16B] a first location is operable to be recorded of said user identification, based on a location of said first device after said user identification is identified on said first device,

[16C] a first map provided from the perspective of said first location and is operable of being displayed on said first device,

[16D] said first location is operable to be provided to a third device not associated with said user identification,

[16E] said user identification is operable to be identified on a second device by receiving said login and password from a second device,

[16F] a second location is operable to be recorded of said user identification based on a second location of said second device after said user identification is identified on said second device,

[16G] a second map provided from the perspective of said second location and is operable of being displayed on said second device,

[16H] said first location and said second location are different, and

[16I] said second location is operable to be provided a said third device not associated with said user identification.

Claim 17

The system of claim 16, wherein said first device includes a first positioning system, said second device includes a second positioning system, said third device includes a third positioning system, said first location is determined, at least in part, based on said first positioning system, and said second location is determined, at least in part, based on said second positioning system.

Claim 18

The system of claim 16, wherein said first location is provided to said third device based on an access permission of said first location to said third device provided by said identified user on said first device.

Claim 19

The system of claim 16, wherein said first location is recorded on a server remote to said first device, second device, and third device.