

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. IPR2025-00124

Patent No. 8,374,575

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

TABLE OF CONTENTS

MANDATORY NOTICES.....	xi
A. Real Party-In-Interest	xi
B. Related Matters.....	xi
1. United States Patent & Trademark Office	xi
2. USPTO Patent Trial and Appeal Board	xii
3. U.S. District Court for the Eastern District of Texas	xiii
4. U.S. District Court for the Northern District of California.....	xiii
5. U.S. District Court for the Western District of Texas.....	xiii
C. Counsel and Service Information - §42.8(b)(3) and (4).....	xiii
I. INTRODUCTION	1
II. STANDING	1
III. GROUNDS FOR UNPATENTABILITY	2
IV. THE '575 PATENT.....	2
A. Specification Embodiments.....	2
B. Person of Ordinary Skill in the Art (“POSA”).....	4
C. Prosecution History	4
D. Challenged Claims.....	5
V. CLAIM INTERPRETATION	5
VI. GROUND 1: CLAIMS 1-9, 11-12, 30-37 ARE UNPATENTABLE OVER SHEHA, WITH OR WITHOUT FROEBERG	6
A. Sheha (EX1005)	6
B. Mapping to Challenged Claims.....	8
1. Claim 1: [1PRE] A method comprising:.....	8
a. [1A] obtaining a location of a first wireless telephone;.....	9
b. [1B] transmitting said location from said first wireless telephone to a remote server;	10
c. [1C] changing, at the direction of said first wireless telephone, a list of users on said remote server for a profile associated with said first wireless telephone that are	

allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;	10
d. [1D] transmitting said location from said remote server to at least one of said users of said list of users;	17
e. [1E] determining a second location associated with one of said plurality of wireless telephones; and	18
f. [1F] providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location.	18
2. Claim 2: said changing comprises adding an additional user to said list of users.	24
3. Claim 3: transmitting the address of said location to said at least one of said users of said list of users.	25
4. Claim 4: [4A] obtaining the address of said location from a remote information provider; and [4B] transmitting the address of said location to said at least one of said users of said list of users.	26
5. Claim 5: receiving said location by at least one of said plurality of wireless telephones; and displaying said location on said at least one of said plurality of wireless telephones.....	27
6. Claim 6: determining a third location associated with one of said plurality of wireless telephones.	27
7. Claim 7: [7A] receiving said location by at least one of said plurality of wireless telephones; and [7B] displaying the name of said location on said at least one of said plurality of wireless telephones	28
8. Claim 8: determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.	30
9. Claim 9: [9A] receiving said location by at least one of said plurality of wireless telephones; and [9B] displaying a map on said at least one of said plurality of wireless telephones with a marker representative of said location.	31

10. Claim 11: determining a third location of a device based on the IP address of said device; and transmitting said location to said device.....	33
11. Claim 12: receiving manual input for a third location wherein said third user is associated with said manually input third location.	35
12. Claim 30	35
13. Claims 31-37	35
VII. GROUND 2: CLAIM 10 IS UNPATENTABLE OVER SHEHA+RANDALL OR SHEHA+FROEBERG+RANDALL	35
VIII. GROUND 3: CLAIMS 12-29, 38-45 ARE UNPATENTABLE OVER SHEHA+TANAKA OR SHEHA+FROEBERG+TANAKA	36
A. Tanaka (EX1011)	36
B. Sheha-Tanaka/Sheha-Froeberg-Tanaka Combinations.....	37
C. Mapping to Challenged Claims	38
1. Claim 12	38
2. Claim 13	39
a. Previously Addressed Elements.....	39
b. [13D] transmitting an alert message, comprising information associated with said location, from said remote server to a user of said list of users when said user is within a certain distance of said location;	40
3. Claim 14	42
a. Previously Addressed Elements.....	42
b. [14F] determining an identity of a second user for a device by way of a login; and.....	42
c. [14G] transmitting said location to said device	43
4. Claim 15	43
5. Claim 38	43
6. Claims 16-29, 39-45	44

IX. GROUND 4: CLAIM 46 IS UNPATENTABLE OVER SHEHA+TANAKA+RANDALL OR SHEHA+FROEBERG+TANAKA+RANDALL	44
X. GROUND 5: CLAIMS 1-46 ARE UNPATENTABLE OVER RANDALL, WITH OR WITHOUT FROEBERG	45
A. Randall (EX1007-EX1008)	45
B. Mapping to Challenged Claims	47
1. Claim 1: [1PRE]	47
a. [1A]	47
b. [1B]	48
c. [1C]	51
d. [1D]	54
e. [1E]	55
f. [1F]	56
2. Claim 2	59
3. Claim 3	59
4. Claim 4	60
5. Claim 5	61
6. Claim 6	62
7. Claim 7	62
8. Claim 8	64
9. Claim 9	65
10. Claim 10	66
11. Claim 11	66
12. Claim 12	68
13. Claim 13	70
a. Previously Addressed Elements	70
b. [13D]	70
14. Claim 14	72
a. Previously Addressed Elements	72

b. [14F].....	72
c. [14G]	74
15. Claim 15	74
16. Claim 30	74
17. Claim 38	75
18. Claims 16-29, 31-37, 39-46.....	75
XI. NO BASIS EXISTS FOR DISCRETIONARY DENIAL	76
A. Section 314(a).....	76
1. <i>Fintiv</i>	76
a. Stay Potential	76
b. Trial Timing	76
c. Litigation Investment	76
d. Issue Overlap.....	77
e. Litigation Defendants.....	77
f. Other Circumstances	77
2. <i>General Plastic</i>	78
B. Section 325(d).....	79
XII. CONCLUSION.....	79
XIII. CLAIM LISTING	82

TABLE OF AUTHORITIES

CASES

<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (Mar. 20, 2020)	76
<i>BMW of North America, LLC v. Michigan Motor Techs., LLC</i> , IPR2023-01032, Paper 14 (Jan. 29, 2024)	79
<i>Current Lighting Sols., LLC v. Jiaxing Super Lighting Electric Appliance Co., Ltd.</i> , IPR2023-00270, Paper 18 (Aug. 16, 2023)	79
<i>Ford Motor Co. v. Neo Wireless LLC</i> , IPR2023-00763, Paper 28 (Mar. 22, 2024)	78
<i>General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha</i> , IPR2016-01357, Paper 19 (Sept. 6, 2017)	78
<i>KSR v. Teleflex</i> , 550 U.S. 398 (2007)	74
<i>Markforged Inc. v. Continuous Composites</i> , IPR2022-00679, Paper 7 (Oct. 25, 2022)	77
<i>Protect Animals With Satellites LLC v. OnPoint Sys., LLC</i> , IPR2021-01483, Paper 11 (Mar. 4, 2022)	77
<i>Samsung Elects Co., Ltd. v. Mojo Mobility Inc.</i> , IPR2023-01089, Paper 11 (Jan. 11, 2024)	77
<i>Sand Revolution II, LLC, v. Cont’l Intermodal Group–Trucking LLC</i> , IPR2019-01393, Paper 24 (June 16, 2020)	76
<i>Videndum Production Sols., Inc. v. Rotolight Ltd.</i> , IPR2023-01218, Paper 12 (Apr. 19, 2024)	78
<i>Zynga Inc. v. IGT</i> , IPR2022-00368, Paper 7 (Jul. 8, 2022)	76

REGULATIONS

37 C.F.R. §42.100(b)	6
37 C.F.R. §42.104(a).....	1

STATUTES

35 U.S.C. §102(a)	2, 45
35 U.S.C. §102(e)	2, 6, 45
35 U.S.C. §103	2
35 U.S.C. §282(b)	5
35 U.S.C. §325(d)	79

OTHER AUTHORITIES

Director’s Interim Procedure for Discretionary Denials, (June 21, 2022)	76, 77
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APPENDIX LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 8,374,575 (“the ’575 patent”)
1002	Prosecution History of U.S. Patent No. 8,374,575
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	U.S. Patent No. 6,819,919 (“Tanaka”)
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	U.S. Patent No. 6,885,874 (“Grube”)
1018	U.S. Patent No. 6,716,101 (“Meadows”)
1019	U.S. Patent No. 7,366,522 (“Thomas”)
1020	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	International Patent Application Publication No. WO 00/22860 (“Degnbol”)
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 Nov. 1, 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	RESERVED
1043	RESERVED
1044	U.S. Patent No. 6,269,369 (“Robertson”)
1045	U.S. Patent Application Publication No. 2002/0169539 (“Menard”)
1046	U.S. Patent No. 7,681,034 (“Lee”)

Exhibit	Description
1047	RESERVED
1048	RESERVED
1049	RESERVED
1050	RESERVED
1051	U.S. Patent No. 6,674,849 (“Froeberg”)
1052	U.S. Patent No. 5,839,088 (“Hancock”)
1053	U.S. Patent No. 5,583,776 (“Levi”)
1054	U.S. Patent No. 6,867,733 (“Sandhu”)
1055	U.S. Patent No. 6,532,418 (“Chun”)
1056	U.S. Patent No. 6,049,718 (“Stewart”)
1057	U.S. Patent No. 6,609,005 (“Chern-005”)
1058	U.S. Patent No. 6,701,251 (“Stefan”)
1059	U.S. Patent No. 7,796,998 (“Zellner”)
1060	U.S. Patent No. 7,284,033 (“Jhanji”)
1061	U.S. Patent No. 6,757,740 (“Parekh”)
1062	International Patent Application Publication No. WO 01/57696 (“McElligott”)
1063	U.S. Patent No. 6,684,250 (“Anderson”)
1064	U.S. Patent No. 7,296,088 (“Padmanabhan”)
1065	U.S. Patent No. 6,115,611 (“Kimoto”)
1066	U.S. Patent No. 6,823,260 (“Turcotte”)
1067	U.S. Patent No. 6,127,945 (“Mura-Smith”)
1068	U.S. Patent No. 6,633,813 (“Deworetzki”)

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

1. United States Patent & Trademark Office

The application from which U.S. Patent No. 8,374,575 (“the ’575 patent”) issued (U.S. Patent Application No. 11/387,384) 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. 11/462,201 (U.S. Patent No. 9,204,283), filed August 3, 2006;
- U.S. Patent Application No. 11/485,161 (U.S. Patent No. 11,122,418), filed July 12, 2006;
- U.S. Patent Application No. 11/834,674 (U.S. Patent No. 11,234,117), filed August 6, 2007;

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. 11/841,734 (U.S. Patent No. 11,109,218), filed August 20, 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. 8,374,575 also claims priority to U.S. Provisional Application No. 60/367,967, filed March 25, 2002.

2. USPTO Patent Trial and Appeal Board

The '575 patent was at issue in *Apple Inc. v. Mullen Industries LLC*, Case No. IPR2023-00097.

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.

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

The '575 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 '575 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 '575 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 1-46 of the '575 patent (EX1001).

I. INTRODUCTION

The '575 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. Apple's IPR2023-00097 challenging the '575 patent was instituted and then terminated due to settlement during trial.

This Petition presents two sets of grounds against all claims: one set of grounds based on Sheha, under which the Board previously found a reasonable likelihood of unpatentability (IPR2023-00097, Paper 9 at 24-26); and a new ground based on Randall, which has not previously been before the Board. All of the '575 patent's claims are unpatentable under either set of grounds. Declaration of David H. Williams (EX1003, "Williams-Decl."), [0086].

II. STANDING

Petitioners certify that the '575 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	Sheha (EX1005), Froeberg (EX1051)	1-9, 11-12, 30-37	§103
2	Sheha, Froeberg, Randall (EX1007-EX1008)	10	§103
3	Sheha, Froeberg, Tanaka (EX1011)	12-29, 38-45	§103
4	Sheha, Froeberg, Tanaka, Randall	46	§103
5	Randall, Froeberg	1-46	§103

Each reference above is prior art under at least pre-AIA 35 U.S.C. §102(e), even if the claims are entitled to the '575 patent's earliest claimed priority date.

Randall is also prior art under §102(a).

None of these references were relied on by the Examiner during prosecution of the '575 patent.

IV. THE '575 PATENT

A. Specification Embodiments

Generally, the '575 patent discusses techniques to allow one cellphone user to "locate the position of" another user's cellphone, such as determined via the Global Positioning System ("GPS"). EX1001, 1:18-43.

Cellphones in the '575 patent can share their locations with a remote system, from which other users can obtain them. EX1001, 5:7-29. A user can restrict access to their location by identifying authorized users or groups. EX1001, 3:22-30.

FIG. 2's example method to obtain another user's location (below) includes receiving a location request, determining whether the requesting user is authorized, and, if so, providing the location to the requestor.

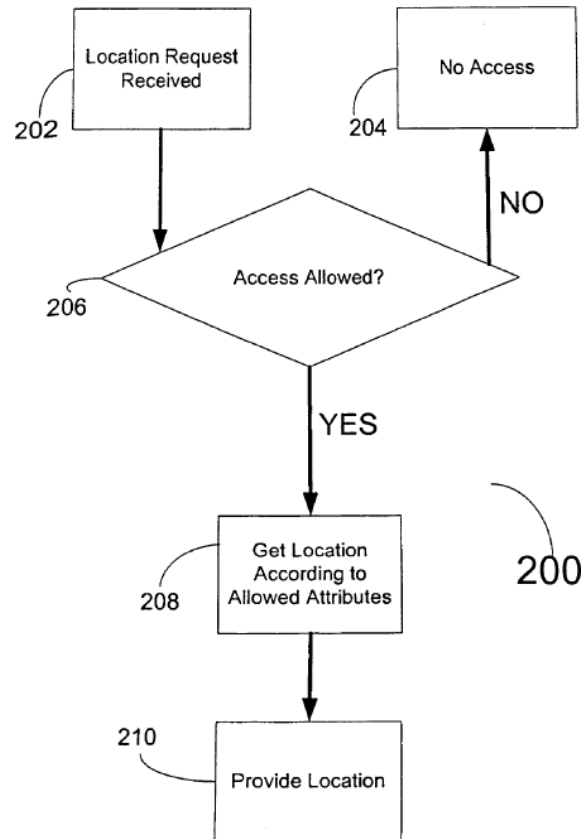


FIG. 2

Received location information may be displayed, as in FIG. 6's example below. EX1001, 7:21-29. The display can include directional information, such as compass information and an arrow showing which way the target user's location is relative to the requesting user. EX1001, 7:41-50.

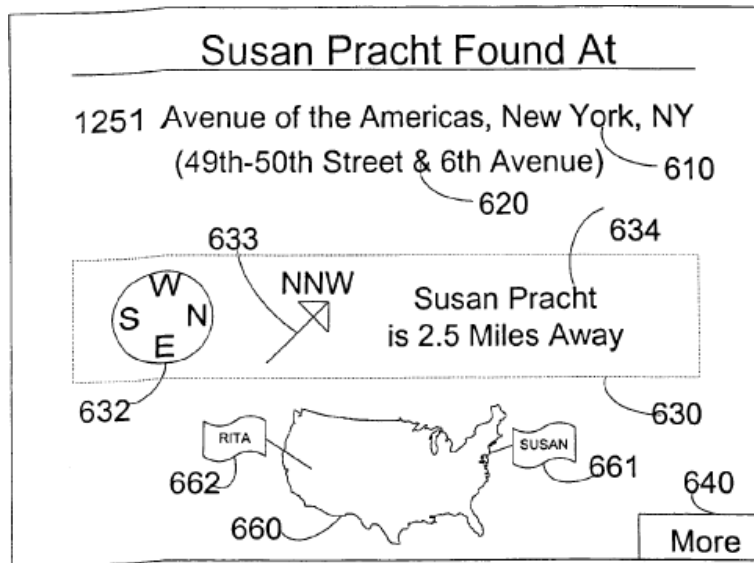


FIG. 6

Williams-Decl., [0055]-[0061].

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

A POSA as of the ’575 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., [0050]-[0054].

C. Prosecution History

The ’575 patent’s application was rejected seven times before being allowed. Eventually, an Examiner’s amendment added “determining a second location

associated with one of said plurality of wireless telephones” and “providing directional information...representative of directions between said location and said second location” to pending independent claim 3, and similar limitations to other pending independent claims. EX1002, 371-77. The claim that issued as claim 14 was also rewritten in independent form from a previously dependent claim. EX1002, 374-75. No reasons for allowance were provided.

D. Challenged Claims

The '575 patent's six independent claims (1, 13-15, 30 and 38) each recite a method comprising obtaining/determining a first wireless telephone's location, and changing a list of users that are allowed to access that location. Claims 1, 13, 15, 30, and 38 each further recite providing directional information representative of directions between the first wireless telephone's location and another wireless telephone's location, while claim 14 instead recites receiving manual input for a second location associated with a second user and transmitting the first wireless telephone's location to the second user's device.

The dependent claims recite further functionality that was routine and conventional before the '575 patent. Williams-Decl., [0062]-[0063].

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 1-9, 11-12, 30-37 ARE UNPATENTABLE OVER SHEHA, WITH OR WITHOUT FROEBERG

Grounds 1-4 together demonstrate how the challenged claims are unpatentable over Sheha, alone or in combination with Froeberg, Randall, and/or Tanaka. The Board previously found a reasonable likelihood of unpatentability based on similar combinations of Sheha with Tanaka. *See* IPR2023-00097, Paper 9 (granting institution). Mullen's arguments made in IPR2023-00097 against these references were wrong as discussed in the sections below, and Mullen's characterizations of Mr. Williams's deposition testimony were inaccurate as Mr. Williams has explained. Williams-Decl., [0437]-[0464].

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., [0075]-[0080]. Thus, Sheha is prior art under pre-AIA 35 U.S.C. §102(e).

Sheha describes enabling functionality like 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 determine their own

positions (e.g., using GPS) and report them to an online database and application server (“ODAS”) which stores them. Sheha, 10:5-16, 10:66-11:54, 7:19-23. The mobile devices may also provide 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 the location of a target mobile device through a phone call (“call embodiment”) or “without having to initiate a telephone call” (“no-call embodiment”) by “only specifying a telephone number.” Sheha, 11:10-54, 11:55-58; *see also id.*, 12:1-7. If authorized, the requesting device receives the position from the ODAS, which may include a map illustrating the location of one or both mobile devices, route information, driving directions, and heading information for display to the user. Sheha, 9:23-39. FIG. 3 (below) illustrates an example system enabling such functionality between mobile devices 18b and 18c via wireless network 22 and ODAS 3.

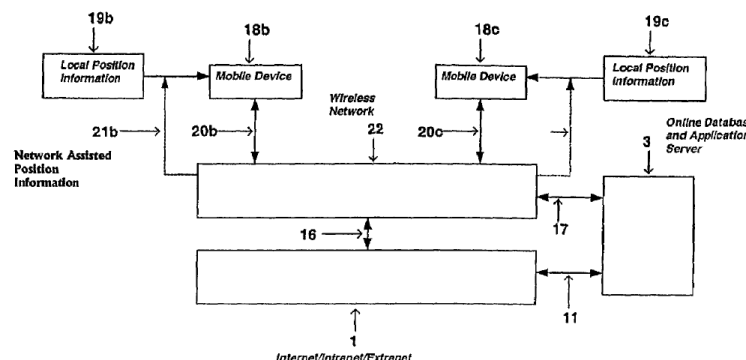


FIG. 3

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

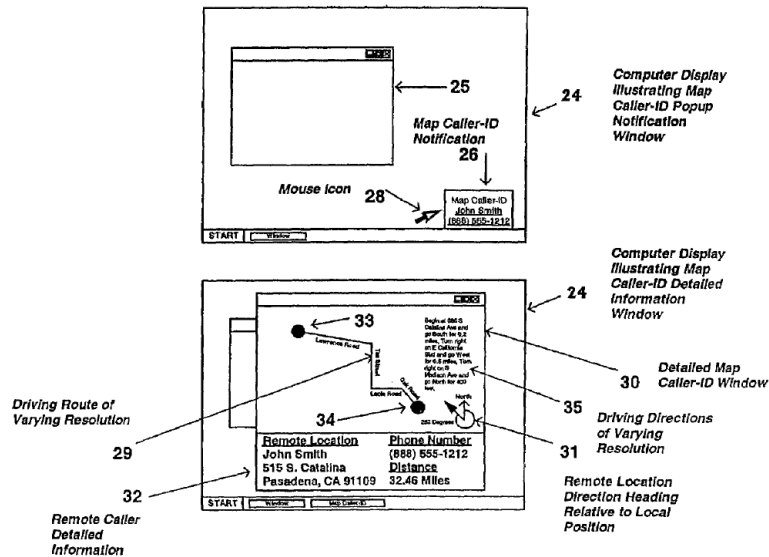


FIG. 5

Williams-Decl., [0088]-[0093].

B. Mapping to Challenged Claims

1. Claim 1: [1PRE] A method comprising:

Sheha describes a “*method*” for “providing real-time position information of one party to another party by utilizing...a mobile telecommunications network.”

Sheha, Abstract;² Williams-Decl., [0094]-[0096].

² Emphases are added unless otherwise indicated.

a. [1A] obtaining a location of a first wireless telephone;

Sheha's system can "determine either or both of the local and remote devices' position information." Sheha, 4:13-18. A mobile-to-mobile configuration is illustrated in Figure 3 (annotated below), where both mobile devices 18b-18c *wirelessly* communicate (20b-20c) with the wireless network 22. Sheha, 10:67-11:35.

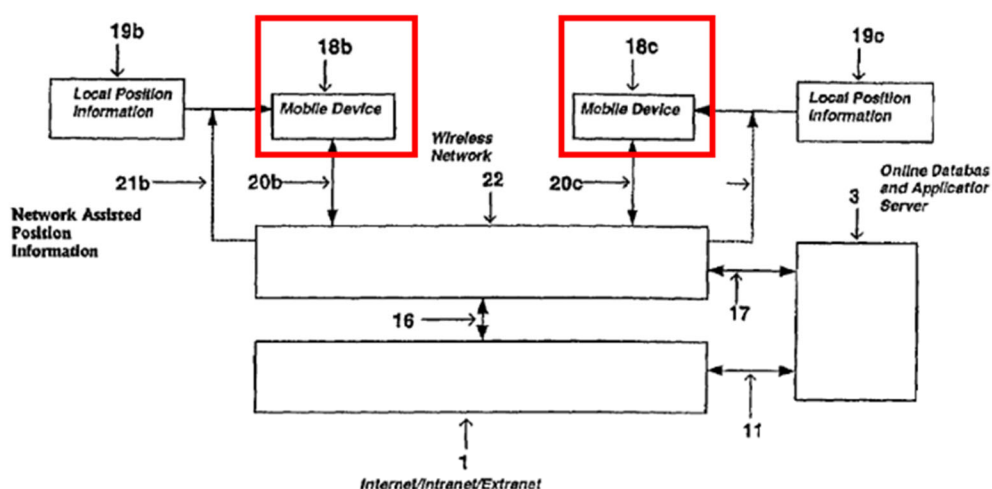


FIG. 3

Mobile devices 18b-18c can be cellular *telephones*. Sheha, 10:66-11:3. Each mobile device can determine its own position and supply it to online database and application server ("ODAS") 3, where it is stored. Sheha, 10:5-16, 11:3-20, 11:44-51, FIG. 3. Thus, Sheha *obtains a location of a first wireless telephone*. Williams-Deci., [0097]-[0099].

b. [1B] transmitting said location from said first wireless telephone to a remote server;

In Sheha, each mobile device “forwards its current position information back to the ODAS” (“online database and application *server*”), which is a *remote server*. Sheha, 11:36-37, 7:21-23, 11:3-37, FIG. 3 (showing ODAS 3 remote from mobile devices 18b-18c); Williams-Decl., [0100]-[0101].

c. [1C] changing, at the direction of said first wireless telephone, a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;

Sheha discloses that each device may have privacy settings, including privacy configuration specifications stored at the server and changed at the direction of the *first wireless telephone*, that “allow the device to prevent or limit other calling devices from obtaining position information.” Sheha, 5:38-46, 11:63-12:7; Williams-Decl., [0102]. Via these privacy settings—also called “permission settings” (Sheha, 5:3-20)—the *first wireless telephone* can specify “*allowance* of position information transfers...only with the device owner’s permission.” Sheha, 5:21-46, 4:59-66, 10:17-26; Williams-Decl., [0102]. The *first wireless telephone’s* privacy/permissions settings information can include “a group database and authorization and authentication protocols” by which the device’s user “can define a group of specific users that have access to” the device’s location information.

Sheha, 11:55-12:7, 4:59-5:20; *see also id.*, 13:65-14:2, 14:54-61, 19:9-13; Williams-Decl., [0102]. The ODAS uses this privacy information to determine whether the *first wireless telephone* has authorized a particular user to obtain its location information. Sheha, 3:22-28, 5:21-46, 8:42-53; *see also id.*, 3:4-14, 4:8-18, 9:59-10:4; Williams-Decl., [0102].

In IPR2023-00097 (Paper 13 at 13-22) Mullen argued that Sheha’s privacy settings are not access rights but only “privacy filters [that] a target mobile device has implemented for incoming position requests” and that are “indiscriminate as to the identity of any requesting mobile device or...user,” and that the privacy settings are not stored on a remote server. *See also* IPR2023-00097, Paper 7 at 25-28. Mullen did not make those arguments about the permissions specified in Sheha’s “group database,” but instead argued that the group database is only “used for landline-to-landline position requests” and is not used in a mobile device embodiment or no-call embodiment, which Mullen treats as disparate embodiments. IPR2023-00097, Paper 13 at 22-34; *see also* IPR2023-00097, Paper 7 at 8-15 (arguing that Sheha discloses four “discrete” embodiments: landline-to-landline phone calls, landline-to-mobile phone calls, mobile-to-mobile phone calls, and no phone calls). Mullen was incorrect.

Sheha does not describe the device-local privacy filters and requester-specific group database of permissions as features of mutually exclusive

embodiments, but rather as complementary privacy/permission specification options available in any embodiment. For example, Sheha describes “utilizing a group database and authorization and authentication protocols to identify users that are permitted to access” position information in the context of having just discussed a “landline-to-landline position request” (11:55-12:1), and then expressly teaches another (mobile) embodiment in which “using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of the landline device” (12:4-7), as well as using “privacy settings” (12:1-4). POSAs would have understood, therefore, that complementary privacy/permission specification options all can coexist within an embodiment.³ Williams-Decl., [0103]-[0104]. This is further corroborated by Sheha’s claims, in which independent claim 47 recites “determining whether the first user is a member of the authorized user *group*” as part of “accessing *privacy* information” for the location of a “communication device,” while in dependent

³ Sheha variously and interchangeably refers to privacy/permission specification options as “privacy settings,” “permission settings,” “privacy configuration,” “position transfer permissions,” etc. Sheha, 4:35-42, 4:59-5:46 (discussing “privacy settings” interchangeably with “permission settings” as applicable to mobile or landline, call or no-call embodiments), 10:17-26, 10:44-11:9.

claim 53 the communication device can be a “mobile telephone.” Sheha, 18:65-19:46 (*see* 19:9-15, 19:44-45); Williams-Decl., [0104].

Sheha thus discloses and at minimum renders obvious that a mobile-to-mobile no-call embodiment may employ both device-local privacy filters and a remote group database specifying which users are authorized for access. Sheha, 4:59-5:20, 11:55-12:7; Williams-Decl., [0105]. When both are employed, POSAs would have understood that a requesting user is only given access to a *first wireless telephone’s* location if the requesting user has permission in the *first wireless telephone’s* group database and to the extent the *first wireless telephone’s* local privacy settings allow location sharing. Sheha, 4:59-5:20, 11:55-12:7; Williams-Decl., [0105].

Sheha thus discloses that the mobile-to-mobile no-call embodiment can use the same “privacy settings” and “authorization and authentication protocols...similarly to” the landline embodiments. Sheha, 12:4-7, 4:59-5:20; Williams-Decl., [0106]. Mullen argued that this “statement” in Sheha about “authorization and authentication protocols” “merely indicates...using a login and password” (IPR2023-00097, Paper 13 at 30-31), but again Mullen was incorrect. Although “authentication” uses a login and password, “authorization” involves more—e.g., determining whether the authenticated user is ***authorized*** to access the information being requested, such as in a permissions database. Williams-Decl.,

[0106]; *see also* Sheha, 8:42-53 (“ODAS 3 us[es] authentication and authorization protocols” to “verify the level of authority each user is granted.”).

Alternatively, even if Sheha did not explicitly disclose using the group database permissions in mobile-to-mobile embodiments, doing so would have been an obvious variation because allowing a mobile user to specify a group of other mobile users who have permission to access the user’s location (or to provide access permission on an individual-user basis) was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. Williams-Decl., [0107]-[0110] (citing corroborating EX1054 (“Sandhu”), 5:35-50; EX1022 (“Darling”), 3:3-5, 22:23-40; 33:16-32; EX1007 (“Randall”), [0052], [0070], [0136], [0144]-[0148]).

Thus, in Sheha, the *first wireless telephone*’s “user[] can define a group of specific users...that are permitted to access” the *first wireless telephone*’s “position information” (Sheha, 11:63-12:7)—i.e., *a list of users that are allowed to access said location*. Williams-Decl., [0111]. Each identified user in the group (*list*) can be *representative of one of a plurality of wireless telephones*, because Sheha references controlling access to position information by “users” and “calling devices” interchangeably, and because Sheha describes “defin[ing] a group of specific users that have access to [position] information” in the context of “[a] *mobile* or landline device...request[ing] position information of another mobile or

landline device.” Sheha, 5:38-46, 11:55-12:7; Williams-Decl., [0111]. Defining such a list where *each user is representative of one of a plurality of wireless telephones* was also obvious as a well-known beneficial option with reasonable expectation of success as discussed above. Williams-Decl., [0111] (citing Sandhu, Randall).

In the ’575 patent, a “user profile” can be part of “a login feature,” in which the profile is an “identifier” that is “logged into” via a user’s “device[]” “[i]n order for [the] user[] to be identified.” EX1001, 9:39-46; Williams-Decl., [0112]. Similarly, in Sheha’s system, “every telephone account user has a username and password for the ODAS” to identify “that a particular user is signed-on to the system on a particular device,” and the ODAS consults “users’ account information” when servicing position sharing requests. Sheha, 8:38-53, 11:10-35; Williams-Decl., [0112]. POSAs would have understood these disclosures to teach that each user has *a profile associated with* the user and their device (including the *first wireless telephone*) that the ODAS consults in determining what settings the user has specified regarding location sharing. Williams-Decl., [0112].

Sheha teaches embodiments where the “authorization and authentication protocols” which involve the *list of users* in the “group database” (Sheha, 11:63-12:7) are implemented *on said remote server* (the ODAS). See Sheha, 3:4-13, 4:8-18, 7:22-23, 8:42-53 (“ODAS 3 us[es] authentication and authorization protocols”

to “verify the level of authority each user is granted” (as specified in the group database)), 9:61-10:4; Williams-Decl., [0113]. Because the *first wireless telephone*’s “user[] can define a group of specific users that have access to” that user’s device’s position information as part of that user’s specified location-sharing settings (Sheha, 11:55-12:7), POSAs would have understood that this *list of users on said remote server* is for the *profile associated with said first wireless telephone*. Williams-Decl., [0113].

Alternatively, implementing the *first wireless telephone*’s list of authorized users *on said remote server for a profile associated with said first wireless telephone* would have been obvious because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. Williams-Decl., [0114]-[0118] (citing corroborating EX1054 (“Sandhu”), 5:8-6:22; EX1007 (“Randall”), [0511]-[0514]; EX1015 (“Friedman ”), 12:60-13:21; EX1022 (“Darling”), 3:1-5).

Because Sheha discloses that a wireless telephone user can “define” a list of users who are allowed to access their location and can “choose not to reveal its local position to the destination remote mobile device for privacy purposes at anytime and can conversely enable position transfer permissions at anytime,” POSAs would have understood that the list may be changed *at the direction of said first wireless telephone*. Sheha, 5:9-20; 11:63-12:7; Williams-Decl., [0119].

Alternatively, it would have been obvious to provide functionality allowing for *changing* the list of users *at the direction of said first wireless telephone*, because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's, and it would have been apparent to POSAs from Sheha's above teachings and POSAs' background knowledge that users commonly desire and expect the ability to change who has access their location rather than being limited to the same list forever. Williams-Decl., [0119]-[0126] (citing corroborating EX1007 ("Randall"), [0509]); EX1022 ("Darling"), 23:3-13, 33:3-34:3; EX1035 ("Degnbol"), 9:34-10:3, 11:16-26; EX1044 ("Robertson"), FIG. 9, 8:11-14; EX1045 ("Menard"), FIG. 10, [0067]-[0068]; EX1046 ("Lee"), FIG. 2D, 16:1-25).

d. [1D] transmitting said location from said remote server to at least one of said users of said list of users;

Sheha discloses that "[w]hen a mobile device's position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user's device." Sheha, 12:1-7; *see also id.*, 4:59-5:46, 11:49-51 ("The ODAS 3 periodically updates each mobile device with the other's position information"). Therefore, Sheha discloses *transmitting said location from said remote server* to the requesting device if that device's user is among *said list of users* that are allowed to access the *first wireless telephone's* location (as discussed *supra* §VI.B.1.c ([1C])). Williams-Decl., [0127]-[0128].

e. [1E] determining a second location associated with one of said plurality of wireless telephones; and

As discussed *supra* §VI.B.1.a ([1A]), in Sheha's system, two *wireless telephones* (e.g., mobile devices 18b-18c) can share their locations with each other via the ODAS. Sheha, 4:13-18, FIG. 3, 10:66-11:54; *see* 11:20-23 ("The ODAS 3 receives both...users' account information, and position information for both mobile devices"), 11:49-50 ("The ODAS 3 periodically updates each mobile device with the other's position information"). Thus, *a second location* (e.g., of device 18c) is determined in addition to the *location of a first wireless telephone* (e.g., 18b). Williams-Decl., [0129]. As discussed *supra* §VI.B.1.c ([1C]), where a *first wireless telephone's* (e.g., 18b's) user has "define[d] a group of specific users that have access to this information" (Sheha, 11:63-12:7), this two-way location sharing will occur only if device 18c's user is one of the specified users in that group—i.e., 18c is *one of said plurality of wireless telephones*. Thus, Sheha's method *determines a second location associated with one of said plurality of wireless telephones*. Williams-Decl., [0129]-[0130].

f. [1F] providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location.

Sheha discloses using a remote mobile device's location "to obtain driving *directions* to that device," such that if both wireless telephones grant access to their

respective position information, this “can be used for real-time driving directions or collaboration purposes.” Sheha, 5:21-34; Williams-Decl., [0131]. “The ODAS 3 periodically updates each mobile device with the other’s position information, thus *providing* real-time driving *directions* and route information.” Sheha, 11:49-51. Sheha thus teaches *providing directional information* that is *representative of directions between* the two devices’ locations *to said one of said plurality of wireless telephones*. Williams-Decl., [0131].

This functionality is illustrated in Sheha’s FIG. 5 (annotated below), which shows a “Map Caller-ID” screen with *directional information representative of directions* (“driving route 29” and “driving directions 35”) between *said location* (location 33 of the *first wireless telephone*) and *said second location* (location 34 of the device displaying the map). Sheha, 9:23-34; Williams-Decl., [0132].

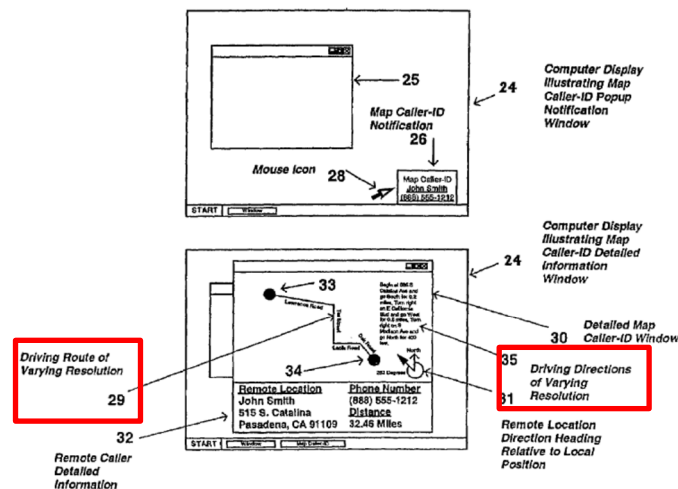
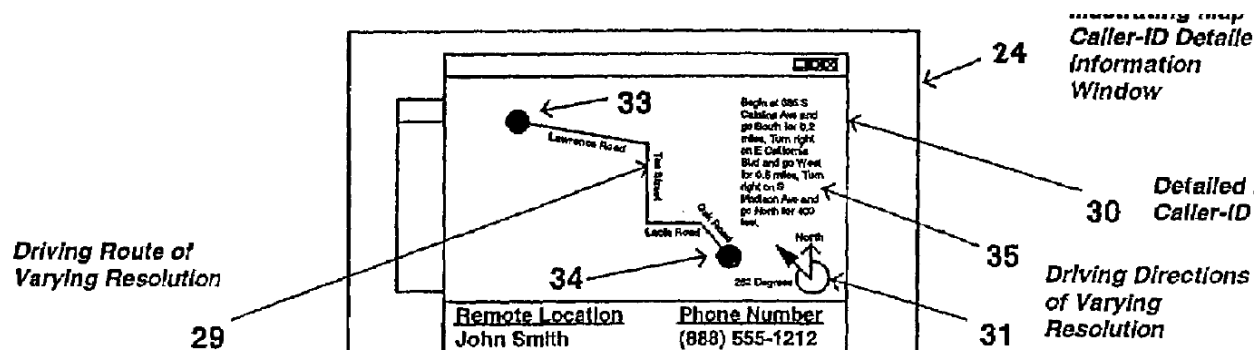


FIG. 5

In IPR2023-00097, Mullen “argue[d]” that Sheha’s “mobile device calculates the navigational information, not ODAS 3.” IPR2023-00097, Paper 9 at 23 (citing Paper 7 at 40-41). As the Board found for institution purposes, [1F] recites “*providing directional information*” to the wireless telephone, not “calculating” a specific navigational route at the remote server. *Id.* at 23. And Sheha’s ODAS provides *directional information* by “periodically updat[ing] each mobile device with the other’s position information, thus providing real-time driving directions and route information.” *Id.* at 23-24 (quoting Sheha, 11:20-51); Williams-Decl., [0133]. “*Directional information*” is a broad term, as the ’575 patent makes clear by proposing many possible examples of “*directional information*,” one of which is “a map” of “the requested, the requesting user’s location or both,” and another of which is simply information allowing display of an “arrow...to indicate where the requested user’s location is relative to” the requesting user’s location. EX1001, 7:41-8:9; Williams-Decl., [0133]. POSAs would have understood the position information the ODAS provides to be *directional information*. Williams-Decl., [0133].

After institution in IPR2023-00097, Mullen proposed construing “*directions*” as “instructions indicating how to navigate from one location to another location.” IPR2023-00097, Paper 13 at 4. Sheha’s “driving directions and

route information” that “[t]he ODAS...provid[es]” (Sheha, 11:49-51, FIG. 5) meet that construction. Williams-Decl., [0134].



Sheha, FIG. 5 (excerpt).

Mullen argued that Sheha’s ODAS does not “generate[] driving directions” and send them “*to* the mobile devices,” but only “send[s] position information” that the mobile devices use to “generat[e] directions.” IPR2023-00097, Paper 13 at 37-38. But [1F] only requires “*providing directional information*” to the wireless telephone, not *sending directions* to the telephone. Rather than reciting “providing directions” to the telephone, [1F] was deliberately phrased more broadly to only require providing “*directional information*” to the telephone. And rather than reciting that the provided “*directional information*” *is* directions or *includes* directions, again [1F] was deliberately phrased more broadly to only require the “*directional information*” to be “*representative of directions.*” The ’575 patent’s specification never uses the phrase “*representative of,*” and thus sets forth no description limiting how provided “*directional information*” can be “*representative of directions.*” Williams-Decl., [0135]. The ’575 patent’s

specification also contains no limiting definition of the word “*providing*,” and never says that the only way something can be “*provid[ed]...to*” a device is by transmitting that thing to the device. Williams-Decl., [0135]. Sheha explicitly teaches that by the ODAS updating “each mobile device with the other’s position information,” this is “thus *providing* real-time driving *directions* and route information.” Sheha, 11:49-51. POSAs would have understood that by providing position information to the wireless telephone for the express purpose of generating directions to that position, Sheha’s ODAS is “*providing directional information...representative of directions.*” Sheha, 11:49-51; Williams-Decl., [0135].

Alternatively, generating the *directions* between the two mobile devices’ locations at the ODAS and transmitting the *directions* from the ODAS to one or both mobile devices would have been an obvious implementation of Sheha’s system to, e.g., reduce storage and/or processing requirements at the mobile device, in view of POSAs’ background knowledge of the well-known design choice and reasonable expectation of success to do so. Williams-Decl., [0136]-[0143] (citing corroborating EX1051 (“Froeberg”), Abstract, FIG. 1, 1:40-65, 3:30-4:26, 7:5-46; EX1055 (“Chun”), FIG. 4, 2:28-34, 4:30-51, 7:40-8:4; EX1056 (“Stewart”), 8:12-37).

For example, Froeberg (EX1051), like Sheha, relates to “a cellular telephone providing a map and driving directions for a remote location associated with a remote telephone number.” Froeberg, 1:6-10; Williams-Decl., [0137]. Like Sheha’s mobile devices, Froeberg’s “user telephone 12 may include a geodetic location device 26, such as a global positioning system (GPS) receiver,” that “provides the local location as a geodetic location such as latitude and longitude.” Froeberg, 3:46-52. Froeberg teaches that in such a system (like Sheha’s), “the server” can “reverse geocode[] the geodetic location to a local street network address segment,” “create[] a route and driving directions between the local street network segment” (i.e., the user telephone’s location) “and the remote street network segment” (i.e., the remote telephone’s location), and “transmit[] the driving directions...to the user telephone” to “display[] the driving directions to the user of the user telephone.” Froeberg, 4:4-26; Williams-Decl., [0137]. POSAs would have been motivated to implement Sheha’s ODAS to generate the claimed *directions* for transmission to one or both mobile devices in view of, e.g., Froeberg’s teachings that doing so allows storage and/or processing requirements for generating *directions* to be implemented server-side, thus reducing such requirements locally at the mobile device. Froeberg teaches to implement driving directions functionality via a server-side “reverse street segment geocoder” with “a database of geodetic coordinates and street network segments” and a server-side

“route generator” (Froeberg, FIG. 5, 7:5-22), that then need not be implemented locally at the user telephone (Froeberg, FIG. 4, 4:27-6:20). Williams-Decl., [0137]. POSAs would have reasonably expected success because Froeberg teaches how this may be successfully implemented in a system like Sheha’s with a server serving client wireless telephones. Williams-Decl., [0138]-[0139].

2. Claim 2: said changing comprises adding an additional user to said list of users.

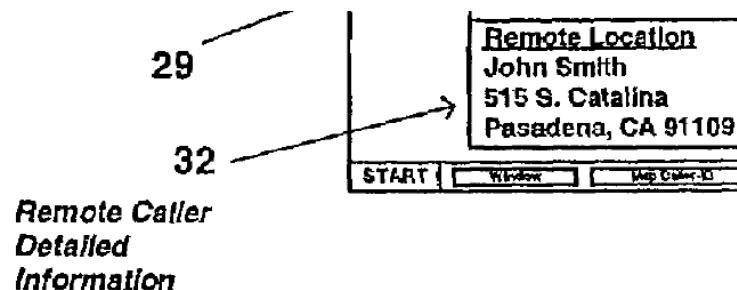
As discussed *supra* §VI.B.1.c ([1C]), it would have been immediately apparent to POSAs that “defin[ing] a group of specific users that have access to” the user’s location (Sheha, 11:63-12:7) includes adding users to the group list, and that one way to “enable position transfer permissions at anytime” (Sheha, 5:9-20) for another user is by *adding an additional user to said list of users* in the group who have access to the position information. Williams-Decl., [0144].

Alternatively, as also discussed *supra* §VI.B.1.c ([1C]), it would have been obvious in view of POSAs’ background knowledge to provide functionality allowing for *changing* the list of users. It would have been obvious to allow such *changing* to include *adding an additional user* because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. Williams-Decl., [0145]-[0146] (citing corroborating EX1007 (“Randall”), [0509]); EX1022 (“Darling”), 23:3-13, 33:43-34:3; EX1035

(“Degnbol”), 9:34-10:3, 11:16-26; EX1044 (“Robertson”), FIG. 9, 8:11-14; EX1046 (“Lee”), FIG. 2D, 16:1-25).

3. Claim 3: transmitting the address of said location to said at least one of said users of said list of users.

As discussed *supra* §VI.B.1.f ([1F]), Sheha discloses displaying a Map Caller-ID as in FIG. 5, which includes directional information *transmitted* to a mobile device. The Map Caller-ID “may include local *address* position information.” Sheha, 7:27-31; *see also id.*, 2:43-48, 11:34-36, 14:42-46 (claim 7: “caller position information includes...address information”). Map Caller-ID information is *transmitted* by the ODAS to each mobile device. Sheha, 11:44-51. FIG. 5 illustrates *the address of said location* having been *transmitted to* and being displayed to *said at least one of said users of said list of users*. Williams-Decl., [0147].



Sheha, FIG. 5 (excerpt).

Transmitting the address of a mobile device’s *location* from the server to another mobile device was also obvious functionality to provide, because doing so

was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's. Froeberg, Abstract, 1:40-65, 3:30-4:26, 7:5-46; Williams-Decl., [0148]-[0155] (citing corroborating EX1056 ("Stewart"), 8:12-37; EX1054 ("Sandhu"), 4:34-5:8, 6:22-50; EX1057 ("Chern-005"), 3:7-14; EX1018 ("Meadows"), 4:61-5:19, FIG. 3).

4. Claim 4: [4A] obtaining the address of said location from a remote information provider; and [4B] transmitting the address of said location to said at least one of said users of said list of users.

Sheha/Sheha-Froeberg meets [4B] as discussed *supra* §VI.B.3 (claim 3). Williams-Decl., [0167]-[0168].

As to [4A], Sheha discloses that "[t]he ODAS determines...position information" of a landline phone "by performing a reverse telephone number lookup, thus retrieving both geographical and *address* information of the called telephone." Sheha, 7:51-55. POSAs would have had motivation and reasonably expected success to also allow the ODAS to look up address information based on position information provided by a mobile phone. Sheha, 10:5-16; Williams-Decl., [0156]. Reverse geocoding a mobile phone's geo-coordinates to obtain the location's address was a well-known technique with reasonable expectation of success. Froeberg, 4:4-7, 7:5-46; Williams-Decl., [0157]-[0161] (citing corroborating EX1056 ("Stewart"), 8:12-23; EX1054 ("Sandhu"), 4:34-5:8; EX1057 ("Chern-005"), 3:7-14). POSAs would have been motivated to provide

this address retrieval functionality for mobile devices in Sheha's system to assist in navigation/routing between mobile devices. Williams-Decl., [0162].

POSAs would have understood the database from which the server *obtains* the reverse geocoded address to be *a remote information provider*. Williams-Decl., [0163]. It was also a known, obvious design option for an application server like Sheha's ODAS to forward a client mobile device's geo-coordinates to another server (*remote information provider*) to perform the reverse geocoding and return the address to the ODAS for transmission to an authorized user. Williams-Decl., [0163]-[0166] (citing corroborating EX1057 ("Chern-005"), 11:2-10; EX1058 ("Stefan"), FIGs. 1-2, 3:38-60, 4:66-5:10, 7:32-48).

5. Claim 5: receiving said location by at least one of said plurality of wireless telephones; and displaying said location on said at least one of said plurality of wireless telephones

As discussed *supra* §VI.B.1.f ([1F]), one of the *wireless telephones* that the *first wireless telephone's* user has authorized to access *said location* receives that location and *displays* it in a Map Caller-ID screen as in Sheha's Figure 5. Sheha, 4:52-58 ("[A] map and address of the destination telephone number can be *displayed on the mobile telephone.*"); Williams-Decl., [0169]-[0170].

6. Claim 6: determining a third location associated with one of said plurality of wireless telephones.

Sheha discloses that for two mobile devices in motion, each device continuously determines and sends its updated position to the ODAS and to the

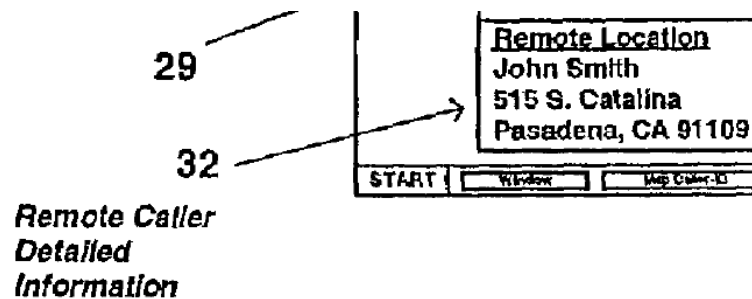
other device. Sheha, 11:37-51. After device 18b's initial *location* (*supra* §VI.B.1.a ([1A])) and device 18c's initial *second location* (*supra* §VI.B.1.e ([1E])) are determined, a subsequent position update with a new position for device 18c *determines a third location associated with one of said plurality of wireless telephones*. Williams-Decl., [0171]-[0172].

Additionally, device 18b's "user[]" can define a group of specific *users* that have access to" 18b's location (Sheha, 11:63-12:7), in which, for example, both device 18c and another device ("18d," perhaps) may be among *said plurality of wireless telephones* whose users (plural) are in the group. Williams-Decl., [0173]. POSAs would have understood that Sheha's description of devices 18b and 18c sharing their locations with each other (Sheha, 10:66-11:54) is just one representative example, and two-way location sharing can also be performed between, e.g., device 18b and another user having device 18d. Williams-Decl., [0173]. In this additional way, *a third location associated with* wireless telephone 18d is determined. Williams-Decl., [0173]-[0174].

7. Claim 7: [7A] receiving said location by at least one of said plurality of wireless telephones; and [7B] displaying the name of said location on said at least one of said plurality of wireless telephones

Sheha meets [7A] as discussed *supra* §VI.B.1.f ([1F]), §VI.B.5 (claim 5), by receiving and displaying the Map Caller-ID. Williams-Decl., [0175].

As to [7B], Sheha discloses displaying in the Map Caller-ID screen “identification information 32” of the *first wireless telephone*’s location. Sheha, 9:23-36. In the FIG. 5 example, the identification includes at least two *names* shown as representing the “Remote Location”—the name “John Smith,” and the city name “Pasadena, CA.” Sheha, FIG. 5; *see* EX1001, 8:2-6 (broadly referencing “area names”); Williams-Decl., [0176].

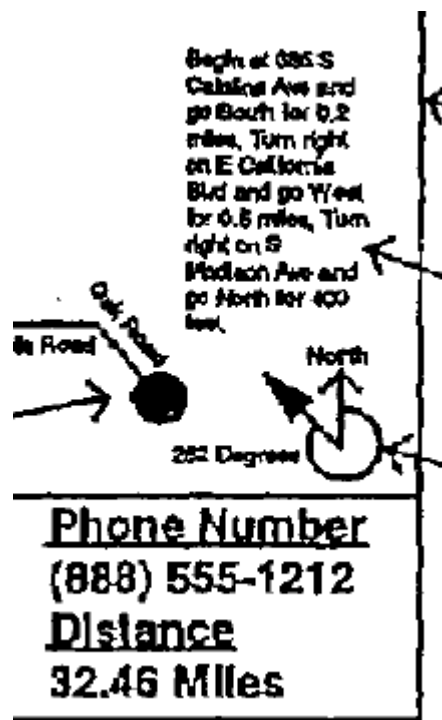


Sheha, FIG. 5 (excerpt).

Alternatively, it would have been obvious to *display the name of said location* to help the other device user understand where that location is, in view of POSAs’ background knowledge of the well-known design choice and reasonable expectation of success to do so when displaying a mobile device’s location. Williams-Decl., [0177]-[0181] (citing corroborating EX1059 (“Zellner”), 4:4-32; EX1018 (“Meadows”), Abstract, 6:1-6; EX1060 (“Jhanji”), 11:12-19).

8. **Claim 8: determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.**

Sheha discloses “provid[ing]...line-of-sight (LOS) *distance*, and curved earth LOS *distance* measurements between the local and remote positions” of the two *wireless telephones*. Sheha, 3:29-34. These distances, and “[a]dditionally...driving direction *distance* information for the optimal route” between the two *wireless telephones* can be *determined* for display in the Map Caller-ID. Sheha, 9:23-39, FIG. 5; Williams-Decl., [0182]-[0183].



Sheha, FIG. 5 (excerpt).

9. **Claim 9: [9A] receiving said location by at least one of said plurality of wireless telephones; and [9B] displaying a map on said at least one of said plurality of wireless telephones with a marker representative of said location.**

Sheha meets [9A] and [9B]'s *displaying a map on said at least one of said plurality of wireless telephones* as discussed *supra* §VI.B.1.f ([1F]), §VI.B.5 (claim 5), §VI.B.7 (claim 7), by receiving and displaying the Map Caller-ID.

Further, the Map Caller-ID can include *a marker representative of said location of the first wireless telephone*. Sheha, 9:23-39, FIG. 5 (excerpted and annotated below, markers representing locations 33 and 34 of both devices); Williams-Decl., [0184]-[0185].

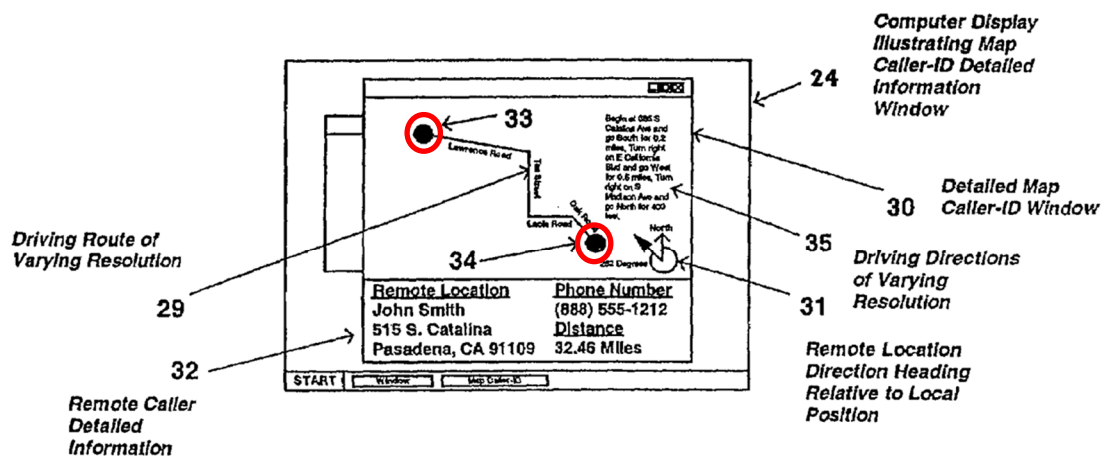


FIG. 5

In IPR2023-00097 (Paper 13 at 41-46), Mullen argued that Sheha's "map" displayed "on the mobile telephone" at 4:52-58 is not "a graphical map[]" like

FIG. 5 and cannot be received without a phone call. These assertions are wrong.

FIG. 5 is the only type of “map and address” (Sheha, 4:52-58) display illustrated in Sheha, and nothing in Sheha suggests that the “map” discussed at 4:52-58 would be anything other than graphical. Williams-Decl., [0186]. While Sheha (12:8-41) explains that *some* embodiments use an “accompanying device” that “is better suited for navigational displays and computations” than a “typical mobile navigational device” which may be “not optimal for navigational purposes,” *other* embodiments can still display the “map...on the mobile telephone” as discussed at 4:52-58. Williams-Decl., [0186]. And Sheha teaches that the no-call embodiment only differs from the phone-call embodiment in how the device “request[s] position information” (Sheha, 11:55-12:7), not in how that information is displayed. Williams-Decl., [0186].

Alternatively, Froeberg teaches that a cellular telephone can display such a map received from the server, without a call to/from the other telephone. Froeberg, 3:23-30, 5:6-59. Implementing Sheha to display the map on the requesting wireless device with a marker representative of the location of the target wireless device, with or without a phone call, would have been obvious in view of POSAs’ background knowledge of the convenient option and reasonable expectation of success in doing so. Williams-Decl., [0187]-[0196] (citing corroborating EX1007 (“Randall”), [0021], p. 29; EX1054 (“Sandhu”), 6:22-50;

EX1014 (“Wollrab”), FIGs. 1-4C; EX1017 (“Grube”), FIG. 2, 4:38-57, 5:13-17, 6:14-27, 6:59-7:6); EX1018 (“Meadows”), 2:2-7, 3:59-67, 5:48-57, FIG. 4B).

10. Claim 11: determining a third location of a device based on the IP address of said device; and transmitting said location to said device.

Sheha teaches that mobile devices can bidirectionally share locations with other mobile devices or landline devices. Sheha, 4:43-58, 9:40-10:65, 11:55-58. Sheha’s ODAS can therefore *transmit said location* of the *first wireless telephone* to a *device* that is non-mobile, and can transmit that landline *device’s third location* to the *first wireless telephone*. Williams-Decl., [0197]. To accommodate this functionality involving a non-mobile device that may often be without GPS capability, POSAs would have been motivated and reasonably expect success to implement the ODAS to *determine the third location of that device based on the IP address of said device*. Williams-Decl., [0197]. Sheha teaches that “stationary landline computing devices are not always associated with telephone numbers, but rather ***Internet Protocol (IP) addresses***,” and Sheha’s “invention relates to...the utilization of unique identification addresses, such as telephone numbers or ***Internet Protocol (IP) addresses***, for...providing real-time location information.” Sheha, 2:11-14, 1:15-22. It was further background knowledge for POSAs that a device’s IP address was conventional information to use to determine its geographic location in lieu of GPS. Williams-Decl., [0197]-[0202] (citing

corroborating EX1061 (“Parekh”), 4:64-67 (describing “ascertain[ing] the geographic location of an IP address”); EX1062 (“McElligott”), 7:8-12 (“The geographical location of an IP address can be deduced if the geographical location of an IP address that shares the same router is known.”); EX1063 (“Anderson”), 1:26-31 & 7:57-8:31 (using IP address “to estimate a geographic location”).

Additionally, POSAs would have had motivation and reasonably expected success to *determine a third location of a mobile device based on the IP address of said device*, as an alternative to GPS when the device had inadequate GPS reception, such as inside a building or blocked line-of-sight. Williams-Decl., [0203] (citing corroborating EX1064 (“Padmanabhan”), 2:28-29 (“GPS is ineffective indoors.”)). It was well-known background knowledge to determine a wireless device’s location based on its IP address, which indicates the nearest network access point that has a known geographical location. Williams-Decl., [0204]-[0209] (citing corroborating EX1065 (“Kimoto”), 37:47-57, 51:7-13, 53:13-22; EX1066 (“Turcotte”), 10:54-67; EX1062 (“McElligott”), Abstract, 7:8-12).

11. Claim 12: receiving manual input for a third location wherein said third user is associated with said manually input third location.

Sheha discloses requesting a *third location* of a device, which may be *associated with a third user*, by *receiving manual input* of that device's telephone number. Sheha, 11:55-12:7; Williams-Decl., [0210]-[0211].

12. Claim 30

Claim 30 recites elements substantively identical to elements [1PRE]-[1A], and [1C]-[1F], and is met for the reasons discussed *supra* §VI.B.1 (claim 1). Williams-Decl., [0212].

13. Claims 31-37

The additional limitations in claims 31-37 are identical to those in claims 2-8, and are met for the reasons discussed *supra* §§VI.B.2-VI.B.8 (claims 2-8). Williams-Decl., [0213].

VII. GROUND 2: CLAIM 10 IS UNPATENTABLE OVER SHEHA+RANDALL OR SHEHA+FROEBERG+RANDALL

In a system like Sheha's where users' wireless devices send their GPS locations to a server for sharing with other users, Randall (EX1007-EX1008; *see* Randall overview *infra* §X.A) teaches to equip the wireless device with a “**Beacon Button**,” whereby “*you can tell the phone to send your location.*” EX1007, p. 30; *see also* p. 24 (“People tracking”); Williams-Decl., [0214]-[0215]. These teachings would have provided POSAs motivation and reasonable expectation of

success to supplement Sheha or Sheha-Froeberg by implementing such a Beacon Button in Sheha's mobile device, to provide a convenient way for users to trigger a location update to the server. Williams-Decl., [0215].

The "Beacon Button" is *a locate button provided on said first wireless telephone*, and by the user pressing the "Beacon Button" to "tell the phone to send [its] location" (EX1007, p. 30), *the location is obtained by way of manual input that is received by way of the locate button*. Williams-Decl., [0216].

VIII. GROUND 3: CLAIMS 12-29, 38-45 ARE UNPATENTABLE OVER SHEHA+TANAKA OR SHEHA+FROEBERG+TANAKA

A. Tanaka (EX1011)

Tanaka describes alerting wireless users to other wireless users who are nearby. Tanaka, Abstract, claim 20. Users may request searches including a search radius and user profile items of interest. Tanaka, 5:56-7:1. Tanaka's server alerts the user when another user with a matching profile comes within the search radius.

Tanaka, 6:60-7:5, claim 20, FIG. 4 (below). A user's location can be determined via their device's "integrated GPS," or "the user could manually enter his position into the mobile unit." Tanaka, 2:58-3:20. Williams-Decl., [0217]-[0219].

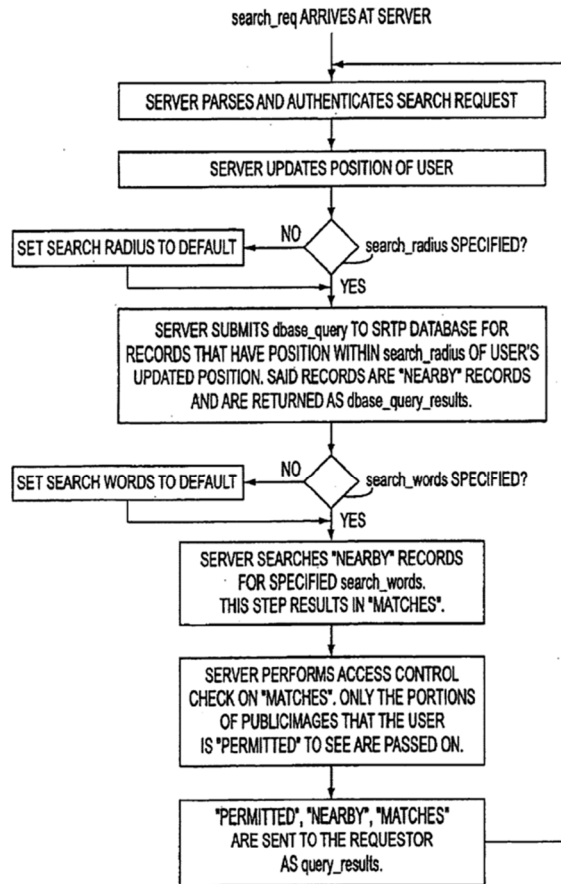


FIG. 4

B. Sheha-Tanaka/Sheha-Froeberg-Tanaka Combinations

POSAs would have been motivated to incorporate alert functionality into Sheha's system (with or without Froeberg) in view of Tanaka's teachings, to enhance Sheha's location services with notifications when another wireless user of interest is nearby, allowing users to obtain directions, locate nearby friends for a social visit, etc. Williams-Decl., [0220], [0066]-[0074]. POSAs would also have been motivated to incorporate easy/intuitive ways for users to send location information, such as Tanaka's manual input functionality. Williams-Decl., [0220]. POSAs would have reasonably expected success because Tanaka concerns shared

location services using the type of wireless-device location information available to authorized requestors in Sheha, and incorporating functionality taught by Tanaka into Sheha's similar system would have involved only ordinary software development efforts within POSAs' capabilities. Williams-Decl., [0220].

C. Mapping to Challenged Claims

1. Claim 12

Tanaka teaches that “the user could manually enter his position into the mobile unit, either by typing” or “tapping a map or location in a table.” Tanaka, 2:58-3:20; *see also* 6:15-37, 7:49-52, 8:44-47, 10:11-14. The manually entered location is sent to the server. Tanaka, 6:18-37. Froeberg also teaches to allow the user to “enter...a local street address” as an alternative to GPS-provided location. Froeberg, 3:46-54; Williams-Decl., [0221]-[0222]. POSAs would have been motivated to provide such *manual input* alternatives so a user can update their location to the server, e.g., when GPS reception is unreliable or inaccurate, and would have reasonably expected success as discussed *supra* §VIII.B. Williams-Decl., [0222]. POSAs also would have been motivated to provide this alternative for users concerned about “privacy” or “power requirement[s]” with GPS, who may prefer to sometimes share their location “by tapping on a map” or a “dropdown list” while other times using “GPS” as “a substitute for or a supplement to the current location information entered by the user.” Williams-Decl., [0223]-

[0225] (quoting corroborating EX1060 (“Jhanji”), 3:43-58, 9:18-38, 9:66-10:15, 11:61-12:4).

This *manual input* can be received from any user of the Sheha-Tanaka/Sheha-Froeberg-Tanaka system, including a *third user* manually inputting that user’s *third location*. Williams-Decl., [0226]-[0227].

2. Claim 13

a. Previously Addressed Elements

Sheha-Tanaka/Sheha-Froeberg-Tanaka meets the following elements of claim 13 for the reasons discussed in the corresponding section above. Williams-Decl., [0228]-[0243].

Element:	Addressed in Section:
[13PRE]	§VI.B.1 ([1PRE])
[13A]	§VI.B.1.a ([1A])
[13B]	§VI.B.1.b ([1B])
[13C]	§VI.B.1.c ([1C])
[13E]	§VI.B.1.e ([1E])
[13F]	§VI.B.1.f ([1F])

- b. [13D] transmitting an alert message, comprising information associated with said location, from said remote server to a user of said list of users when said user is within a certain distance of said location;**

As discussed *supra* §VIII.B, Sheha-Tanaka/Sheha-Froeberg-Tanaka incorporates Tanaka’s teaching to alert a mobile device user (which in Sheha’s system is *a user of said list of users*—i.e., one of the *first wireless telephone* user’s contacts who is authorized to access the *first wireless telephone*’s location—as discussed *supra* §§VI.B.1.c-VI.B.1.d ([1C]-[1D])) when that user is geographically close to another mobile device user (e.g., to *said location* of the *first wireless telephone*). Tanaka, Abstract, 7:61-64, 8:56-59, 10:24-27; Williams-Decl., [0232]. Tanaka teaches allowing the user to submit a search request specifying search parameters, including a search radius specifying a *distance*. Tanaka, Abstract, 6:10-7:1; Williams-Decl., [0232]. The server automatically notifies the user (i.e., *transmits an alert message*) when another user satisfying the search parameters is “within the search radius” (i.e., *within a certain distance*). Tanaka, 6:49-66, 7:28-30, 7:61-64, 8:56-59, 10:24-27. The notification *comprises information associated with said location* because it informs the user that the *location* of the *first wireless telephone* is near the user’s current location. Tanaka, 6:60-66; Williams-Decl., [0232]. Additionally, including the *first wireless telephone*’s *location* in the proximity notification was a well-known, obvious design option with reasonable

expectation of success. Williams-Decl., [0232]-[0235] (citing corroborating EX1013 (“De-Vries”), 10:64-67; EX1035 (“Degnbol”), 5:16-18).

In IPR2023-00097 (Paper 13 at 35), Mullen argued that Tanaka’s “search request is not directed to, nor is capable of, targeting a specific pre-identified user, like the ‘first wireless telephone’” because Tanaka allegedly identifies only “unknown users.” Mullen was incorrect. Tanaka teaches that “*if* Person B is not a member of any access control group previously defined by Person A, Person B accesses” a “limited” version of “Person A’s PublicImage.” Tanaka, 4:27-31. This immediately teaches and would have rendered obvious to POSAs that the user at the device being alerted can alternatively be a member of an “access control group previously defined by” the other device’s user—that is, a friend/contact of the *first wireless telephone* user who has already given the user being alerted permission to access the *first wireless telephone* user’s location and profile by including that friend/contact in *said list of users*. *Id.*; Williams-Decl., [0236]. POSAs would have understood from background knowledge that providing alerts for geographic proximity of a specific pre-identified known contact was desirable with reasonable expectation of success. Williams-Decl., [0236]-[0241] (citing corroborating EX1007 (“Randall”), p. 24 (“Old buddy finder”); EX1013 (“De-Vries”), Abstract, 9:1-31; EX1022 (“Darling”), 38:6-12).

3. Claim 14

a. Previously Addressed Elements

Sheha-Tanaka/Sheha-Froeberg-Tanaka meets the following elements of claim 14 for the reasons discussed in the corresponding section above. Williams-Decl., [0244]-[0254].

Element:	Addressed in Section(s):
[14PRE]	§VI.B.1 ([1PRE])
[14A]	§VI.B.1.a ([1A])
[14B]	§VI.B.1.b ([1B])
[14C]	§VI.B.1.c ([1C])
[14D]	§VI.B.1.d ([1D])
[14E]	§VI.B.11 (claim 12), §VII (claim 10), §VIII.C.1 (claim 12)
[14H]	§VI.B.11, §VIII.C.1 (claim 12)

b. [14F] determining an identity of a second user for a device by way of a login; and

Sheha teaches “entering a unique identification token” for “authentication and authorization procedures.” Sheha, 3:4-10. “[E]very telephone account user has a username [*login*] and password,” and the “ODAS 3 correlates...users’ identifications...using authentication and authorization protocols” to “establish that

a user is genuine” and “that a *particular user* is signed-on to the system on a *particular device*.” Sheha, 8:40-53. Thus, Sheha discloses *determining an identity of a second user for a device by way of a login*. Williams-Decl., [0250]-[0251].

c. [14G] transmitting said location to said device

Sheha’s “authentication and authorization protocols” use the username and password to “verify the level of authority [that particular] user is granted, such as for differentiating services provided by the ODAS.” Sheha, 8:40-50. This includes the ODAS determining whether that user has permission to obtain the location of a requested device. Sheha, 5:21-46, 11:63-12:7. Thus, if the *first wireless telephone* user has authorized the *second user* discussed *supra* §VIII.C.3.b ([14F]) to access the *first wireless telephone*’s location, the ODAS *transmits said location to said device* in the manner discussed *supra* §VI.B.1.d ([1D]). Williams-Decl., [0252]-[0253].

4. Claim 15

Claim 15 is identical to claim 13 except that [15A] recites “*obtaining*” where [13A] recites “*determining*.” Claim 15 is met for the same reasons as claim 13, *supra* §VIII.C.2 (claim 13), §VI.B.1 (claim 1). Williams-Decl., [0255].

5. Claim 38

Claim 38 recites elements substantively identical to elements [15PRE]-[15A], and [15C]-[15F], and is met for the reasons discussed *supra* §VIII.C.4 (claim 15), §VIII.C.2 (claim 13), §VI.B.1 (claim 1). Williams-Decl., [0256].

6. Claims 16-29, 39-45

Sheha-Tanaka/Sheha-Froeberg-Tanaka meets the limitations added by the following claims for the reasons discussed in the corresponding section above.

Williams-Decl., [0257]-[0263].

Claims:	Limitation Addressed in Section:
16, 23, 39	§VI.B.2 (claim 2)
17, 24, 40	§VI.B.3 (claim 3)
18, 25, 41	§VI.B.4 (claim 4)
19, 26, 42	§VI.B.6 (claim 6)
20, 27, 43	§VI.B.7 (claim 7)
21, 28, 44	§VI.B.8 (claim 8)
22, 29, 45	§VI.B.9 (claim 9)

IX. **GROUND 4: CLAIM 46 IS UNPATENTABLE OVER SHEHA+TANAKA+RANDALL OR SHEHA+FROEBERG+TANAKA+RANDALL**

It would have been obvious to incorporate into Sheha-Tanaka/Sheha-Froeberg-Tanaka Randall's Beacon Button meeting claim 46's recited limitation, for the reasons discussed *supra* §VII (claim 10). Williams-Decl., [0264].

X. GROUND 5: CLAIMS 1-46 ARE UNPATENTABLE OVER RANDALL, WITH OR WITHOUT FROEBERG

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., [0081]-[0083] (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], [0086], [0085]-[0115]; Williams-Decl., [0266]-[0270].

“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 user[’]s location...could add a ‘map’ application to their own devices, which could show their position on digital maps and also, by using the location attribute of the user’s data object, it could also show the position of the user.” Randall, [0021]. In this example, the “personal information...and location based information” is “handled by contacts...and map type applications” coordinating together to provide the service. Randall, [0021]-[0022], [0025]; Williams-Decl., [0271].

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., [0272]-[0273]. 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. Mapping to Challenged Claims

1. Claim 1: [1PRE]

Randall teaches a “*method* of enabling a wireless information device to access data.” Randall, Abstract, [0002], [0006]. As discussed *supra* §X.A, the method provides access control for a wireless device user to track the location of another wireless device user. Williams-Decl., [0274]-[0275].

a. [1A]

Randall’s system includes “*wireless* information device[s],” which can be “radio *telephones*, smart *phones*,” etc. Randall, [0002]. Randall discusses some examples involving Alice and Bob, who are both users of wireless information devices. Randall, [0053], [0491] (“Bob’s...mobile phone”), [0505] (“Alice’s mobile device”); Williams-Decl., [0276]. Alice’s device is an exemplary *first wireless telephone* (as is Bob’s, because POSAs would have understood that Randall presents Alice and Bob as arbitrary examples illustrating functionality that is equally available to any wireless information device in Randall’s system). Williams-Decl., [0276]; *see, e.g.*, Randall, [0053] (“Consider Alice...and Bob”—language introducing Alice and Bob as generic examples), [0510] (“Bob’s details” are downloaded to “Alice’s...device” just as “Alice’s contact” is provided to “Bob’s device[.]”), [0144] (“The user” (generic to Alice or Bob) “must be able to

switch location information on for a person or group of people”). 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., [0276].

“[R]esident on the wireless information device” is a “location application (which gives a user’s location and includes digital maps).” Randall, [0009], [0021]. “That *location data can be obtained* via a GPS wireless information device” that provides “the location of the GPS wireless information device.” Randall, p. 24 (Table 4, “People Tracking”), p. 29 (“Route Finder:” “the phone knows where you are” using “[a] system similar to GPS tracking in cars, but for mobile phones”). Thus, Randall teaches *obtaining a location of (Alice’s) first wireless telephone*. Williams-Decl., [0277]-[0278].

b. [1B]

Alice’s “location data can be obtained via a 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”). The i-server is an “internet server[.]”—a “server on the Internet”—which POSAs would have known is a *remote server*. Randall, [0029], [0053], [0030] (“application resident on the device

queries and receives data from the *remote*, extensible database”), FIG. 4 (showing the system’s servers located remotely from the wireless devices); Williams-Decl., [0279].

For example, “Alice stores her data on a *server* on the Internet.” Randall, [0053]. As shown in Table 1, one of the fields in Alice’s “i-Data” (“Identity”) database on the i-server is her device’s “GPS *location*.” Randall, [0503]-[0512], [0116]-[0136] (“Identity” used for sharing “Location information”); Williams-Decl., [0280].

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

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

Randall, Table 1 (annotated).

Thus, Alice's *location* is *transmitted* from Alice's *first wireless telephone* to the i-server (*remote server*). Williams-Decl., [0281]-[0282].

c. [1C]

In Randall's system, each user is "authenticat[ed]...when they access their data" using their "WID and password/passphrase." Randall, [0380]. Alice's data ("Alice's i-Data") is in a "database" on the "i-server" which she can access via her "mobile device to allow her to manage her data." Randall, [0502]-[0505]; Williams-Decl., [0283]. Alice thus has *a profile associated with her first wireless telephone* in the i-server database. Williams-Decl., [0283].

Randall's "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 discussed *supra* §X.B.1.b ([1B]) and shown in Table 1, one of the fields in Alice's "i-Data" database on the i-server is information about her device's "GPS *location*," and she can designate that field as being accessible to a particular list of users—in the Table 1 example, she has designated "GPS location" as accessible to users whom she has designated as part of the "i-Group" called "partner;" POSAs would have understood that she could similarly designate it to be accessible to a different i-Group, such as "friends" or "family." Randall, [0503]-[0512], [0021] ("[t]he

user’s friends or parents etc” can be “allowed...to track his or her location”); Williams-Decl., [0284]. Such “sensitive information,” as location 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)”). Such “[a]ccess 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, the users Alice has designated as having access to her GPS location are *a list of users on said remote server for a profile associated with said first wireless telephone* (Alice’s iData profile on the i-server) *that are allowed to access said location.* Williams-Decl., [0284].

A user’s “contacts database” on Randall’s i-server—called their “Universe”—“is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]. “Table 2” is “an example” of “Alice’s Universe, which shows how contacts are assigned to...iGroup[s], thus defining the level of access they get to Alice’s data.” Randall, [0511].

TABLE 2

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

Randall teaches that at least some of these users in Alice’s Universe have their own wireless information devices. Randall, [0512] (“people in the list” can “look[] at” the user’s information “using an application on their...wireless information devices”), Appendix 1 p. 25 (user’s “address book” of contacts includes “mobiles you regularly phone”), [0511], Table 2 (showing “Number” of each contact). Thus, Alice can choose wireless user contacts to assign to the i-Group designated to have access to her GPS location, such that *each user of said list of users is representative of one of a plurality of wireless telephones*. Williams-Decl., [0285]-[0286].

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’” (or, POSAs would have understood, another i-Group—e.g., “partner”). Randall, [0509]. This is a “method[] of making contacts into members of a particular i-Group”—i.e., *changing the list of users* in that i-Group—which Alice can use via

her device (i.e., *at the direction of said first wireless telephone*) to provide permission for Bob’s device to access information about her device’s location, making Bob one of the *users* of the *list of users*. Randall, [0509], [0495]; Williams-Decl., [0287]-[0288].

d. [1D]

“When one of the people in [Alice’s contact] list...looks at Alice’s ADS Number, (using an application on their...wireless information device[])”—e.g., when Bob’s device requests Alice’s location information—“they see a view onto Alice’s personal data that is defined by Alice.” Randall, [0512], [0049], [0053], [0067], [0509] (“Bob” is Alice’s “contact” and has “access” to Alice’s “information”); Williams-Decl., [0289]. “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.” Randall, [0049]. “[T]he server recognis[es] Bob’s device and determin[es] the database access rights which Alice has given him,” and then “[o]nce authenticated, the server passes to Bob’s device the information it requests.” Randall, [0067]. This “enabl[es] authorised people to track the location of the GPS wireless information device by polling the server” which has been “updated with the location of” Alice’s device. Randall, p. 24 (Table 4, “People tracking”); Williams-Decl., [0289].

Thus, Randall's system *transmits* Alice's *location from said remote server to at least one of said users of said list of users* (e.g., Bob). Williams-Decl., [0289]-[0291].

e. [1E]

Randall teaches that “a user might choose to subscribe to a service which allowed others to track his or her location. ... Once the user [e.g., Alice] has subscribed to the location service, then the 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.” Randall, [0021]. Thus, Randall teaches *determining a second location associated with* Bob's wireless telephone, to show Bob's location on his own device. Williams-Decl., [0292]. Bob's *second location* is also determined when Bob's “[w]ireless information device alerts Bob when a contact happens to be within a defined proximity” of Bob's location. Randall, p. 24 (“Old buddy finder”); Williams-Decl., [0292].

Another way Randall meets [1E] is because, as discussed *supra* §X.B.1.a ([1A]), POSAs would have understood Randall's example of Alice sharing her location with Bob to be a generic example that is equally applicable to Bob sharing his location with Alice. Williams-Decl., [0293]; Randall, [0067] (“Bob also has stored on the server his own personal information”). 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, Bob can also “choose to subscribe to [the] service which allowed others to track his...location” (Randall, [0021]), thus *determining* Bob’s *second location* and transmitting it to the i-server. Williams-Decl., [0293]-[0294].

f. [1F]

Randall provides a “Route finder” service, “similar to GPS tracking in cars, but for mobile phones. You identify where you want to go, the phone knows where you are already. It can therefore give you *step by step instructions* on how to get there (eg. Turn left at the next lights. Carry on 100 metres. Go straight over the roundabout).” Randall, p. 29. These “instructions” meet Mullen’s proposed construction of *directions* as “instructions indicating how to navigate from one location to another location” (IPR2023-00097, Paper 13 at 4). Williams-Decl., [0295].

Further, Randall provides a “Rendezvous” service “on your mobile phone to help you meet friends and family in crowded or unfamiliar places. Temporarily you can elect to have your location visible to others—so using your phones everyone in your group can tell precisely where the others are.” Randall, p. 29.

Randall teaches that “[a]t the touch of a button, your phone can display a map of the area you are standing in” (Randall, p. 29) and it can also “show [your] position” and “the position of [another] user” (Randall, [0021]). POSAs would have understood and found it obvious from these disclosures that another user’s position can be “where you want to go” in Randall’s “Route finder,” which can “give you step by step instructions on how to get there” (Randall, p. 29).

Williams-Decl., [0296]. As discussed *supra* §X.A, Randall teaches that applications share information and coordinate to provide services of interest to users. POSAs would have had motivation and reasonably expected success to use, e.g., Alice’s location (which is provided to Bob’s device by the i-server as discussed *supra* §X.B.1.d ([1D])) as a “Rendezvous”-type destination in the “Route finder” service on Bob’s device to provide Bob directions to Alice’s location. Williams-Decl., [0296].

Thus, Randall teaches, or at minimum renders obvious, *providing directional information to Bob’s wireless telephone, representative of directions between Alice’s location and Bob’s second location*. Williams-Decl., [0297].

To the extent [1F] requires calculating the *directions* remotely and sending them to the *wireless telephone* (which [1F] does not require, as discussed *supra* §VI.B.1.f), generating the *directions* between Bob’s and Alice’s locations at the i-server and transmitting the *directions* from the i-server to Bob’s device would have

been an obvious implementation of Randall's system to, e.g., reduce storage and/or processing requirements at the wireless device[s], in view of POSAs' background knowledge of the well-known design choice and reasonable expectation of success to do so. Williams-Decl., [0298]-[0305] (citing corroborating EX1051 ("Froeberg"), Abstract, FIG. 1, 1:40-65, 3:30-4:26, 7:5-46; EX1055 ("Chun"), FIG. 4, 2:28-34, 4:30-51, 7:40-8:4; EX1056 ("Stewart"), 8:12-37).

For example, Froeberg (EX1051), like Randall, relates to "a cellular telephone providing a map and driving directions for a remote location associated with a remote telephone number." Froeberg, 1:6-10; Williams-Decl., [0299]. Like Randall's wireless devices, Froeberg's user telephone provides its "geodetic location such as latitude and longitude" using GPS. Froeberg, 3:46-52. Froeberg teaches that in such a system (like Randall's), "the server" can "reverse geocode[] the geodetic location," "create[] a route and driving directions," and "transmit[] the driving directions...to the user telephone" to "display[] the driving directions to the user of the user telephone." Froeberg, 4:4-26; Williams-Decl., [0299]. POSAs would have been motivated to implement Randall's i-server to generate the claimed *directions* for transmission to Bob's wireless device in view of, e.g., Froeberg's teachings that doing so allows storage and/or processing requirements for generating *directions* to be implemented server-side, thus reducing such requirements locally at the mobile device. Froeberg teaches to implement driving

directions functionality via a server-side “reverse street segment geocoder” with “a database of geodetic coordinates and street network segments” and a server-side “route generator” (Froeberg, FIG. 5, 7:5-22), that then need not be implemented locally at the user telephone (Froeberg, FIG. 4, 4:27-6:20). Williams-Decl., [0299]-[0300]. POSAs would have reasonably expected success because Froeberg teaches how this may be successfully implemented in a system like Randall’s with a server serving client wireless telephones. Williams-Decl., [0299]-[0301].

2. Claim 2

As discussed *supra* §X.B.1.c ([1C]), Randall teaches that *said changing comprises* Alice “promoting Bob from” one i-Group to another to “change [his] level of access.” Randall, [0509]. Adding Bob to the i-Group that has access to Alice’s location information is *adding an additional user to said list of users*. Williams-Decl., [0306]-[0307]; *see, e.g.*, Randall, [0503]-[0512].

3. Claim 3

When Bob accesses Alice’s data on the i-server (including her location, as discussed *supra* §X.B.1 (claim 1)) “using” his “wireless information device[],” he “see[s] a view onto Alice’s personal data” that is a subset of, e.g., Table 1. Randall, [0512], *compare* Table 3 ([0512]) *with* Table 1 ([0505]); Williams-Decl., [0308]. In Table 1, an example “GPS location” is “London W1, Seymour St.,” which is *the address of said location* of Alice’s *first wireless telephone*. Randall,

[0505]; Williams-Decl., [0308]. That example in the “view” Bob “see[s]” of Alice’s data on the i-server (Randall, [0512]) discloses *transmitting the address* to Bob, who is *said at least one of said users of said list of users* discussed *supra* §X.B.1.d ([1D]). Williams-Decl., [0308].

Additionally, *transmitting the address* of a wireless device’s *location* from the server to another wireless device user who is accessing that location was obvious functionality to provide, because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Randall’s. Froeberg, Abstract, 1:40-65, 3:30-4:26, 7:5-46; Williams-Decl., [0309]-[0316] (citing corroborating EX1056 (“Stewart”), 8:12-37); EX1054 (“Sandhu”), Abstract, 4:34-5:8, 6:22-50; EX1057 (“Chern-005”), 3:7-14; EX1018 (“Meadows”), 4:61-5:19, FIG. 3).

4. Claim 4

Randall meets [4B] as discussed *supra* §X.B.3 (claim 3). Williams-Decl., [0327].

As to [4A], Alice’s example iData on the i-server in Table 1 include a “GPS location” mapped to “London W1, Seymour St.” (Randall, [0505]); therefore the i-server *obtains the address of said location*. Williams-Decl., [0317]. Froeberg teaches, and it was background knowledge, that such a server obtains the address from a database (e.g., “a database of geodetic coordinates and street network

segments”) (i.e., *a remote information provider*) to reverse geocode the mobile phone’s geo-coordinates to obtain the address of the location, with reasonable expectation of success. Williams-Decl., [0318]-[0323] (quoting Froeberg, 7:5-46; citing further corroborating EX1056 (“Stewart”), 8:12-23; EX1054 (“Sandhu”), 4:34-5:8; EX1057 (“Chern-005”), 3:7-14).

It was also a known, obvious design option for an application server like Randall’s i-server to forward a client device’s geo-coordinates to another server (*remote information provider*) to perform the reverse geocoding and return the address to the i-server for transmission to an authorized user. Williams-Decl., [0324]-[0326] (citing corroborating EX1057 (“Chern-005”), 11:2-10; EX1058 (“Stefan”), FIGs. 1-2, 3:38-60, 4:66-5:10, 7:32-48).

5. Claim 5

Bob’s *one of said plurality of wireless telephones receives Alice’s location* as discussed *supra* §X.B.1.d ([1D]).

Bob’s device *displays Alice’s location* when Bob’s “‘map’ application...show[s] the position of” Alice, who has “subscribe[d] to [the] service which allowed others to track...her location.” Randall, [0021]; Williams-Decl., [0328]-[0330].

6. Claim 6

As discussed *supra* §X.B.1.c ([1C]), Alice can set her *list of users* who are allowed to access her location to include any number of users corresponding to a *plurality of wireless telephones*. One example may be Bob; another may be “Peter,” who is listed in exemplary Table 2 as part of the “partner” i-Group that has access to Alice’s “GPS location” in exemplary Table 1. Randall, [0505] (Table 1), [0511] (Table 2); Williams-Decl., [0331].

Randall teaches that any user’s “location data can be obtained via a GPS wireless information device, which transmits location information to the i-server.” Randall, p. 24 (“People tracking”). Thus, POSAs would have understood Randall to teach *determining a third location associated with, e.g., Peter’s one of said plurality of wireless telephones*. Williams-Decl., [0332].

Randall’s system also *determines a third location associated with Bob’s one of said plurality of wireless telephones* when Bob’s device “up-date[s]” the i-server with its new location (i.e., a *third location* subsequent to the *second location* discussed *supra* §X.B.1.e ([1E])) as Bob’s device moves. Randall, p. 24 (“People tracking”); Williams-Decl., [0333]-[0334].

7. Claim 7

Randall meets [7A] as discussed *supra* §X.B.1.d ([1D]), §X.B.5 (claim 5).

As to [7B], Alice’s device can determine its location for reporting to the i-server via GPS, or “[a]lternatively, a Bluetooth pod.” Randall, p. 24 (“People tracking”). As discussed *supra* §X.B.3 (claim 3), when Bob accesses Alice’s data (including her location, as discussed *supra* §X.B.1 (claim 1)) “using” his “wireless information device[,]” he “see[s] a view onto Alice’s personal data” that is a subset of, e.g., Table 1. Randall, [0512], *compare* Table 3 ([0512]) *with* Table 1 ([0505]); Williams-Decl., [0335]-[0336]. In Table 1, an example “GPS location” is “London W1, Seymour St.,” and an example “Bluetooth location” is “Sentinel room 2.” Randall, [0505]. Each example is a *name of Alice’s location*. Williams-Decl., [0336]. Either of those examples in the “view” Bob “see[s]” of Alice’s data (Randall, [0512]) are *displaying the name of said location* on Bob’s *wireless telephone*. Williams-Decl., [0336].

Alternatively, it would have been obvious to *display the name of Alice’s location* as part of allowing Bob to track Alice’s location (Randall, [0021], p. 24 “People tracking”) to help Bob understand where Alice is, in view of POSAs’ background knowledge of the well-known design choice and reasonable expectation of success to do so when displaying the location of a mobile device. Williams-Decl., [0337]-[0341] (citing corroborating EX1059 (“Zellner”), 4:4-32; EX1018 (“Meadows”), Abstract, 6:1-6; EX1060 (“Jhanji”), 11:12-19).

8. Claim 8

Claim 8 is met in several ways.

First, Randall provides that “you can tell the phone to send your location to [friends] in an instant, letting them *see how far away you are.*” Randall, p. 30 (“The Beacon Button”). When Alice lets Bob see how far away she is, POSAs would have understood this to involve *determining the distance between Alice’s first wireless telephone and Bob’s one of said plurality of wireless telephones.* Williams-Decl., [0342]-[0343].

Second, Randall’s “Old buddy finder...alerts Bob when a contact happens to be *within a defined proximity.*” Randall, p. 24. POSAs would have understood that one of a finite number of known options for determining whether Alice’s and Bob’s devices are within a defined proximity involves *determining the distance between the two wireless telephones.* Williams-Decl., [0344].

Third, as discussed *supra* §X.B.1.f ([1F]), POSAs would have understood that Alice’s location can be “where [Bob] want[s] to go” in Randall’s “Route finder,” which can “give [Bob] 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. POSAs would have understood that once Bob is on the final leg of the route, the system will *determine the distance between Alice’s*

and Bob's devices to tell Bob how many more "metres" to "[c]arry on." Williams-Decl., [0345].

Alternatively, it would have been obvious to implement Randall's "Route finder" to *determine the distance between Alice's and Bob's wireless telephones* when Alice's location is "where [Bob] want[s] to go," in view of POSAs' background knowledge that it was conventional for "system[s] similar to GPS tracking in cars" (Randall, p. 29) to determine the distance from the user's device to the desired destination, to aid the user in planning their trip. Williams-Decl., [0346]-[0353] (citing corroborating EX1056 ("Stewart"), 8:12-37; EX1025 ("Wako"), FIG. 7, 9:18-28, 2:12-34; EX1067 ("Mura-Smith"), 8:45-61, FIGs. 8A-8B; EX1068 ("Deworetzki"), 4:55-5:7, FIG. 2; EX1041 ("Tobin"), [0028], FIG. 1C).

9. Claim 9

Randall meets [9A] as discussed *supra* §X.B.1.d ([1D]), §X.B.5 (claim 5), §X.B.7 (claim 7).

As to [9B], once Alice "has subscribed to the location service, then [Alice's] friends[] [including 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]. Thus, Bob's *wireless telephone displays a map* with Alice's *location*. Williams-Decl., [0354]-[0355]. POSAs would have

understood that Alice’s “position” is a *location* and “show[ing]” it on the map would involve displaying a *marker*. Williams-Decl., [0355].

Alternatively, it would have been obvious to implement showing Alice’s location by displaying a *marker* at that location on the map, because displaying a marker was well-known in POSAs’ background knowledge as a beneficial and commonly used option for representing a location of interest (including a current location of a person’s wireless telephone) on a digital map. Williams-Decl., [0356]-[0362] (citing corroborating EX1014 (“Wollrab”), 4:40-58, FIG. 4B (markers 44-2 through 44-5); EX1018 (“Meadows”), FIGs. 4B, 5B; EX1005 (“Sheha”), FIG. 5; EX1017 (“Grube”) 4:38-57, 6:14-27, 6:59-7:6).

10. Claim 10

Randall’s “Beacon ***Button***” provides “[a] function that lets you send a very quick burst of information to friends,” whereby “***you can tell the phone to send your location to them*** in an instant, letting them see how far away you are.”

Randall, p. 30. Randall’s “Beacon Button” meets claim 10’s recitations as discussed *supra* §VII. Williams-Decl., [0363]-[0364].

11. Claim 11

Randall teaches that a user like Bob can be “[a]uthenticat[ed]” to access his data and Alice’s data on the i-server, not only from his own wireless device, “but also where Bob borrows someone else’s wireless information device or uses a

public device.” Randall, [0067]. POSAs would have understood that a public device may often be a non-mobile device without GPS capability, and Bob (or another user) may still wish to update the i-server with his location (Randall, p. 24, “People tracking”) and receive Alice’s location (Randall, [0021]) at that public device to help find each other (Randall, p. 29, “Rendezvous”). Williams-Decl., [0365]. To accommodate this sort of scenario, POSAs would have been motivated and reasonably expected success to allow the i-server to *transmit Alice’s location* to Bob at *said device* that he is using (in the manner discussed *supra* §X.B.1.d ([1D])), and to *determine a third location of that device based on the IP address of said device*. Williams-Decl., [0365].

As discussed *supra* §VI.B.10, it was background knowledge that a device’s IP address was conventional information to use to determine its geographic location in lieu of GPS. Williams-Decl., [0366]-[0370] (citing corroborating EX1061 (“Parekh”), 4:64-67; EX1062 (“McElligott”), 7:8-12; EX1063 (“Anderson”), 1:26-31, 7:57-8:31).

Additionally, as discussed *supra* §VI.B.10, POSAs would have had motivation and reasonably expected success to *determine a third location* of a wireless device (e.g., Bob’s device or that of another user authorized to access Alice’s location) *based on the IP address of said device*, as an alternative to GPS when the device had inadequate GPS reception. Williams-Decl., [0371] (citing

corroborating EX1064 (“Padmanabhan”), 2:28-29). It was well-known background knowledge to determine a wireless device’s location based on its IP address indicating the nearest network access point. Williams-Decl., [0372]-[0376] (citing corroborating EX1065 (“Kimoto”), 37:47-57, 51:7-13, 53:13-22; EX1066 (“Turcotte”), 10:54-67; EX1062 (“McElligott”), 7:8-12).

Randall teaches *transmitting said location to said device* as discussed *supra* §X.B.1.d ([1D]). Williams-Decl., [0377]-[0378].

12. Claim 12

As discussed *supra* §X.B.10 (claim 10), Randall provides a “Beacon Button” that any user can press to “tell the phone to send [its] location,” which is *receiving manual input for a third location*. Randall, p. 30; Williams-Decl., [0379]. Randall also teaches that any user can “up-date[]” the “I-server” with their “location.” Randall, p. 24 (“People tracking”); Williams-Decl., [0379]. Thus, POSAs would have understood that any wireless device user (e.g., Bob, Peter, etc.) can be a *third user who is associated with said manually input third location* by pressing their “Beacon Button.” Williams-Decl., [0379].

Additionally, POSAs would have been motivated and reasonably expected success to *receive manual input for the third location of the third user* (e.g., entering, tapping, or the location), in view of Froeberg’s teaching to allow the user to “enter...a local street address” as an alternative to GPS-provided location

(Froeberg, 3:46-54) and/or POSAs' background knowledge that allowing such manual location input as an alternative to GPS was conventional for purposes of, e.g., convenience, privacy, power savings, etc., and provides a useful alternative when GPS reception is unavailable or unreliable. Williams-Decl., [0380]-[0385] (citing corroborating EX1060 ("Jhanji"), 3:43-58, 9:18-38, 9:66-10:15, 11:61-12:4; EX1053 ("Levi"), 1:8-11, 1:59-63, 8:3-7, 8:36-37, 9:16-19; EX1022 ("Darling"), 40:17-22; EX1011 ("Tanaka"), 2:58-3:20); *see supra* §VIII.C.1.

Further, alternatively, POSAs would have understood that when a user "uses a public device" (Randall, [0067]), it may often be a non-mobile device without GPS capability. POSAs would have been motivated and reasonably expected success to allow the non-mobile device user (*said third user*) to provide their *third location* at a non-mobile device by *manual input*, given POSAs' knowledge of the usefulness of allowing manually-input location information on fixed devices that do not have GPS (e.g., a user's home PC or a public device). Williams-Decl., [0386]-[0388] (citing corroborating EX1052 ("Hancock"), 2:58-65, 4:57-65, 5:10-19).

13. Claim 13

a. Previously Addressed Elements

Randall/Randall-Froeberg meets the following elements of claim 13 for the reasons discussed in the corresponding section above. Williams-Decl., [0389]-[0404].

Element:	Addressed in Section:
[13PRE]	§X.B.1 ([1PRE])
[13A]	§X.B.1.a ([1A])
[13B]	§X.B.1.b ([1B])
[13C]	§X.B.1.c ([1C])
[13E]	§X.B.1.e ([1E])
[13F]	§X.B.1.f ([1F])

b. [13D]

Randall provides an “Old buddy finder” service by which Bob’s “[w]ireless information device **alerts Bob** when a contact happens to be ***within a defined proximity*** (e.g. Bob and Alice are both in the same foreign city and didn’t know it).” Randall, p. 24. POSAs would have understood “within a defined proximity” to teach, or at minimum render obvious, alerting Bob (*a user of said list of users*) when Bob *is within a certain distance* of Alice’s location. Williams-Decl., [0393]; *see supra* §X.B.8 (claim 8). As discussed *supra* §X.B.1 (claim 1), Alice’s location

data on which the alert is based is provided through the i-server that collects, manages, and transmits location information to devices in the system; thus, POSAs would have understood Randall to teach, or at minimum render obvious, that the i-server *transmits an alert message* to Bob’s device. Williams-Decl., [0393].

Transmitting the alert message from the *remote server* when a user of interest *is within a certain distance* was a well-known design option with reasonable expectation of success in a system and service like Randall’s. Williams-Decl., [0393]-[0397] (citing corroborating EX1013 (“De-Vries”), 8:27-40; EX1035 (“Degnbol”), 4:1-11, 20:23-21:6, FIG. 1; EX1011 (“Tanaka”), 6:49-66, 7:28-30).

Randall’s alert *comprises information associated with said location* because it informs Bob that Alice’s *location* is within the defined proximity of Bob’s current location. Williams-Decl., [0398]. Additionally, it would have been obvious to POSAs to include Alice’s *location* itself in Randall’s alert, so that Bob “can tell precisely where” Alice is, to “help” them “meet” up. Randall, p. 29 (“Rendezvous”). Williams-Decl., [0398]. Including the other user’s *location* in a proximity alert was a well-known design option with reasonable expectation of success in a system and service like Randall’s. Williams-Decl., [0398]-[0402] (citing corroborating EX1013 (“De-Vries”), 10:64-67; EX1035 (“Degnbol”), 5:16-18).

14. Claim 14

a. Previously Addressed Elements

Randall/Randall-Froeberg meets the following elements of claim 14 for the reasons discussed in the corresponding section above. Williams-Decl., [0405]-[0424].

Element:	Addressed in Section:
[14PRE]	§X.B.1 ([1PRE])
[14A]	§X.B.1.a ([1A])
[14B]	§X.B.1.b ([1B])
[14C]	§X.B.1.c ([1C])
[14D]	§X.B.1.d ([1D])
[14E]	§X.B.12 (claim 12), §X.B.10 (claim 10)
[14H]	§X.B.12 (claim 12)

b. [14F]

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

favourite colour/restaurant/recent film etc.[], with the server only authenticating Bob when he answers correctly.” Randall, [0067]. In some examples, this can be “relevant...where Bob borrows someone else’s wireless information device or uses a public device” to access both “his own personal information” and information of his contacts, including Alice. Randall, [0067]; Williams-Decl., [0411].

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 *determining an identity of a second user* (e.g., Bob) *for a device* (e.g., the device Bob is using) *by way of a login* (i.e., an identifier “identifying an entity seeking information” as purporting to be “Bob the person”). Randall, [0067]; Williams-Decl., [0412].

Alternatively, any other user (e.g., Peter) can be the *second user* and have their identity determined the same way. *See* Randall, [0380]; Williams-Decl., [0413].

Alternatively, even if Randall had not explicitly taught *a login*, it would have been obvious to modify Randall to use *a login* to authenticate a wireless device user like Bob or Peter. Using a login to authenticate a device user seeking another user’s information (including location) was well-known in POSAs’ background knowledge as a beneficial and commonly used option that would have been merely simple substitution of one known element for another with predictable

results. Williams-Decl., [0414]-[0421] (citing corroborating EX1024 (“Carey”), Abstract, 1:8-12, 3:18-34, 4:6-33, 5:5-28, 7:65-8:16, FIGs. 8-14; EX1019 (“Thomas”), 2:58-3:6, 5:49-54, 6:53-7:49, 6:53-7:3, 7:27-40; EX1029 (“Chern”), 6:55-7:20; EX1054 (“Sandhu”), 5:8-50; EX1030 (“Futagami”), 8:56-67, 10:9-17; EX1022 (“Darling”), 2:1-12, 8:32-34); *KSR*, 550 U.S. at 416-18.

c. [14G]

As discussed *supra* §X.B.6 (claim 6), Bob and Peter are each examples of a *device* user who can receive Alice’s location. Randall teaches *transmitting said location to said device* if that *device*’s user is authenticated, as discussed *supra* §X.B.1.d ([1D]). Williams-Decl., [0422]-[0423].

15. Claim 15

Claim 15 is identical to claim 13 except that [15A] recites “*obtaining*” where [13A] recites “*determining*.” Randall/Randall-Froeberg meets claim 15 for the same reasons as claim 13, discussed *supra* §X.B.13, §X.B.1 (claim 1). Williams-Decl., [0425].

16. Claim 30

Claim 30 recites elements substantively identical to elements [1PRE]-[1A], and [1C]-[1F], and is met for the reasons discussed *supra* §X.B.1 (claim 1). Williams-Decl., [0426].

17. Claim 38

Claim 38 recites elements substantively identical to elements [15PRE]-[15A], and [15C]-[15F], and is met for the reasons discussed *supra* §X.B.15 (claim 15), §X.B.13 (claim 13), §X.B.1 (claim 1). Williams-Decl., [0427].

18. Claims 16-29, 31-37, 39-46

Randall/Randall-Froeberg meets the limitations added by the following claims for the reasons discussed in the corresponding section above. Williams-Decl., [0428]-[0436].

Claims	Limitations Addressed in Section:
16, 23, 31, 39	§X.B.2 (claim 2)
17, 24, 32, 40	§X.B.3 (claim 3)
18, 25, 33, 41	§X.B.4 (claim 4)
34	§X.B.5 (claim 5)
19, 26, 35, 42	§X.B.6 (claim 6)
20, 27, 36, 43	§X.B.7 (claim 7)
21, 28, 37, 44	§X.B.8 (claim 8)
22, 29, 45	§X.B.9 (claim 9)
46	§X.B.10 (claim 10)

XI. 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 10), 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 (Jul. 8, 2022).

c. Litigation Investment

The district-court parties have invested little in invalidity-related issues, the scheduled *Markman* hearing is over 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, Petitioners’ diligence weighs strongly against denial. Mullen’s district-court complaint asserted nine patents, collectively including 378 claims. Mullen’s infringement contentions assert 272 of those claims. EX1039. Nevertheless, Petitioners filed this Petition less than six months after receiving Mullen’s infringement contentions and about three months before any statutory bar. *See Samsung Elects Co., Ltd. v. Mojo Mobility Inc.*, IPR2023-01089, Paper 11 at 19 (Jan. 11, 2024).

d. Issue Overlap

This Petition challenges all 46 claims of the ’575 patent, only 20 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 Prod. 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” ’575 patent. *Id.* Petitioners have “different allegedly infringing products and in different district court proceedings” than Apple (petitioner in prior IPR2023-00097), have not coordinated with Apple regarding the ’575 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 5-6 developed subsequent to Apple’s IPR.

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

B. Section 325(d)

None of the references combined in this Petition's grounds were of record during prosecution of the '575 patent. Wollrab, Grube, Meadows, and Chern were of record, but are used herein only as corroborating background references, different from any application in prosecution.

Apple's IPR2023-00097 "was terminated after institution but before a final written decision was issued," so §325(d) is "not implicated," and the references in that IPR are not considered "presented to the Office pursuant to § 325(d)." *BMW of North America, LLC v. Michigan Motor Techs., LLC*, IPR2023-01032, Paper 14 at 16 (Jan. 29, 2024).

Furthermore, Ground 5 based on Randall, which was not of record in prosecution or IPR2023-00097, warrants institution regardless of the status of Sheha-based Grounds 1-4. *Current Lighting Sols., LLC v. Jiaxing Super Lighting Elec. Appliance Co., Ltd.*, IPR2023-00270, Paper 18 at 51 (Aug. 16, 2023).

XII. CONCLUSION

The Board should institute review and cancel claims 1-46.

Dated: 2024-11-01

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 13,960 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 1, 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 1, 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 1, 2024

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

XIII. 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 method comprising:
[1A] obtaining a location of a first wireless telephone;
[1B] transmitting said location from said first wireless telephone to a remote server;
[1C] changing, at the direction of said first wireless telephone, a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;
[1D] transmitting said location from said remote server to at least one of said users of said list of users;
[1E] determining a second location associated with one of said plurality of wireless telephones; and
[1F] providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location.
Claim 2
The method of claim 1, wherein said changing comprises adding an additional user to said list of users.
Claim 3
The method of claim 1, further comprising transmitting the address of said location to said at least one of said users of said list of users.
Claim 4
The method of claim 1, further comprising:
[4A] obtaining the address of said location from a remote information provider; and
[4B] transmitting the address of said location to said at least one of said users of said list of users.

Claim 5

The method of claim 1, further comprising: receiving said location by at least one of said plurality of wireless telephones; and displaying said location on said at least one of said plurality of wireless telephones.

Claim 6

The method of claim 1, further comprising determining a third location associated with one of said plurality of wireless telephones.

Claim 7

The method of claim 1, further comprising:

[7A] receiving said location by at least one of said plurality of wireless telephones; and

[7B] displaying the name of said location on said at least one of said plurality of wireless telephones.

Claim 8

The method of claim 1, further comprising determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.

Claim 9

The method of claim 1, further comprising:

[9A] receiving said location by at least one of said plurality of wireless telephones; and

[9B] displaying a map on said at least one of said plurality of wireless telephones with a marker representative of said location.

Claim 10

The method of claim 1, wherein the location is obtained by way of manual input that is received by way of a locate button provided on said first wireless telephone.

Claim 11

The method of claim 1, further comprising: determining a third location of a device based on the IP address of said device; and transmitting said location to said device.

Claim 12

The method of claim 1, further comprising: receiving manual input for a third location wherein said third user is associated with said manually input third location.

Claim 13

[13PRE] A method comprising:

[13A] determining a location of a first wireless telephone;

[13B] transmitting said location from said first wireless telephone to a remote server;

[13C] changing a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;

[13D] transmitting an alert message, comprising information associated with said location, from said remote server to a user of said list of users when said user is within a certain distance of said location;

[13E] determining a second location associated with said wireless telephone associated with said one user; and

[13F] providing directional information to said wireless telephone associated with said user, wherein said directional information is representative of directions between said location and said second location.

Claim 14

[14PRE] A method comprising:

[14A] obtaining a location of a first wireless telephone;

[14B] transmitting said location from said first wireless telephone to a remote server;

[14C] changing, at the direction of said first wireless telephone, a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones; and

[14D] transmitting said location from said remote server to at least one of said users of said list of users;

[14E] receiving manual input for a second location;

[14F] determining an identity of a second user for a device by way of a login; and

[14G] transmitting said location to said device,

[14H] wherein said second user is associated with said manually input second location.

Claim 15

[15PRE] A method comprising:

[15A] obtaining a location of said first wireless telephone;

[15B] transmitting said location from said first wireless telephone to a remote server;

[15C] changing a list of users on said remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;

[15D] transmitting an alert message, comprising information associated with said location, from said remote server to a user of said list of users when said user is within a certain distance of said location;

[15E] determining a second location associated with said wireless telephone associated with said one user; and

[15F] providing directional information to said wireless telephone associated with said user, wherein said directional information is representative of directions between said location and said second location.

Claim 16

The method of claim 15, wherein said changing comprises adding an additional user to said list of users.

Claim 17

The method of claim 15, further comprising transmitting the address of said location to at least one of said users of said list of users.

Claim 18

The method of claim 15, further comprising: obtaining the address of said location from a remote information provider; and transmitting the address of said location to at least one of said users of said list of users.

Claim 19

The method of claim 15, further comprising determining a third location associated with said wireless telephone associated with said user.

Claim 20

The method of claim 15, further comprising: receiving said location by said wireless telephone associated with said user; and displaying the name of said location on said wireless telephone associated with said user.

Claim 21

The method of claim 15, further comprising determining the distance between said first wireless telephone and said wireless telephones associated with said user.

Claim 22

The method of claim 15, further comprising: receiving said location by said wireless telephone associated with said user; and displaying a map on said wireless telephone associated with said user, wherein a marker is displayed on said map that is representative of said location.

Claim 23

The method of claim 13, wherein said changing comprises adding an additional user to said list of users.

Claim 24

The method of claim 13, further comprising transmitting the address of said location to at least one of said users of said list of users.

Claim 25

The method of claim 13, further comprising: obtaining the address of said location from a remote information provider; and transmitting the address of said location to at least one of said users of said list of users.

Claim 26

The method of claim 13, further comprising determining a third location associated with said wireless telephone associated with said user.

Claim 27

The method of claim 13, further comprising: receiving said location by said wireless telephone associated with said user; and displaying the name of said location on said wireless telephone associated with said user.

Claim 28
The method of claim 13, further comprising determining the distance between said first wireless telephone and said wireless telephones associated with said user.
Claim 29
The method of claim 13, further comprising: receiving said location by said wireless telephone associated with said user; and displaying a map on said wireless telephone associated with said user, wherein a marker is displayed on said map that is representative of said location.
Claim 30
[30PRE] A method comprising:
[30A] obtaining a location of a first wireless telephone; ⁴
[30B] changing, at the direction of said first wireless telephone, a list of users on a remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;
[30C] transmitting said location from said remote server to at least one of said users of said list of users;
[30D] determining a second location associated with one of said plurality of wireless telephones; and
[30E] providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said location and said second location.
Claim 31
The method of claim 30, wherein said changing comprises adding an additional user to said list of users.
Claim 32
The method of claim 30, further comprising transmitting the address of said location to said at least one of said users of said list of users.

⁴ Claim 30 originally recited “said first wireless telephone,” and was changed by Certificate of Correction to recite “a first wireless telephone.” EX1002 at 526.

Claim 33

The method of claim 30, further comprising: obtaining the address of said location from a remote information provider; and transmitting the address of said location to said at least one of said users of said list of users.

Claim 34

The method of claim 30, further comprising: receiving said location by at least one of said plurality of wireless telephones; and displaying said location on said at least one of said plurality of wireless telephones.

Claim 35

The method of claim 30, further comprising determining a third location associated with one of said plurality of wireless telephones.

Claim 36

The method of claim 30, further comprising: receiving said location by at least one of said plurality of wireless telephones; and displaying the name of said location on said at least one of said plurality of wireless telephones.

Claim 37

The method of claim 30, further comprising determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.

Claim 38

[38PRE] A method comprising:

[38A] obtaining a location of said first wireless telephone;

[38B] changing a list of users on a remote server for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;

[38C] transmitting an alert message, comprising information associated with said location, from said remote server to a user of said list of users when said user is within a certain distance of said location;

[38D] determining a second location associated with said wireless telephone associated with said one user; and

[38E] providing directional information to said wireless telephone associated with said user, wherein said directional information is representative of directions between said location and said second location.

Claim 39

The method of claim 38, wherein said changing comprises adding an additional user to said list of users.

Claim 40

The method of claim 38, further comprising transmitting the address of said location to at least one of said users of said list of users.

Claim 41

The method of claim 38, further comprising: obtaining the address of said location from a remote information provider; and transmitting the address of said location to at least one of said users of said list of users.

Claim 42

The method of claim 38, further comprising determining a third location associated with said wireless telephone associated with said user.

Claim 43

The method of claim 38, further comprising: receiving said location by said wireless telephone associated with said user; and displaying the name of said location on said wireless telephone associated with said user.

Claim 44

The method of claim 38, further comprising determining the distance between said first wireless telephone and said wireless telephones associated with said user.

Claim 45

The method of claim 38, further comprising: receiving said location by said wireless telephone associated with said user; and displaying a map on said wireless telephone associated with said user, wherein a marker is displayed on said map that is representative of said location.

Claim 46

The method of claim 38, wherein location is obtained by way of manual input manual input that is received by way of a locate button provided on said first wireless telephone.

