Paper No. __

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

MULLEN INDUSTRIES LLC
Patent Owner.

_____

Case No. IPR2025-00018
Patent No. 11,122,418

_____

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

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APPENDIX LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 11,122,418 ("the '418 patent")
1002	Prosecution History of U.S. Patent No. 11,122,418
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	U.S. Patent No. 7,233,795 ("Ryden")
1010	U.S. Provisional Patent Application No. 60/277,117 ("Ryden-Prov.")
1011	U.S. Patent No. 6,819,919 ("Tanaka")
1012	U.S. Patent No. 7,013,148 ("Ganesh")
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	U.S. Patent Application Publication No. 2002/0145561 ("Sandhu")
1017	U.S. Patent No. 6,885,874 ("Grube")
1018	U.S. Patent No. 6,716,101 ("Meadows")
1019	U.S. Patent No. 7,366,522 ("Thomas")
1020	U.S. Patent No. 5,736,960 ("Murphy")
1021	U.S. Patent No. 5,923,286 ("Divakaruni")
1022	International Patent Application Publication No. WO 01/91486 ("Darling")
1023	RESERVED
1024	RESERVED
1025	RESERVED

1026	RESERVED
1027	RESERVED
1028	RESERVED
1029	RESERVED
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1031	RESERVED
1032	RESERVED
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1039	Plaintiff's Disclosure of Asserted Claims and Infringement Contentions in *Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:24-cv-00049 (E.D. Tex.) (May 15, 2024)

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. 11,122,418 ("the '418 patent") issued (U.S. Patent Application No. 11/485,161) is a Continuation of U.S. Patent Application No. 10/400,296 (U.S. Patent No. 9,635,540), filed March 25, 2003.

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

- U.S. Patent Application No. 11/387,384 (U.S. Patent No. 8,374,575), filed March 22, 2006;
- U.S. Patent Application No. 11/462,201 (U.S. Patent No. 9,204,283), filed August 3, 2006;
- U.S. Patent Application No. 11/834,674 (U.S. Patent No. 11,234,117), filed August 6, 2007;

[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. 11,122,418 also claims priority to U.S. Provisional Application No. 60/367,967, filed March 25, 2002.

2. USPTO Patent Trial and Appeal Board

The '418 patent was at issue in *Apple Inc. v. Mullen Industries LLC*, Case No. IPR2023-00090.

Petitioners are concurrently filing a petition for *inter partes* review of U.S. Patent No. 9,204,283, under Case No. IPR2025-00019.

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

The '418 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 Western District of Texas

The '418 patent was previously asserted in *Mullen Industries LLC v. Apple Inc.*, Case No. 6:22-cv-00145 (transferred and terminated).

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

The '418 patent was previously asserted in *Mullen Industries LLC v. Apple Inc.*, Case No. 5:23-cv-00437 (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 1-30 of the ’418 patent (EX1001).

I. INTRODUCTION

The ’418 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 IPR2023-00090 challenging the ’418 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 (IPR2023-00090, Paper 10 at 29); and a new set of grounds based on Randall, which have not previously been before the Board. All of the ’418 patent’s claims are unpatentable under either set of grounds. Declaration of David H. Williams (EX1003, “Williams-Decl.”), [0093].

II. STANDING

Petitioners certify that the ’418 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)	1-3, 6-7, 10, 13, 18-21, 24, 26-27, 30	§102, §103
2	Sheha, Ryden (EX1009)	4-5, 11, 17, 22-23, 28-29	§103
3	Sheha, Tanaka (EX1011)	8-9, 12, 14, 25	§103
4	Sheha, Ganesh (EX1012)	15-17	§103
5	Randall (EX1007)	1-3, 6-10, 13-14, 18-21, 24-27, 30	§102, §103
6	Randall, De-Vries (EX1013)	12	§103
7	Randall, Wollrab (EX1014)	3, 10, 15-17, 21, 27	§103
8	Randall, Ryden	4-5, 11, 17, 22-23, 28-29	§103
9	Randall, Ganesh	15-17	§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 '418 patent's earliest claimed priority date.

Wollrab was applied as a secondary reference during prosecution of the '418 patent (EX1002, 186-189), but never in combination with Randall. None of the other references above were relied on during prosecution.

IV. THE '418 PATENT

A. Specification Embodiments

The '418 patent discusses determining and sharing a wireless device's location, e.g., using GPS. EX1001, 1:18-28. The patent alleges that "GPS systems have been integrated into cellular phones" but "only minimally utilized," so the

patent purports to provide functionality to allow a cellphone user "to locate the position of" another user's cellphone. EX1001, 1:28-43.

Cellphones in the '418 patent can share their locations with a remote system, from which other users can obtain them. EX1001, 5:11-31. A user can also restrict access to their location by identifying authorized users or groups, thus specifying which other users may obtain their location information, indefinitely or for a period of time. EX1001, Abstract, 1:55-65.

Figure 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.

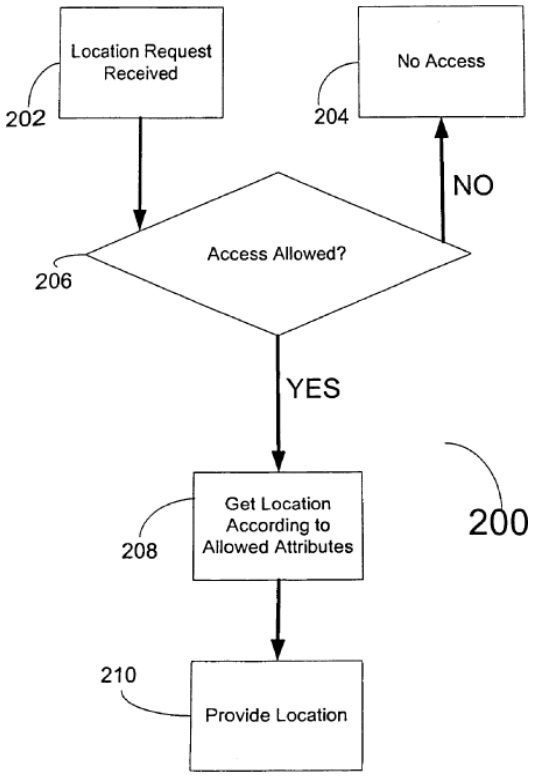

FIG. 2

Various navigational information may be provided, such as a map showing the location or directional information, or alerts indicating that another user is within a range of the requestor. EX1001, 2:3-8, 5:64-6:19, 7:31-8:5. Determining a location of the cellphone while it is off or based on location history is also mentioned. EX1001, 11:3-14. Williams-Decl., [0055]-[0059].

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

A POSA as of the '418 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 '418 patent's application was rejected eighteen times before allowance. Despite numerous amendments, Applicant was unable to obtain allowance until amending claim 3 (now claim 1) to recite the "first wireless device is operable of providing a first map provided with respect to said location." EX1002, 680. The other independent claims were similarly amended. The Examiner provided no reasons for allowance but had maintained essentially the same rejections based on

the "Barclay" reference for eleven years and fourteen rejections until the amendment quoted above. Williams-Decl., [0060]-[0062].

D. Challenged Claims

The '418 patent's three independent claims 1, 18, and 19 each recite a system comprising a first wireless device whose location is operable of being provided to a remote system and being requested by a second wireless device "outside of a call." The first wireless device's location can be provided from the remote system to the second wireless device "outside of said call" in accordance with a permission provided by the first wireless device. In claims 18 and 19, the second wireless device can also provide a permission for the first wireless device to obtain the second wireless device's location. Claim 19 further recites that updates of the locations are provided as a result of the permissions.

Each of the dependent claims recites further functionality that was routine and conventional before the '418 patent. Williams-Decl., [0063]-[0065].

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 1-3, 6-7, 10, 13, 18-21, 24, 26-27, 30 ARE ANTICIPATED OR ALTERNATIVELY OBVIOUS OVER SHEHA

Grounds 1-4 together demonstrate how the challenged claims are unpatentable over Sheha, alone or in combinations with Ryden, Tanaka, and Ganesh. The Board previously found a reasonable likelihood of unpatentability based on similar combinations of the same references. *See* IPR2023-00090, Paper 10 (granting institution). Mullen's arguments made in IPR2023-00090 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., [0404]-[0428].

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., [0076]-[0081]. 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, including displaying a map illustrating the location of one or both mobile devices and navigational information. Sheha, 9:23-39. Figure 3 (annotated below) illustrates an example system enabling such functionality between mobile devices via a wireless network and an ODAS. Williams-Decl., [0095]-[0099].

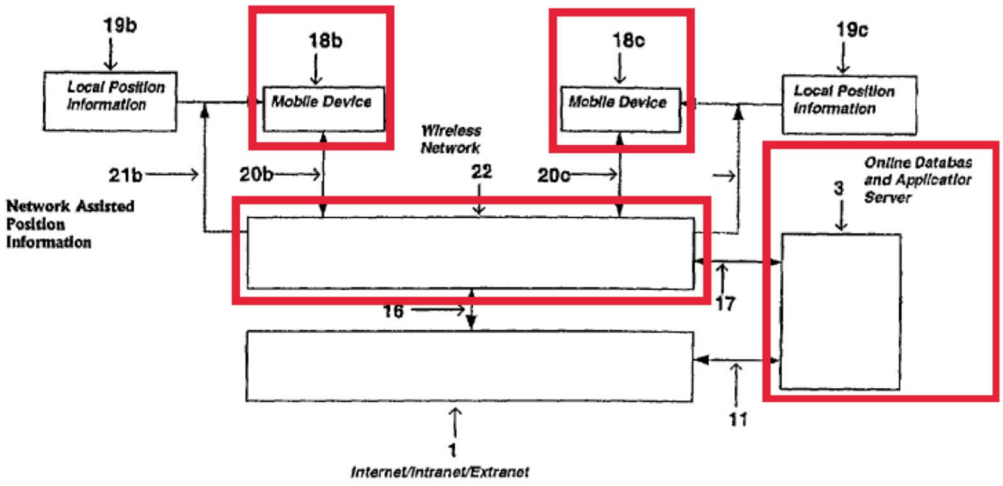

FIG. 3

B. Mapping to Challenged Claims

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

Sheha discloses systems enabling users of telephone devices (landline or wireless) to determine and share their locations with other telephone devices, and to request the locations of other telephone devices. Sheha, Abstract; Williams-Decl., [0095]-[0102]. As demonstrated below, Sheha meets or renders obvious all limitations of claim 1. Williams-Decl., [0102], [0068]-[0075].

a. [1A] a first wireless device, wherein a location of said first wireless device is operable of being determined and provided to a remote system,

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 FIG. 3 (annotated below): both mobile devices 18b-18c wirelessly communicate (20b-20c) with the wireless network 22. Williams-Decl., [0103].

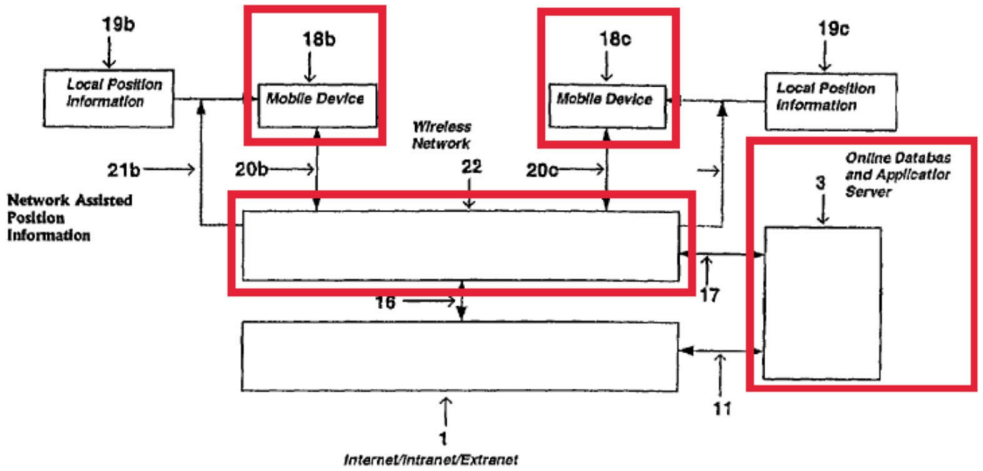

FIG. 3

Sheha discloses that the mobile devices in Figure 3 can be cellphones. Sheha, 10:66-11:3. Either the mobile devices themselves or the network can determine their positions. Sheha, 10:5-16, 11:15-20. After a position is determined, it is supplied to and stored by the ODAS. Sheha, 11:3-8, 11:44-51. As shown in FIG. 3 above, ODAS 3 is remote from the mobile devices. Williams-Decl., [0104]-[0105].

b. [1B] said location of said first wireless device is operable of being requested by a second wireless device outside of a call for communication between said first wireless device and said second wireless device,

Sheha's system allows one wireless device to request another wireless device's position "without having to initiate a telephone call." Sheha, 11:55-58; *see also id.*, 4:59-5:3. For convenience, this can be referred to as the "no-call embodiment," but as discussed below Sheha also describes features that are available to all embodiments within the context of discussing an example in a call embodiment. When a device user requests another device's location, the ODAS obtains location information from the target mobile device ("*first wireless device*") and provides it to the requesting mobile device ("*second wireless device*"). Sheha, 12:1-7, 12:42-44; Williams-Decl., [0106]. Thus, the requesting device has no "*call for communication*" with the target device, instead sending the request to the ODAS. Sheha 11:55-12:7; Williams-Decl., [0106]-[0107].

c. [1C] a permission is operable of being provided by said first wireless device for said second wireless device to access location information about said location,

Sheha describes ways for a mobile device to provide permission to another mobile device to access its location. Williams-Decl., [0108]. For example, the Sheha system can determine the target mobile device's privacy settings—also called "***permission*** settings" (Sheha, 5:3-20)—by which the device 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., [0108]. The target mobile device's privacy/permissions settings information can include "a group database and authorization and authentication protocols" by which the target device's user "can define a group of specific users that have access to" the target 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., [0108]-[0109]. The ODAS uses this privacy information to determine whether the target device has authorized the requesting device 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., [0108]-[0109].

In IPR2023-00090 (Paper 8 at 24-25), Mullen argued that Sheha's "establishing group databases and utilizing protocols does not teach storing in a remote system a single permission provided by a first wireless device in response to a request from a second wireless device for location information." *See also*

IPR2023-00090, Paper 15 at 3-10 (arguing that the claimed "*permission*" must be "one consent given by the first wireless device exclusively to the second wireless device"). Mullen was incorrect. As the Board recognized for institution purposes, Mullen's "contention is not commensurate with the scope of the claim," which "does not recite a temporal or causal relationship" requiring the permission to be "provided in response to a request from a second wireless device." *See* IPR2023-00090, Paper 10 at 24-25 (also finding in any event that Sheha at 5:21-41 ***does*** teach providing a permission in response to another wireless device's location request). "Further, the claim does not recite that the permission is limited only to the second device," and instead "encompass[es] a permission that allows other devices in addition to the 'second wireless device' to access the location information." *Id*. at 24-26. Mullen argued that the claims require the "*permission*" to be exclusively "for said second wireless device" (IPR2023-00090, Paper 15 at 4-5), but that is not what the claims recite. [1C] recites a permission "*for said second wireless device* ***to access location information***." That language limits what the permission is for accessing. It does not exclude the permission from also allowing other devices "*to access location information*." Mullen's specification arguments (*id.* at 6-10) also fail, because they improperly attempt to import limitations from a specification embodiment into claims that do not recite those limitations. The Federal Circuit has "repeatedly warned against confining the claims to those

embodiments" in the specification, even if it "describes only a single embodiment." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (*en banc*). Further, the '418 patent itself explicitly states that "a user may organize his/her user list into groups and assign access rights to that group," just as Sheha does. EX1001, 13:9-12, 3:23-25; Williams-Decl., [0109]-[0111].

Alternatively, even if claim 1 required providing a permission specific to an individual second-device user, Sheha renders this obvious because POSAs would have known that "defin[ing] a group" of authorized users (Sheha, 11:63-65) can include defining a group having only one member, even if other defined groups have multiple members. Williams-Decl., [0112]. Alternatively, allowing a target device's user to provide permissions specific to individuals in addition to groups would have been an obvious variation because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's. Williams-Decl., [0113]-[0115] (citing corroborating EX1007 ("Randall"), [0052], [0070], [0136], [0144]-[0146]; EX1015 ("Friedman"), 12:60-13:21).

After institution, Mullen separately argued in IPR2023-00090 (Paper 15 at 14-17) that Sheha's privacy settings are not permission but only "privacy filters [that] a target mobile device has implemented for ***all*** incoming location requests" and that are "indiscriminate as to the identity of any requesting mobile device." Mullen did not make that argument about the permissions specified in Sheha's

"group database," but instead argued that the group database is only in "a different embodiment" from the privacy settings and is not used in a mobile device embodiment or no-call embodiment, which Mullen treats as disparate embodiments. *Id.* at 18-26; *see also* IPR2023-00090, Paper 8 at 9-16, 36 (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 is incorrect.

Sheha does not describe the device-local privacy filters and requester-specific group database of permissions as features of mutually exclusive embodiments. Rather, they are complementary privacy/permission specification options that POSAs would have understood can all coexist within an embodiment, and that are variously (and interchangeably) referred to as "privacy settings," "permission settings," "privacy configuration," "position transfer permissions," etc. Sheha, 4:35-42, 4:59-5:46 (discussing "privacy settings" interchangeably with "permission settings" as applicable to mobile or landline, call or no-call embodiments), 10:17-26, 10:44-11:9, 11:55-12:7 (describing the mobile no-call embodiment using "privacy settings" and the same "authorization and authentication protocols" as the landline no-call embodiment that "utiliz[es] a group database…to identify users that are ***permitted*** to access" position information); Williams-Decl., [0116]. This is further corroborated by Sheha's

claims which recite "determining whether the first user is a member of the authorized user ***group***" as part of "accessing ***privacy*** information" for the location of a "mobile telephone." Sheha, 18:65-19:46 (*see* 19:9-15, 19:44-45); Williams-Decl., [0116].

Sheha thus discloses that the 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., [0117]. When both are employed, POSAs would have understood that a requesting user is only given access to a target device's location if the requesting user has permission in the target device's group database and to the extent the target device's local privacy settings allow location sharing. Sheha, 4:59-5:20, 11:55-12:7; Williams-Decl., [0117]. 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., [0117]. Mullen argued that "[t]his statement in Sheha" about "authorization and authentication protocols" "merely indicates…using a login and password" (IPR2023-00090, Paper 15 at 21), but again Mullen is incorrect. "[A]uthentication" uses a login and password, but "authorization" additionally 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., [0117]; *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 the mobile-to-mobile no-call embodiment, 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) without initiating a phone call was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's. Williams-Decl., [0118]-[0121] (citing corroborating EX1016 ("Sandhu"), [0024]; EX1007 ("Randall"), [0052], [0070], [0136], [0144]-[0148]).

Thus, in Sheha, a mobile device can provide permission for a requesting device to access its location, meeting [1C]. Williams-Decl., [0122].

d. [1D] said permission is operable of being stored in said remote system, wherein said remote system is located remotely from said first and second wireless devices,

As discussed *supra* §VI.B.1.c ([1C]), Sheha describes that in both landline and mobile no-call embodiments, "users can define a group of specific users that have access to" the user's location information "by utilizing a group database and

authorization and authentication protocols to identify users that are permitted to access this information." Sheha, 11:55-12:7; Williams-Decl., [0123].

Sheha teaches embodiments where the ODAS (remote system) implements the "authorization and authentication protocols" and the "group database" described in 11:63-12:7 for storing permissions for specific users. *See* Sheha, 3:4-13 ("networked server system utilizing authentication and authorization procedures"), 4:8-18 ("online database and/or networked authentication and authorization connection server"), 7:22-23 ("online ***database*** and application server (ODAS)"), 8:42-53 ("ODAS 3 us[es] authentication and authorization protocols" to "verify the level of authority each user is granted"), 9:61-10:4; Williams-Decl., [0124]. Alternatively, implementing the group database and its utilization at the server would have been an obvious variation because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's. Williams-Decl., [0125]-[0128] (citing corroborating EX1016 ("Sandhu"), [0023]-[0029]; EX1007 ("Randall"), [0511]-[0514]; EX1015 ("Friedman "), 12:60-13:21). Also, with respect to any privacy settings set locally at the target device, POSAs would have understood that an obvious implementation was for the remote system to store those settings after verifying them by querying the device (Sheha, 4:64-66), so the remote system can then apply

them to determine whether to release the device's location to a requesting user. Williams-Decl., [0129]-[0130].

e. [1E] said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call,

As discussed *supra* §VI.B.1.b ([1B]), a mobile device in Sheha can request the location of another mobile device outside of a call. Williams-Decl., [0131]. "When a mobile device's position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user's device." Sheha, 12:1-7. This can occur "without having to initiate a telephone call." Sheha, 11:55-12:7; Williams-Decl., [0131]. As discussed *supra* §VI.B.1.d ([1D]), the privacy settings can be maintained by the remote system and can identify specific users permitted to access the position information. Williams-Decl., [0131]-[0132].

f. [1F] wherein said first wireless device is operable of providing a first map provided with respect to said location.

Sheha's system can transfer position information for one device to another as a map. Sheha, 3:50-55, 4:22-26, 4:47-58, 11:55-12:31; Williams-Decl., [0133]. Further, Sheha discloses devices with displays to provide maps showing the locations of the target and the requesting wireless devices. Sheha, 9:23-39, FIG. 5 (labels 33 and 34, annotated below); Williams-Decl., [0134].

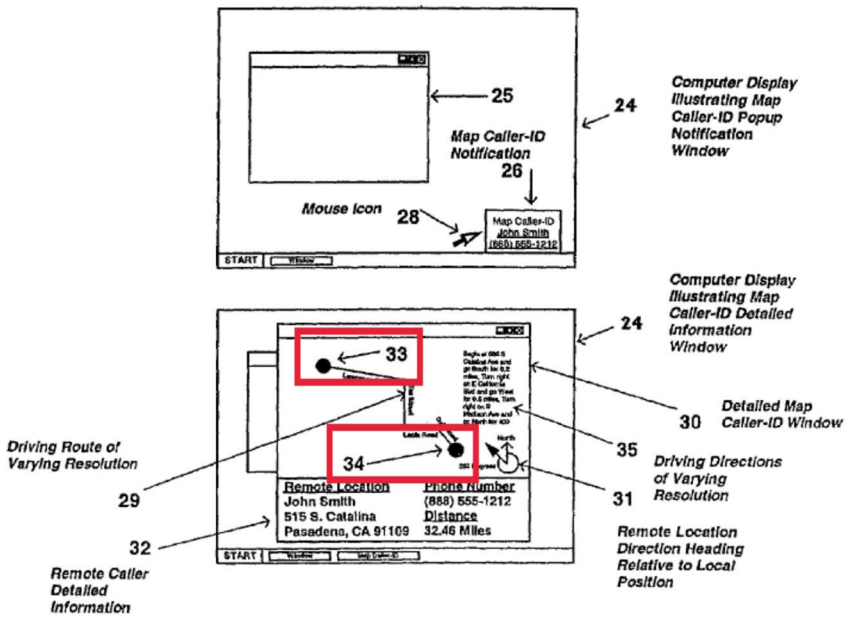

FIG. 5

Sheha discloses that such "a ***map***…can be displayed on the mobile telephone." Sheha, 4:43-58. While Figure 5 and 4:43-58 are presented in the context of examples involving a landline, they equally apply in the mobile-to-mobile context, which Sheha explains is "similar to a landline-to-mobile application." Sheha, 4:59-5:11, 4:13-18; *see also id.*, 4:52-58, 11:36-12:7; Williams-Decl., [0135]. Sheha also discloses that both the target and the requesting device can display maps with respect to the positions of both devices. Sheha, 4:52-58, 11:10-51, *see* 11:42-44 ("both the originating and destination mobile device receive the Map"); Williams-Decl., [0135].

In IPR2023-00090 (Paper 15 at 27-32), Mullen argued that Sheha's "map" displayed "on the mobile telephone" at 4:52-58 is somehow not "a graphical map" like FIG. 5 and cannot be received without a phone call. 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., [0136]. Indeed, Sheha expressly states that a "map…***can be displayed*** on the mobile telephone." Sheha, 4:52-58. 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., [0136].

Mullen's related argument in IPR2023-00090 (Paper 15 at 28-31) that Sheha's mobile devices can only pass maps to "an accompanying device" for display is also incorrect. 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., [0137].

Alternatively, implementing Sheha to display a map on either or both of the requesting and target wireless devices, without a telephone call, to display the

target device's location would have been an obvious variation in view of POSAs' background knowledge of the convenient option and reasonable expectation of success in doing so. Williams-Decl., [0138]-[0145] (citing corroborating EX1007 ("Randall"), [0021], p. 85; EX1016 ("Sandhu"), [0027]; 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).

2. Claim 2: said first and second wireless devices are wireless telephones.

Sheha discloses that the two mobile devices discussed above can be *wireless telephones*. Sheha, 10:66-11:3 ("mobile device 18b, such as a cellphone or wireless voice-enabled PDA" and "another mobile device 18c"), 11:55-12:7, 4:59-66; Williams-Decl., [0146]-[0148].

3. Claim 3: said second wireless device displays a map with a location marker associated with said location.

As discussed *supra* §VI.B.1.f ([1F]), Sheha discloses (or at minimum renders obvious) that the requesting device can display a map with location markers associated with the locations of both the target and the requesting device (e.g., markers 33 and 34 in FIG. 5). Sheha, 4:52-58, FIG. 5 (annotated below), 6:51-56, 7:35-38 ("Map Caller-ID includes…map information at varying resolutions"), 7:44-48, 9:23-39 (map displays "map location 33 of the caller" and

"map location 34 of the destination telephone number"), 11:36-44; Williams-Decl., [0149].

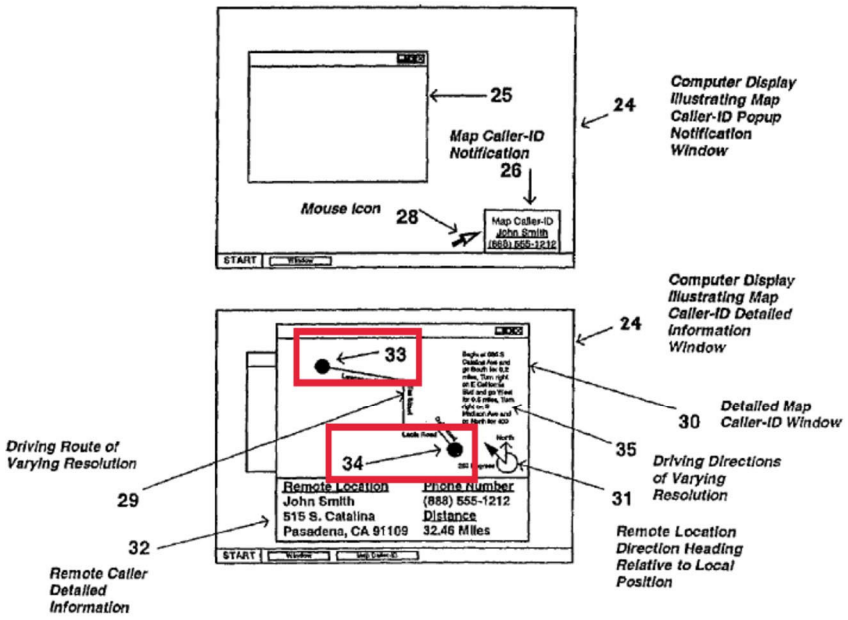

FIG. 5

In IPR2023-00090 (Paper 15 at 33), Mullen argued that only Sheha's target telephone (or its peripheral device) displays a map, "not the requesting telephone." Mullen is incorrect. Sheha teaches that both the target and requesting devices can display maps with location markers associated with both devices' locations, as in FIG. 5. Sheha, 4:52-58, 11:10-51, *see* 11:42-44 ("***both*** the originating and destination mobile device receive the Map Caller-ID"); Williams-Decl., [0150]. Additionally, displaying a map on the requesting device with a location marker of the target device's location would have been obvious in view of POSAs'

background knowledge discussed *supra* §VI.B.1.f ([1F]). Williams-Decl., [0151]-[0158] (citing corroborating EX1007 ("Randall"), [0021], p. 85; EX1016 ("Sandhu"), [0027]; 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).

4. Claim 6: said permission is operable of being removed, by said first wireless device, for said second wireless device to obtain said location.

Sheha's target device may establish a permission for a requesting device to obtain its position and may terminate it at any time. Sheha, 5:11-20; 5:34-38; Williams-Decl., [0159].

5. Claim 7: said location is determined by a positioning system that receives signals from a plurality of positioning satellites, said location is updated by said positioning system, and said updated location is provided to said remote system.

Sheha's mobile device's location is "typically calculated by the mobile device 18a by using an onboard positioning information device 19a," such as a GPS receiver. Sheha, 10:5-16; Williams-Decl., [0160]. The '418 patent acknowledges that it was "background" knowledge that GPS uses signals from multiple satellites to determine a location. EX1001, 1:21-31; Williams-Decl., [0160]. Sheha discloses that mobile devices may obtain updated positions and provide them to the remote server. Sheha, 11:10-51 (mobile devices "continually

send their updated position information to the ODAS 3"), 11:55-12:7, 12:42-47; Williams-Decl., [0161]-[0162].

6. Claim 10: a second location is associated with said second wireless device and said location of said first wireless device is displayed relative to said second location of said second wireless device.

Sheha discloses that position information for the requesting device and/or target device may be displayed on a map, which may be displayed by either/both mobile devices. Sheha, 4:22-26; 4:52-58; 5:47-63; 7:35-39, 9:23-39, FIG. 5; Williams-Decl., [0163]-[0164]; *see supra* §VI.B.1.f ([1F]), §VI.B.3 (claim 3).

7. Claim 13: said permission is assigned for a period of time.

Sheha discloses assigning permissions for a period of time. Sheha, 3:4-13, 5:9-20 ("position transfer permissions" can be enabled "for any ***period of time***"), 10:17-26, 10:60-65; Williams-Decl., [0165].

8. Claim 18

a. Previously Addressed Elements

Sheha meets the following elements of claim 18 for the reasons discussed in the corresponding section above. Williams-Decl., [0166]-[0179].

Element	**Addressed in Section:**
[18PRE]	VI.B.1 ([1PRE])
[18A]	VI.B.1.a ([1A])

[18B]	VI.B.6 (claim 10)
[18C]	VI.B.1.a ([1A]), VI.B.1.d ([1D]), where Sheha's ODAS ("online database and application ***server***") is a claimed "*server*" (Sheha, 7:21-22)
[18D]	VI.B.1.b ([1B])
[18F]	VI.B.1.c ([1C])
[18H]	VI.B.1.d ([1D])
[18I]	VI.B.1.e ([1E])
[18K]	VI.B.1.f ([1F])

b. Additional Elements

Claim elements [18B], [18C], [18E], [18G], [18H], and [18J] repeat limitations, but with the perspective of the "*second wireless device*" replacing that of the "*first wireless device*" and vice-versa. Thus claim 18 adds that, like the first wireless device, the second wireless device has a location operable of being determined, provided to a server, requested by and provided to the first wireless device as a result of a permission provided by the second wireless device and

stored on the server. Sheha meets these limitations because POSAs would have understood that in the mobile-to-mobile embodiment, any functionality that Sheha discloses and/or renders obvious for performance by one wireless device (e.g., 18b) can equally be performed by the other wireless device (e.g., 18c). Williams-Decl., [0166]-[0178]; *see, e.g.*, Sheha, 11:10-12 ("all position information is allowed to be transferred for all scenarios on each mobile device 18b and 18c"), 11:44-51 (both mobile devices send position information to the ODAS which periodically updates each mobile device with the other's information).

9. Claim 19

a. Previously Addressed Elements

Sheha meets the following elements of claim 19 for the reasons discussed in the corresponding section above. Williams-Decl., [0180]-[0194].

Element	**Addressed in Section**
[19PRE]	VI.B.1 ([1PRE])
[19A]	VI.B.1.a ([1A])
[19B]	VI.B.8 ([18B])
[19C]	VI.B.8 ([18C])
[19D]	VI.B.1.b ([1B])

[19E]	VI.B.8 ([18E])
[19F]	VI.B.1.c ([1C])
[19G]	VI.B.8 ([18G])
[19H]	VI.B.8 ([18H])
[19I]	VI.B.1.e ([1E])
[19J]	VI.B.8 ([18J])
[19M]	VI.B.1.f ([1F])

b. [19K]-[19L]

As discussed *supra* §VI.B.5 (claim 7), Sheha discloses that mobile devices may provide *updates* of their *locations* to each other via the ODAS. Williams-Decl., [0192]. Sheha also discloses that locations are provided by the ODAS *as a result of permissions* granted to the other device. Sheha, 10:66-11:51; Williams-Decl., [0192]; *supra* §§VI.B.1.a-VI.B.1.f (claim 1). Because the ODAS provides a device's location only as allowed by the permissions provided by the device (*supra* §§VI.B.1.c-VI.B.1.e ([1C]-[1E]), POSAs would have understood that the location updates are also provided as a result of the corresponding permissions. Williams-Decl., [0192]-[0193]. *See supra* §VI.B.8.b (claim 18) (any of Sheha's mobile devices can perform the same functionality as each other).

10. Claims 20-21, 24, 26-27, 30

Sheha meets the limitations added by the following claims for the reasons discussed in the corresponding section above. Williams-Decl., [0195]-[0200].

Claims:	Limitation Addressed in Section:
20, 26	VI.B.2 (claim 2)
21, 27	VI.B.3 (claim 3)
24, 30	VI.B.4 (claim 6)

VII. GROUND 2: CLAIMS 4-5, 11, 17, 22-23, 28-29 ARE UNPATENTABLE OVER SHEHA+RYDEN

A. Ryden (EX1009)

Ryden is prior art based on its March 19, 2002 filing date, or the 2001 filing date of its provisional application, EX1010 ("Ryden-Prov."). Williams-Decl., [0085]-[0088].

Ryden describes obtaining locations of mobile devices to enable them to identify and communicate with other nearby devices. Ryden, 3:61-4:39. Each device may have a conventional telephone number, but may be contacted using a separate geographical number ("G#") based on the target device's location. Ryden, 4:40-5:24. Each device "determine[s] its own earth location i.e. G#...using current GPS technology." Ryden, 8:41-43. A device being "monitored" can

respond with its "location G#" even when the device "is turned OFF." Ryden, 16:53-62. Further, Ryden describes determining movement-based information about wireless devices, such as direction or speed, which can be used to prevent collisions or provide routing or driving directions. Ryden, 18:41-50, 19:34-47, 19:49-20:14. Williams-Decl., [0203]-[0204]

B. Sheha-Ryden Combination

A POSA would have been motivated to incorporate Ryden's speed and direction determination capabilities, and Ryden's location monitoring for a device that is turned OFF, into Sheha's system to provide such functionality and standard navigation information using Sheha's mapping functionality. Williams-Decl., [0205]. POSAs would have known that a person meeting another mobile device user who may be moving would want to know about the other person's movement, such as where they are heading and how fast. Williams-Decl., [0205]; Sheha, 11:10-54. POSAs would have understood that such functionality would help mobile device users more efficiently meet. Williams-Decl., [0206]. POSAs also would have understood location monitoring for a device that is turned OFF to be beneficial for, e.g., providing location services while a mobile device user is conserving battery power, or tracking a stolen device. Ryden, 16:60-62; Williams-Decl., [0205]-[0208]. Because Ryden operates in a similar environment as Sheha

using similar location information, POSAs would have reasonably expected success to integrate Ryden's functionality. Williams-Decl., [0207].

C. Mapping to Challenged Claims

1. Claims 4, 22, 28: a speed [of] said first wireless device is traveling is operable of being determined.

Claims 5, 23, 29: [a/the] direction said first wireless device is traveling is operable of being determined.

POSAs would have known that speed is determined based on distance traveled over time, while direction is determined based on changes in position. Williams-Decl., [0209]-[0211]. As discussed above in Ground 1, Sheha discloses that a wireless device can request and receive updates to position information of another wireless device. Sheha 11:44-51; Williams-Decl., [0210]; *see supra* §VI.B.5 (claim 7), §VI.B.9 ([19K]-[19L]). Thus, Sheha discloses obtaining multiple positions of another wireless device, which POSAs would have known can be beneficially used to determine speed and direction of travel. Williams-Decl., [0210].

Ryden teaches that it is desirable to determine the speed and direction of travel of a wireless device. Ryden, 18:33-50; Ryden-Prov. (EX1010), 16:3-15, 34:3-14; Williams-Decl., [0211]. Ryden teaches that travel speed and direction may be extrapolated from received position information, and from position

changes as a function of time. Ryden, 18:41-50, 19:34-47; Ryden-Prov., 35:4-11; Williams-Decl., [0211].

A POSA would have been motivated to enhance Sheha's navigational capabilities to determine the target wireless device's movement, including speed and direction of travel, to provide accurate navigational information, and would have reasonably expected success. Williams-Decl., [0212]-[0213]; *id.*, [0221]-[0224]; *supra* §VII.B.

2. Claim 11: a direction that said second wireless device is traveling in is operable of being displayed.

Sheha's mobile devices "continually send their updated position information to the ODAS," which "periodically updates each mobile device with the other's position information, thus providing real-time driving directions and route information." Sheha, 11:44-51. The wireless device "calculates all of the navigational information internally by means of the ODAS 3." Sheha, 12:32-41. Ryden discloses that direction of travel may be determined for a user's device and a target device using such position updates. Ryden, 18:41-50, 19:34-47; Ryden-Prov., 34:3-14, 35:4-11; Williams-Decl., [0214]-[0216]. POSAs would have recognized that displaying a direction of travel would have been desirable in Sheha's navigation system to inform the user of their progress along a provided route and of how their target destination is moving, and would have reasonably

expected success integrating such functionality into Sheha. Williams-Decl., [0217]-[0219]; *supra* §VII.B.

3. Claim 17: said first wireless device is OFF when said location is provided to said second wireless device.

The Sheha-Ryden combination discussed *supra* §VII.B incorporates Ryden's teaching to make a location monitoring feature "programmable to bypass the [*first wireless device*] unit's ON-OFF switch…and respond with its G#...even when the unit 10 is turned OFF. Thus, the location G#...may be monitored" such as to "allow[] a stolen telephone unit…to be continuously monitored." Ryden, 16:53-62; Ryden-Prov, 31:4-8. Sheha-Ryden thus meets claim 17. Williams-Decl., [0220].

VIII. GROUND 3: CLAIMS 8-9, 12, 14, 25 ARE UNPATENTABLE OVER SHEHA+TANAKA

A. Tanaka (EX1011)

Tanaka describes allowing wireless users to identify other nearby wireless users and providing corresponding alerts. 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. Williams-Decl., [0227]-[0229].

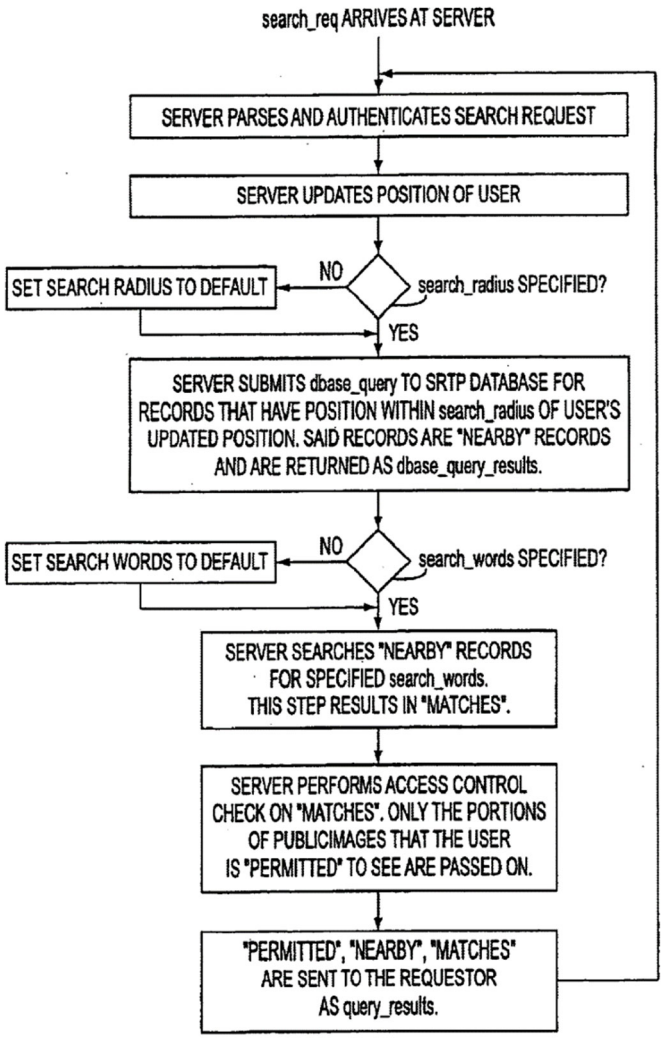

FIG. 4

Tanaka, FIG. 4.

B. Sheha-Tanaka Combination

POSAs would have understood many reasons why one would want to determine another person's location, including to obtain directions or determine if a friend is nearby for a social visit. Williams-Decl., [0230]. Further, POSAs would have understood that using location information to learn about people

nearby that may be good business, social, or romantic matches would have been of interest for a user of a location system like Sheha's. Tanaka, 1:31-62; Williams-Decl., [0230]. A POSA would have been motivated to incorporate Tanaka's geographic search and alert functionality to enhance Sheha's location services to enable a user to find and meet people of interest. Williams-Decl., [0231]-[0234]. Sheha and Tanaka both discuss that their systems can locate other users based on their mobile devices; thus POSAs would have reasonably expected success in incorporating such functionality. Williams-Decl., [0233]-[0234].

C. Mapping to Challenged Claims

1. Claims 8, 25

As discussed *supra* §§VI.B.1.b-VI.B.1.e ([1B]-[1E]), Sheha discloses obtaining position information from a target device. Williams-Decl., [0235]-[0236]. Tanaka discloses a mobile device submitting a search request for users of geographically close mobile devices matching search terms in the search requests, including a search radius specifying a *distance*. Tanaka, Abstract, 6:10-7:1; Williams-Decl., [0236]. Tanaka also discloses automatically notifying a user of other users that later become geographically close to the requesting user and satisfy the search terms. Tanaka, claim 20; Williams-Decl., [0236].

A POSA would have been motivated to incorporate such functionality to notify a requesting user that a user of interest, such as a friend or contact, is nearby

so that users of Sheha's system need not repeatedly manually check their locations. Williams-Decl., [0237]; *supra* §VIII.B.

In IPR2023-00090 (Paper 15 at 35), Mullen argued that Tanaka's "search request is neither directed to nor is capable of targeting a specific *pre-identified* user, like 'said first wireless device'" because Tanaka allegedly identifies only "*unknown* users" (Mullen's emphasis). Mullen is incorrect. Tanaka teaches that "***[i]f*** 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 *second wireless device* 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 device* user who has already given the *second wireless device* user permission to access the *first wireless device* user's location and profile. Williams-Decl., [0238]. In this obvious Sheha-Tanaka combination, the *second wireless device* which has permission from the *first wireless device* is alerted when the *first wireless device* is within a set distance. Williams-Decl., [0238]-[0239]; *id.*, [0253]; *see also infra* §VIII.C.3 (claim 12) discussing obviousness of device/user-specific alerts.

2. Claim 9:

a. [9A]-[9B]

Tanaka describes users establishing user profiles, including dating information (i.e., *dating matching profiles*), using their mobile devices. Tanaka, 2:43-45, 5:56-6:3; Williams-Decl., [0240]. Tanaka discloses "provid[ing] matching and/or introduction services between mobile users,…in response to real-time, proximate positioning and correlated user profiles." Tanaka, 2:15-18; Williams-Decl., [0240].

A POSA would have been motivated to incorporate the dating functionality from Tanaka to enable Sheha's wireless device users to identify other users of interest and to navigate to each other. Williams-Decl., [0241]. Tanaka teaches that users who might ordinarily not be proximate to each other—one user lives in New York and another in Moscow—might become geographically close due to travel. Tanaka, 1:44-64; Williams-Decl., [0241]. Thus, Tanaka teaches to identify when such transient matches occur and enable the parties to meet. Williams-Decl., [0241]. A POSA would have been motivated to incorporate this functionality into Sheha's system to allow users to identify other users of interest who are now nearby, including users that are already friends/contacts but are not normally nearby. Williams-Decl., [0241]-[0242]; *supra* §VIII.B. Further, POSAs would

have reasonably expected success based on Sheha's and Tanaka's teachings. Williams-Decl., [0242]-[0243].

b. [9C]

Sheha and Tanaka disclose obtaining locations of both wireless devices. Sheha, 10:5-16, 11:15-23; Tanaka, 2:49-51, 2:58-3:7; Williams-Decl., [0244].

c. [9D]

As discussed *supra* §VIII.C.1 (claim 8), Tanaka discloses providing alerts when other users of target mobile devices are geographically close and match search parameters or items in the user's own profile. Tanaka, 6:10-15, 6:56-60, claim 20; Williams-Decl., [0245]. If matching user profiles that are geographically close to the requesting user are located, they are provided to the user, thereby alerting the user of the matching profiles. Tanaka, 6:10-7:5. Tanaka also discloses that the user can be automatically notified of new users of mobile devices that become geographically close to the requesting user and satisfy the search terms. Tanaka, claim 20. A POSA would have been motivated to combine this functionality into Sheha's system to allow users to identify other nearby users that may be of interest, as discussed above regarding [9A]-[9B]. Williams-Decl., [0246]. Further, the POSA would have reasonably expected success. Williams-Decl., [0246]; *supra* §VIII.B.

3. Claim 12

As discussed *supra* §VIII.C.1 (claim 8), Tanaka discloses that a user may be "automatically notified if an additional user becomes proximate to said first user wherein said additional user meets criterion established in said search of said database." Tanaka, claim 20. The automatic proximity notification is a "*location alert*." Williams-Decl., [0247].

By establishing the search radius, the user has established conditions for location alerts (i.e., *set location alerts*) associated with such other wireless devices. Tanaka, 6:46-55; Williams-Decl., [0248]. Claim 12 does not require that a location alert be established specifically for the first wireless device, but only that the location alert be "*associated*" with it. By establishing a radius for geographic proximity or establishing search criteria corresponding to the target device, the alerts are associated with any devices that satisfy the search parameters, including the search radius. Williams-Decl., [0248]. A POSA would have been motivated to combine Sheha with Tanaka and reasonably expected success. Williams-Decl., [0248]; *supra* §VIII.B.

Alternatively, even if claim 12 required establishing a location alert specifically for the *first wireless device*, doing so would have been obvious because POSAs would have known that users may desire specific alerts when a known contact of interest is nearby, and reasonably expected success because such

functionality had been implemented in mobile-device location-tracking systems in the art. Williams-Decl., [0249]-[0251] (citing corroborating EX1013 ("De-Vries"), 2:14-62, 3:5-14).

4. Claim 14

Tanaka discloses outputting notifications based on a search radius, which establishes *a geographic region*. Tanaka, 6:46-7:5, claim 20; Williams-Decl., [0252]. Tanaka's alerts may be employed by any wireless devices, thus both the *first* and *second wireless devices* may establish search parameters with a search radius. Williams-Decl., [0252]. The *second wireless device* can receive alerts regarding the *first wireless device* as discussed *supra* §VIII.C.1 (claim 8), and can "tell the server how often to perform the defined search" and for how long "to continue searches." Tanaka, 4:6-16. Thus, when the *second wireless device* performs continued, frequent searches over a time interval and the *first wireless device* enters the search radius during that interval, the *second wireless device* will be *alerted when said first wireless device enters [the] geographic region*. Williams-Decl., [0252]. The motivations to combine for claim 14 are the same as for claims 8-9 and 12. Williams-Decl., [0252]; *supra* §VIII.B, §§VIII.C.1-VIII.C.3. Therefore, Sheha-Tanaka makes obvious claim 14. Williams-Decl., [0252].

IX. GROUND 4: CLAIMS 15-17 ARE UNPATENTABLE OVER SHEHA+GANESH

A. Ganesh (EX1012)

Ganesh describes providing a mobile device's location to an authorized requesting party. Ganesh, Abstract, 1:14-18. Ganesh explains that automatic location techniques had been developed for emergency uses under the Federal Communications Commission's E-911 requirements, and describes applying these techniques for non-emergency uses, while preventing unauthorized access to location information. Ganesh, 1:56-2:12, 2:45-60. In Ganesh's system, a mobile device's approximate location can be obtained using call history records to identify cell sites and sectors in communication with the device during a prior call. Ganesh, 4:29-35, 7:3-20. A more accurate location can be obtained using the automatic location techniques for E-911, such as built-in GPS receivers. Ganesh, 7:32-65.

For secure location sharing, Ganesh's system determines whether the requestor is authorized to locate the target device. Ganesh, 5:1-6:32. If so, the target device's location is displayed on a map, marked by star 106. Ganesh, 8:6-14, FIG. 7 (below). Williams-Decl., [0256]-[0261].

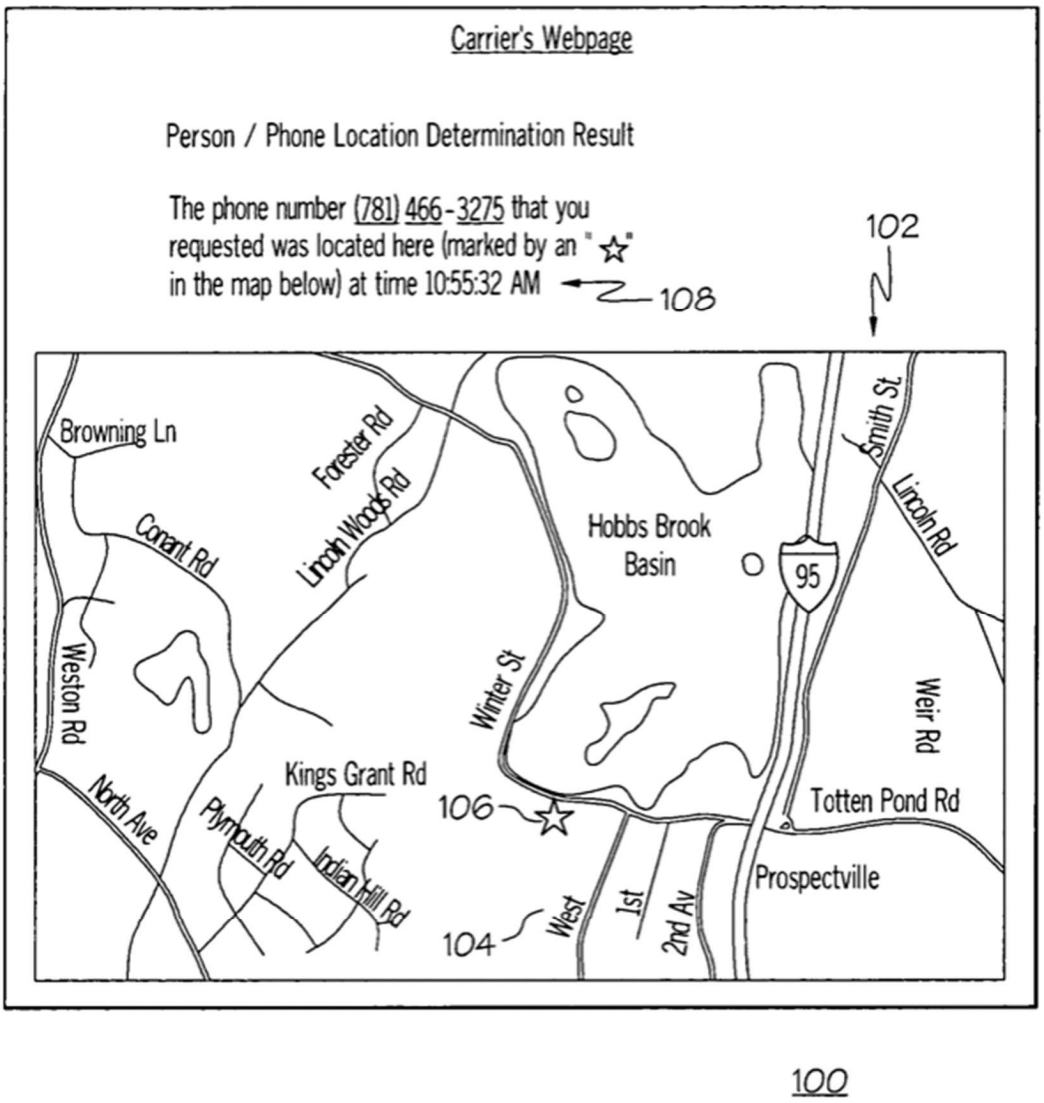

FIG. 7

B. Sheha-Ganesh Combination

A POSA would have been motivated to enhance Sheha's system to provide more comprehensive location capabilities, including via Ganesh's teachings of providing locations based on call history. Williams-Decl., [0262]. While an exact position may be desirable, POSAs would have known that a most-recent position can still provide useful location information, such as for a parent locating a child,

which was already a focus of E-911 systems. Ganesh, 1:36-2:41; Williams-Decl., [0262]-[0263]. POSAs would have reasonably expected success in incorporating this functionality because extending Sheha's system to store past call history with corresponding location information, as in Ganesh, would have involved only a minor upgrade to Sheha's ODAS. Williams-Decl., [0264].

C. Mapping to Challenged Claims

1. Claim 15

Sheha discloses storing locations for wireless devices. Sheha, 11:3-8, 11:44-51. Ganesh teaches that a server *stores a history of locations for the first wireless device*. Ganesh, 4:29-35, 6:55-7:20, 7:62-65; Williams-Decl., [0256]-[0266]. A POSA would have been motivated to combine Sheha with Ganesh and would have reasonably expected success. Williams-Decl., [0266]; *supra* §IX.B.

2. Claim 16

Claim 16 repeats claim 15's language, which is discussed above. Williams-Decl., [0267]. Regarding "*said history is utilized to provide an approximate location of said first wireless device*," Ganesh discloses using call histories to determine a wireless device's approximate location. Ganesh, 4:29-35; Williams-Decl., [0267]. It would have been obvious to incorporate this functionality in Sheha's system as discussed above. Williams-Decl., [0267]; *supra* §IX.B.

3. Claim 17

Because Sheha discloses that wireless devices' locations are stored at its ODAS (Sheha, 11:3-8, 11:44-51), POSAs would have understood that a requesting device can request a location regardless of whether the target device is on or off. Williams-Decl., [0268]. Moreover, Ganesh discusses providing location information from a call log when the target device is turned off. Ganesh, 7:62-65, 6:55-7:20; Williams-Decl., [0268]. It would have been obvious to combine Sheha with Ganesh to allow a device to be located when it is turned off. Williams-Decl., [0268]; *supra* §IX.B. Thus, Sheha alone or with Ganesh makes obvious claim 17.

X. GROUND 5: CLAIMS 1-3, 6-10, 13-14, 18-21, 24-27, 30 ARE ANTICIPATED OR ALTERNATIVELY OBVIOUS OVER RANDALL

A. Randall (EX1007)

Randall is an international (PCT) application filed August 22, 2001, and published in the international stage as EX1008 (in English, designating the United States) and in the U.S. national stage as EX1007. Randall is thus prior art under pre-AIA 35 U.S.C. §102(e). Citations herein are to the U.S. publication (EX1007); the identical description is present in the international publication (EX1008). Williams-Decl., [0082]-[0084] (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., [0270]-[0271].

"As an example,…a user might choose to subscribe to a service which allowed others to track his or her location—location could be a new attribute" stored in the "database" as "information relating to [the] individual." Randall, [0021]. "The user's friends or parents etc who wish to track the users location…could add a 'map' application to their own devices, which could show their position on digital maps and also, by using the location attribute of the user's data object, it could also show the position of the user." Randall, [0021]. In this example, the "personal information…and location based information" is "handled by contacts…and map type applications" coordinating together to provide the service. Randall, [0021]-[0022], [0025]; Williams-Decl., [0272]-[0276].

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., [0277]-[0278]. 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 "***system***" that allows "wireless applications to access and share information." Randall, [0028], [0052]-[0053], [0071]. As discussed *supra* §X.A, the system provides access control for a wireless device user to track the location of another wireless device user. As demonstrated in the sections below, Randall's system meets or renders obvious all elements of claim 1. Williams-Decl., [0279]-[0280].

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., [0281]. Alice's device is an exemplary *first wireless device* (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., [0281].

"[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, 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 system*. 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., [0282].

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., [0283].

TABLE 1

Alice’s iData

Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all

TABLE 1-continued

Alice’s iData

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

Randall, Table 1 (annotated).

Thus, Alice's *first wireless device* determines its location and provides it to the i-server (*remote system*). Williams-Decl., [0284].

b. [1B]

Randall teaches that Bob's *second wireless device* can request to access Alice's data on the i-server (which includes her *location of said first wireless device* as discussed *supra* §X.B.1.a ([1A])) "by sending to the server an unchanging pointer or key (an 'ADS Number') which is unique to" Alice. Randall, [0049]; Williams-Decl., [0285]. Thus, as Alice's data changes (e.g., as "[t]he I-server is up-dated" with Alice's current location), "Bob can pull the new data into his device" by "polling the server." Randall, p. 24 (Table 4, "People tracking"), [0053], [0015] ("pull[ing]" information from server is "request[ing]" it); Williams-Decl., [0285]. "When Bob's device sends Alice's ADS Number to the server, then the server recognises Bob's device and allows that device to read Alice's information held on the database which is specified as being accessible to Bob"—i.e., "the server passes to Bob's device the information it requests." Randall, [0049], [0067], [0512]; Williams-Decl., [0285]. Bob's device indicates which "relevant information" it is requesting (which may be, e.g., Alice's location information) by "sending various data tags defining its enquiry." Randall, [0067]; Williams-Decl., [0285]. "Generally, Alice would prefer Bob's data requests to be routed to the server, rather than utilise the limited resources of her wireless

information device." Randall, [0069]. Thus, outside of limited "situations…where a connection is being opened up…anyway to support a voice call," more "[g]enerally" Alice's *first wireless device*'s location is *requested* by Bob's *second wireless device outside of a call for communication between* Alice's and Bob's devices. Randall, [0069]; Williams-Decl., [0285]-[0286].

c. [1C]

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.a ([1A]) and shown in Table 1, one of the fields in Alice's database is information about her device's "GPS location," and she has designated that field as only being accessible to users whom she has designated as part of the "i-Group" called "partner." Randall, [0503]-[0512]; Williams-Decl., [0287]. "[S]ensitive information is only available to people in certain i-Groups; allowing Alice to control what data they see." Randall, [0509], [0136] ("Location information" is "[v]isible to specific people (or groups)"). Randall teaches that "whenever Alice wishes to, she can change the level of access of a current contact—perhaps promoting Bob from 'business' to 'friend.'" Randall, [0509]. This is a "method[] of making contacts into members of a particular i-Group," which Alice can use via

her *first wireless device* to provide *permission* for Bob's *second wireless device* to access information about her device's location. Randall, [0509], [0495]; Williams-Decl., [0287]. "Access rights can be associated with individual entities, and can also be associated with groups of entities." Randall, [0070], [0052], [0146] ("users will be prepared to allow specific people access to more of their data than others"). Thus, in one example, if Alice assigns Bob to the "partner" i-Group having access to Alice's GPS location and Alice has only one partner, then Alice is assigning location access rights only to Bob (and his device). Williams-Decl., [0287]; Randall, Table 1.

TABLE 1

Alice's iData

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

Randall, Table 1 (pp. 21-22) (excerpted and annotated).

d. [1D]

Randall's "internet servers host[] extensible databases with attributes." Randall, [0046]. "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]. Thus, when Alice "specif[ies] the remote database access rights given to different people or groups" including Bob, that *permission* is "stored as an attribute which gives access permissions to data in the database." Randall, [0052]. Thus, the *permission* for Bob to access Alice's location information is *stored in* the i-server, which is a *remote system located remotely from* Alice's and Bob's *wireless devices* as discussed *supra* §X.B.1.a ([1A]). Williams-Decl., [0288]-[0289]; Randall, [0501]-[0512] (Alice's Table 1 database on i-server assigns different permissions to different i-groups) (discussed *supra* §X.B.1.c ([1C])).

e. [1E]

"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 *outside of said call* as discussed *supra* §X.B.1.b ([1B])—"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., [0290]. "[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 "up-dated with the location of" Alice's device. Randall, p. 24 (Table 4, "People tracking"); Williams-Decl., [0290]-[0291].

Thus, Alice's location information is provided from the i-server to Bob's device *in accordance with said permission outside of said call*.

f. [1F]

"[R]esident on [Randall's] wireless information device" is a "location application (which gives a user's location and includes digital maps)." Randall, [0009]. "[Y]our phone can display a map of the area you are standing in." Randall, p. 29 ("Your map and then some"). Thus, Alice's *first wireless device* can provide *a first map with respect to* Alice's *location*. Williams-Decl., [0292].

Additionally, 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"); *see supra* §X.B.1.a ([1A]). 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," and Alice's "'map' application…could show [Alice's] position on digital maps and…also show the position of" Bob. Randall, [0021]; Williams-Decl., [0293]. This is another way Alice's *first wireless device* can provide *a first map with respect to* Alice's *location* (and also showing Bob's location). Williams-Decl., [0293]-[0294].

2. Claim 2

Randall's "***wireless*** information device[s]"—including Alice's and Bob's—can be "radio ***telephones***" or "smart ***phones***." Randall, [0002], [0491] ("Bob's…mobile ***phone***"), [0495] ("Alice's ***phone***"); Williams-Decl., [0295].

3. Claim 3

In Randall's system, once Alice "has subscribed to the location service, then [Alice's] friends[] [such as 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 *second wireless device displays a map* with Alice's *location*. Williams-Decl., [0296]. POSAs would have understood that "show[ing]" Alice's "position" on the map (Randall, [0021])

involves displaying *a location marker associated with said location*, because the position is a *location* and showing it would involve displaying a *marker*. Williams-Decl., [0296].

Alternatively, it would have been an obvious implementation of this disclosure to show Alice's location on the map by displaying *a location 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 device) on a digital map. Williams-Decl., [0297]-[0298] (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).

4. Claim 6

As discussed *supra* §X.B.1.c ([1C]), Alice's *first wireless device* provides Bob *permission* to obtain her location by specifying his access rights to the location field in her i-server database. Williams-Decl., [0299]. Alice can make this information "[v]isible to specific people (or groups) for a specific period of time. (i.e. Location information)." Randall, [0136]. Randall teaches that in "a simple step," Alice can "change a visibility setting, in particular location information." Randall, [0141]. Alice can "switch location information on for a

person" (e.g., for Bob) "for a specific period of time, i.e. for the half hour that the group of friends are trying to locate each other in town," and "[a]t the end of the pre-defined period the location information" can "again become invisible." Randall, [0143]-[0144]. Thus, by pre-defining a period of time after which Bob's access to Alice's location ends, Alice's *first wireless device* can remove *said permission* for Bob's *second wireless device* to obtain Alice's location. Williams-Decl., [0299]-[0300].

5. Claim 7

Randall's wireless device uses "GPS" to determine its location and provide it to the i-server. Randall, p. 24 (Table 4, "People tracking"), p. 22 (Table 1, "GPS location"), p. 29 ("Route finder"). As the '418 patent admits, it was prior-art "background" knowledge that "GPS" stands for "global positioning system" and is *a positioning system that receives signals from a plurality of positioning satellites*. EX1001, 1:21-27; Williams-Decl., [0301]-[0306] (citing corroborating EX1016 ("Sandhu"), [0004], [0020]; EX1019 ("Thomas"), 3:26-29; EX1020 ("Murphy"), 1:9-13; EX1021 ("Divakaruni"), 1:29-59)).

Randall's "I-server [*remote system*] is ***up-dated with the location***" which is "obtained via a GPS wireless information device [*said positioning system*], which transmits location information to the i-server," allowing the updated location to be "track[ed]" as it changes, as is "useful for tracking children and pets." Randall, p.

24 (Table 4, "People tracking"). Thus, Alice's GPS location in Randall *is updated by said positioning system, and said updated location is provided to said remote system*. Williams-Decl., [0307]-[0308].

6. Claim 8

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. As discussed *supra* §§X.B.1.a-X.B.1.f, Bob's and Alice's locations are provided through the i-server; thus POSAs would have understood that the i-server is involved in alerting Bob's *second wireless device* that the location of Alice's *first wireless device* is within the defined *distance* of Bob's device's location, or at least it would have been obvious to implement the system to alert Bob's device this way. Williams-Decl., [0309].

7. Claim 9:

a. [9A]

Randall's system enables any user, including Alice, to provide via her *first wireless device* a virtual profile to share information about herself. Randall, [0118] ("Identity allows people to share information about themselves using their wireless information devices—i.e. it is a mechanism for establishing a virtual identity by posting information onto an extensible database."); Williams-Decl., [0310]. Via Randall's "New buddy finder" service, "[c]ompatible personal profiles stored on

the I-server can be readily identified and the corresponding individuals alerted to their mutual presence at a party, club etc." Randall, p. 24 (Table 4). In this context where personal profiles are shared and matched based on whether they are "compatible," POSAs would have understood that Alice's profile functions as *a first dating matching profile*. Williams-Decl., [0310].

b. [9B]

For the same reasons discussed *supra* §X.B.7.a ([9A]), Bob's personal profile is *a second dating matching profile provided by said second wireless device* in the "New buddy finder" application. Randall, p. 24 (Table 4); Williams-Decl., [0311].

c. [9C]

As discussed *supra* §X.B.1.f ([1F]), Bob's *second wireless device*, like Alice's device, can provide its location for sharing via the i-server, meeting [9C]. Williams-Decl., [0312].

d. [9D]

Via Randall's "New buddy finder" service, "[c]ompatible personal profiles stored on the I-server can be readily identified and the corresponding individuals ***alerted*** to their mutual presence at a party, club etc." Randall, p. 24 (Table 4). *Said location* and *said second location* are utilized to determine that Alice and Bob are mutually present at a place, and their two *dating matching profiles* are utilized to determine that they are compatible, to provide the alert. Williams-Decl., [0313].

POSAs would have understood that this can be done whether or not Alice and Bob are already contacts of each other, as even people who are contacts may not realize how compatible their profiles are, and/or may appreciate an alert that a compatible contact is nearby for meeting up. Williams-Decl., [0313].

8. Claim 10

As discussed *supra* §X.B.1.f ([1F]), §X.B.3 (claim 3), Bob's *second wireless device* can "show [Bob's] position on digital maps and…also show the position of" [Alice]. Randall, [0021]. In this map, *said location* of Alice's *first wireless device is displayed relative to said second location* of Bob's *second wireless device*. Williams-Decl., [0314].

9. Claim 13

As discussed *supra* §X.B.4 (claim 6), Alice can specify that the *permission* provided by her *first wireless device* makes her "[l]ocation information" "[v]isible to specific people" (e.g., to Bob) "***for a specific period of time***" such as "the half hour that the group of friends are trying to locate each other in town." Randall, [0136], [0143]. "At the end of the pre-defined period the location information" can "again become invisible." Randall, [0144]. Thus, Randall meets claim 13. Williams-Decl., [0315].

10. Claim 14

In Randall's "Old buddy finder" service, 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. As discussed *supra* §X.B.6, Bob's and Alice's locations are provided through the i-server; thus POSAs would have understood that the i-server is involved in alerting Bob's *second wireless device* that the location of Alice's *first wireless device* has entered the same *geographic region* (e.g., city) as Bob's device's location, or at least it would have been obvious to implement the system to alert Bob's device this way. Williams-Decl., [0316].

11. Claim 18

a. Previously Addressed Elements

Randall meets the following elements of claim 18 for the reasons discussed in the corresponding section above. Williams-Decl., [0317]-[0332].

Element:	**Addressed in Section:**
[18PRE]	X.B.1 ([1PRE])
[18A]	X.B.1.a ([1A])
[18B]	X.B.1.f ([1F]), X.B.7.c ([9C]), X.B.8 (claim 10)
[18C]	X.B.1.a ([1A]), X.B.1.d ([1D])
[18D]	X.B.1.b ([1B])
[18F]	X.B.1.c ([1C])
[18H]	X.B.1.d ([1D])

[18I]	X.B.1.e ([1E])
[18K]	X.B.1.f ([1F])

b. Additional Elements

As discussed *supra* §VI.B.8.b, claim elements [18B], [18C], [18E], [18G], [18H], and [18J] repeat limitations, but with the perspective of the "second wireless device" replacing that of the "first wireless device" and vice-versa. Thus, claim 18 adds that, like the first wireless device, the second wireless device has a location operable of being determined, provided to a server, requested by and provided to the first wireless device as a result of a permission provided by the second wireless device and stored on the server. Randall meets these limitations because, as discussed *supra* §X.B.1.a, §X.B.1.f, POSAs would have understood that in Randall's system, any of the functionality that Randall discloses and/or renders obvious for performance by one wireless device (e.g., Alice's device) can equally be performed by any other wireless device (e.g., Bob's device), and that Randall discusses Alice and Bob as arbitrary and generic examples of wireless device functionality in Randall's system. Williams-Decl., [0317]-[0331]; *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., [0317].

12. Claim 19

a. Previously Addressed Elements

Randall meets the following elements of claim 19 for the reasons discussed in the corresponding section above. Williams-Decl., [0333]-[0347].

Element	Addressed in Section
[19PRE]	X.B.1 ([1PRE])
[19A]	X.B.1.a ([1A])
[19B]	X.B.11 ([18B])
[19C]	X.B.11 ([18C])
[19D]	X.B.1.b ([1B])
[19E]	X.B.11 ([18E])
[19F]	X.B.1.c ([1C])

[19G]	X.B.11 ([18G])
[19H]	X.B.11 ([18H])
[19I]	X.B.1.e ([1E])
[19J]	X.B.11 ([18J])
[19M]	X.B.1.f ([1F])

b. [19K]

As discussed *supra* §X.B.1.b ([1B]), as Alice's data changes (e.g., as "[t]he I-server is ***up-dated***" with Alice's current location), "Bob can pull the new data into his device" by "polling the server." Randall, p. 24 (Table 4, "People tracking"), [0053]; Williams-Decl., [0345]. Alternatively, "the new data can be automatically pushed to Bob" at his *second wireless device*. Randall, [0053]; Williams-Decl., [0345]. This "enabl[es] ***authorised people*** to track the location of" Alice's device. Randall, p. 24 (Table 4, "People tracking"). As discussed *supra* §§X.B.1.c-X.B.1.e ([1C]-[1E]), Alice's location information is only provided to Bob's device *as a result of said first permission* having been provided by Alice. Williams-Decl., [0345].

c. [19L]

Randall meets [19L] for the same reasons as [19K] because, as discussed *supra* §X.B.1.a, §X.B.1.f, §X.B.11.b, POSAs would have understood that in Randall's system, any of the functionality that Randall discloses and/or renders obvious for performance by one wireless device (e.g., Alice's device) can equally be performed by any other wireless device (e.g., Bob's device), and that Randall discusses Alice and Bob as arbitrary and generic examples of wireless device functionality in Randall's system. Williams-Decl., [0346]; *see, e.g.*, Randall, [0053], [0144], [0510] (discussed *supra* §X.B.11.b (claim 18)).

13. Claims 20-21, 24-27, 30

Randall meets the limitations added by the following claims for the reasons discussed in the corresponding section above. Williams-Decl., [0348]-[0354].

Claims:	**Limitation Addressed in Section:**
20, 26	X.B.2 (claim 2)
21, 27	X.B.3 (claim 3)
24, 30	X.B.4 (claim 6)
25	X.B.6 (claim 8)

XI. GROUND 6: CLAIM 12 IS UNPATENTABLE OVER RANDALL+DE-VRIES

A. De-Vries (EX1013)

De-Vries relates to "notifications to inform when certain people (e.g., friends, family, business contacts, etc.) are nearby" based on "devices carried by the people" such as "cell phone[s]." De-Vries, Abstract, 2:21-26. A device's "user can set rules and/or parameters to control when notifications are generated"—"[f]or example, a user may set a proximity parameter designating that notifications are provided only when the other users on his or her buddy list are within a certain proximity." De-Vries, 2:52-59. "[T]he user can segregate" their contacts "into separate subsets, such as subsets of family, friends, business contacts, co-workers, etc." and "set the rules and/or parameters that control notifications to also be based on the subset of the other user who moved." De-Vries, 3:5-14. Williams-Decl., [0357].

B. Randall-De-Vries Combination

As discussed *supra* §X.B.6 (claim 8), §X.B.10 (claim 14), Randall, like De-Vries, provides notifications via wireless devices when certain contacts are nearby, including via Randall's "Old buddy finder" service. To the extent that Randall does not specify that the user receiving these location alerts can set the rules/parameters for receiving them with respect to the proximity of particular other device users, a POSA would have been motivated to implement Randall's

service that way based on De-Vries's teachings, to provide the user with control over what alerts they receive and about whom. Williams-Decl., [0357]-[0358]. POSAs would have reasonably expected success based on De-Vries's teachings of successfully implementing such functionality in a system similar to Randall's where wireless device users are accessing each other's locations. Williams-Decl., [0358].

C. Mapping to Claim 12

The Randall-De-Vries combination implements De-Vries's above-discussed teachings allowing the alert recipient to set the rules/parameters for being alerted when a particular other user's location is in proximity. Williams-Decl., [0359]. Thus, in the combination, the *second wireless device* is *allowed to set location alerts associated with said first wireless device*. Williams-Decl., [0359].

XII. GROUND 7: CLAIMS 3, 10, 15-17, 21, 27 ARE UNPATENTABLE OVER RANDALL+WOLLRAB

A. Wollrab (EX1014)

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

movement for" a tracked device. Wollrab, 3:21-27, 4:54-58. Williams-Decl., [0362].

B. Randall-Wollrab Combination

Like Wollrab, Randall teaches that users can "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]. A POSA would have recognized Wollrab's techniques as beneficial for implementing Randall's teaching of showing the positions of the tracking and tracked users on a map, in an intuitive manner that would be easily comprehensible to the tracking user, and in a way that allows historical tracking records to be used to help trace where a device has been and locate a device whose tracking has been lost, as Wollrab describes. Williams-Decl., [0362]-[0363]; Wollrab, 3:21-27, 4:40-58. The POSA would have had a reasonable expectation of success because Wollrab teaches a system operating in the proposed manner in the same context as Randall's, of wireless devices tracking and mapping each other's locations. Williams-Decl., [0363].

C. Mapping to Challenged Claims

1. Claims 3, 21, 27

In the Randall-Wollrab combination, the map displayed on Bob's *second wireless device* (discussed *supra* §X.B.3) uses *a location marker* to show Alice's location, based on Wollrab's teaching to provide "symbols" on the map to indicate

both the tracking wireless device's location (44-1, annotated green below) and the locations of other wireless devices being tracked (44-2 to 44-5, annotated red below). Wollrab, 4:40-58, FIG. 4B (symbols 44-1 through 44-5 annotated below); Williams-Decl., [0364], [0377]-[0378].

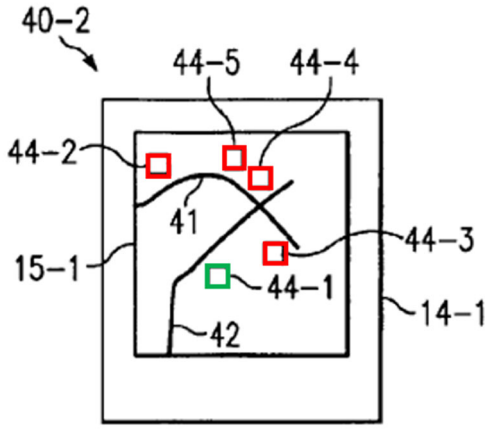

FIG. 4B

2. Claim 10

In the Randall-Wollrab combination, the map displayed on Bob's *second wireless device* (discussed *supra* §X.B.8) shows Alice's location relative to Bob's location, based on Wollrab's teaching to display on the map the locations of other wireless devices being tracked (44-2 to 44-5, annotated red below) relative to the tracking wireless device's location (44-1, annotated green below). Wollrab, 4:40-58, FIG. 4B (symbols 44-1 through 44-5 annotated below); Williams-Decl., [0365].

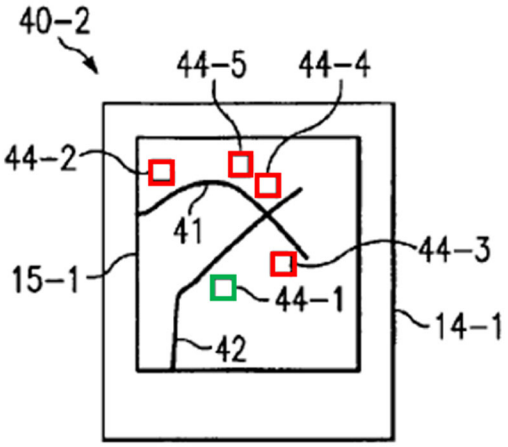

FIG. 4B

3. Claim 15

The Randall-Wollrab combination implements Wollrab's teaching that "multiple sequential sets of remote sensing location coordinates are stored…to create a ***historical tracking record of movement***" that "can be retrieved later to determine where a [wireless] device has been physically located over time for such purposes as tracking member movements or locating a lost member." Wollrab, 3:21-27, 4:54-58 ("In map image 40-3 symbols interconnected with location 44-5 depict ***sequential historical locations*** of…device 14-5 relative to location 44-1 of…device 14-1…."); Williams-Decl., [0366].

Wollrab's wireless devices share their locations with each other via a remote system ("[s]atellite device 12"), which "receives, processes and ***stores*** information sent from individual" devices, including their "physical location" data. Wollrab, 4:1-23. In Randall's system, this functionality is performed by the i-server

(discussed *supra* §§X.B.1.a-X.B.1.b ([1A]-[1B]), §X.B.1.e ([1E])). Therefore, a POSA would have been motivated to implement the Randall-Wollrab combination to store the *history of locations* at the i-server, additionally or alternatively to storing it locally at a tracking device, e.g., to offload storage requirements, provide data backup, and/or allow a user to access data from multiple local devices. Williams-Decl., [0367]. Storing a *history of locations* at server-side was a well-known design option. Williams-Decl., [0367]-[0368] (citing corroborating EX1019 ("Thomas"), 7:34-49, 5:58-6:37; EX1012 ("Ganesh"), 7:3-65, FIG. 1, 4:8-28). A POSA would have reasonably expected success because Randall's i-server already receives, stores, and provides updates of a device's location, as discussed *supra* §§X.B.1.a-X.B.1.f. Williams-Decl., [0369]-[0370].

4. Claim 16

As discussed *supra* §XII.C.3 (claim 15), the Randall-Wollrab combination implements at the i-server Wollrab's teaching to *store a history of locations* for Alice's *first wireless device* so that the history "can be retrieved later to determine where [the wireless] device has been physically located over time for such purposes as tracking member movements or locating a lost member." Wollrab, 3:21-27, 4:54-58, FIG. 4C:

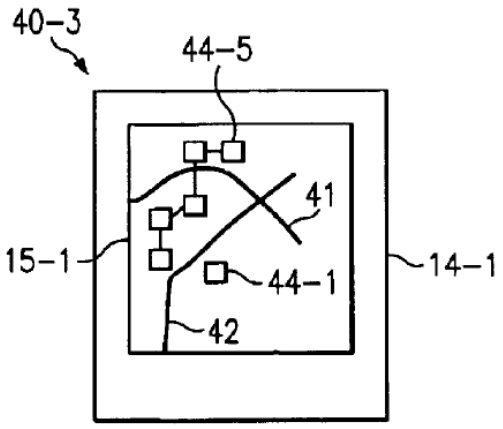

FIG. 4C

POSAs would have understood that the most recent historical location 44-5 and/or an extrapolation of the device's trajectory based on the history *is utilized to provide an approximate location of said first wireless device*, particularly in the scenario Wollrab describes where the device's tracking was "lost" following that trajectory. Williams-Decl., [0371]-[0372].

5. Claim 17

Wollrab teaches that a device's "historical tracking record of movement…can be retrieved later to determine where a…device has been physically located over time for such purposes as…locating a lost member." Wollrab, 3:21-27; *see also id.*, 4:54-58. POSAs would have understood that one typical such "lost member" scenario involves the member's device being "OFF," such as due to a drained battery or other issue. Williams-Decl., [0373]. Further, POSAs would have known that when a *second wireless device* obtains the location

of a *first wireless device* that is stored at a server as in Randall's system, that enables the *second wireless device* "user to determine the location of another user…even when that other user is not online or when their mobile telephone or other device is switched off." Williams-Decl., [0373]-[0376] (quoting EX1022 ("Darling"), 2:1-12; citing corroborating EX1012 ("Ganesh"), 6:55-7:20).

XIII. GROUND 8: CLAIMS 4-5, 11, 17, 22-23, 28-29 ARE UNPATENTABLE OVER RANDALL+RYDEN

A. Randall-Ryden Combination

A POSA would have been motivated to incorporate Ryden's speed and direction determination capabilities, as well as Ryden's location monitoring for a device that is turned OFF, (both discussed *supra* §§VII.A-VII.B) into Randall's system to provide such functionality and standard navigation information using Randall's mapping functionality. Williams-Decl., [0379]-[0381]. Randall teaches that its wireless device can show its own "position on digital maps" and "also show the position of" another wireless device user. Randall, [0021]. Randall further teaches that this functionality can be used by a "group of friends [who] are trying to locate each other in town." Randall, [0143]. POSAs would have known that a person meeting another person who is using a mobile device and may be moving would want to know about the other person's movement, such as where they are heading and how fast. Williams-Decl., [0381]; *see supra* §VII.B. POSAs would have understood that such functionality would help mobile device users more

efficiently meet. Williams-Decl., [0381]. Further, because Ryden operates in a similar environment as Randall using similar location information, a POSA would have reasonably expected success integrating Ryden's functionality. Williams-Decl., [0381].

B. Mapping to Challenged Claims

1. Claims 4-5, 22-23, 28-29

POSAs would have known that speed is determined based on a distance traveled over time, while a direction is determined based on changes in position. Williams-Decl., [0382]-[0383]. As discussed *supra* §X.B.5 (claim 7), §X.B.12 ([19K]-[19L]), Randall teaches that each of its wireless devices can request and receive the position of another wireless device and receive updates to that device's position information. Randall, p. 24 (Table 4, "People tracking"); Williams-Decl., [0383]. Thus, Randall discloses obtaining multiple positions of another wireless device, which POSAs would have known can be used to determine speed and direction of travel. Williams-Decl., [0383].

Ryden teaches to determine the speed and direction of travel of a mobile device, which may be a cellular device. Ryden, 18:33-50; Ryden-Prov. (EX1010), 16:3-15, 34:3-14; Williams-Decl., [0384]. Ryden teaches that travel speed and direction may be extrapolated from received position information. Ryden, 18:41-50; Ryden-Prov., 35:4-11; Williams-Decl., [0384]. Ryden also discloses that speed

and direction of travel may be directly determined from position changes as a function of time. Ryden, 19:34-47; Ryden-Prov., 35:4-11; Williams-Decl., [0384].

A POSA would have been motivated to enhance Randall's map-based tracking capabilities to determine the remote wireless device's movement, including speed and direction of travel, to provide accurate tracking information and inform users who are trying to meet up, and would have had a reasonable expectation of success. Williams-Decl., [0385]-[0386], *id.*, [0391]-[0394]; *supra* §XIII.A. Randall-Ryden thus meets claims 4-5, 22-23, and 28-29.

2. Claim 11

Randall discloses that its system can provide a service "similar to GPS tracking in cars, but for mobile phones," where "[y]ou identify where you want to go, the phone knows where you are already," so it can "give you step by step instructions on how to get there." Randall, p. 29 ("Route finder"). Ryden discloses that direction of travel may be determined for a user's device and a target device. Ryden, 19:34-47; Ryden-Prov., 34:3-14, 35:4-11; Williams-Decl., [0387]. POSAs would have recognized that displaying a direction of travel would have been desirable in Randall's navigation system to inform the user of their progress along a provided route, and would have had a reasonable expectation of success integrating such functionality into Randall, thus meeting claim 11. Williams-Decl., [0387]-[0388]; *supra* §XIII.A.

3. Claim 17

As discussed *supra* §VII.A, §VII.C.3, Ryden teaches to program a wireless device's location reporting feature "to bypass the unit's ON-OFF switch" so the device "respond[s] with its…location G#" even "when the unit 10 is turned OFF," so as to "allow[] a stolen telephone unit" to be located. Ryden, 16:53-62; Ryden-Prov, 31:4-8. A POSA would have been motivated to incorporate this feature in Randall's system to allow a contact (e.g., friend or family member) to locate a lost or stolen *first wireless device*, and would have reasonably expected success in view of Ryden's teachings that use the technique in a system similar to Randall's where wireless device GPS locations are being tracked. Williams-Decl., [0389] (citing EX1018 ("Meadows") corroborating POSAs' knowledge that making "the device continue[] to transmit" "even when the wireless device operator turns off the wireless device" is "useful for monitoring other individuals" and "useful for tracking devices such as misplaced cellular telephones"). In Randall's system, the *first wireless device* reports its location to the i-server, which provides it to the *second wireless device* (as discussed *supra* §§X.B.1.a-X.B.1.b ([1A]-[1B]), §X.B.1.e ([1E])). Therefore, a POSA would have been motivated to implement the Randall-Ryden combination to perform that location reporting even when the wireless device is off, such that *said first wireless device* can be *OFF when said*

location is provided to said second wireless device, meeting claim 17. Williams-Decl., [0390].

XIV. GROUND 9: CLAIMS 15-17 ARE UNPATENTABLE OVER RANDALL+GANESH

A. Randall-Ganesh Combination

As discussed *supra* §§IX.A-IX.C, Ganesh teaches benefits of a server storing a history of a wireless device's locations, including to determine the wireless device's approximate location and to provide location information when the device is turned off. Ganesh, 4:29-35, 6:55-7:20, 7:62-65. A POSA would have been motivated to enhance Randall's system to provide more comprehensive location capabilities via Ganesh's teachings. Williams-Decl., [0395]-[0397]. While an exact position may be desirable, POSAs would have known that a most-recent position based on a historical record can still provide useful location information, such as for a parent locating a child, which was already a focus of E-911 systems. Ganesh, 1:36-2:41; Williams-Decl., [0397]-[0398]. A POSA would have reasonably expected success in incorporating this functionality into Randall's system given that Randall's i-server already receives, stores, and provides updates of a target wireless device's location as discussed *supra* §§X.B.1.a-X.B.1.f. Williams-Decl., [0399].

B. Mapping to Claims 15-17

The Randall-Ganesh combination incorporates the same Ganesh teachings as the Sheha-Ganesh combination discussed *supra* §§IX.A-IX.B, which meet the limitations added by claims 15-17 for the reasons discussed *supra* §§IX.C. Williams-Decl., [0400]-[0403].

XV. NO BASIS EXISTS FOR DISCRETIONARY DENIAL

A. Section 314(a)

1. *Fintiv*

"[T]he PTAB will not deny institution based on *Fintiv* if," as here, "there is compelling evidence of unpatentability." 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)). That should conclude the *Fintiv* analysis.

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

a. Stay Potential

Absent "specific evidence" how the court will rule on any stay motion, this factor is neutral. *Sand Revolution II, LLC, v. Cont'l Intermodal Group–Trucking LLC*, IPR2019-01393, Paper 24 at 7 (June 16, 2020) (informative).

b. Trial Timing

A motion is pending to transfer the district-court proceeding to the Northern District of California (EX1036 at 8), where the median time-to-trial is 48.9 months

(EX1037 at 66). Even if that motion were not granted, the current District Court's scheduled trial date of November 3, 2025, is only about five months before an FWD is likely due. *See Zynga Inc. v. IGT*, IPR2022-00368, Paper 7 at 8-15 (Jul. 8, 2022) (instituting IPR with district-court trial date five months before FWD).

c. Litigation Investment

The district-court parties have invested little in invalidity-related issues, the scheduled *Markman* hearing is over seven months away (EX1038 at 3), and "a significant portion of work remains to be done in the district court proceeding—e.g., the completion of 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 five months after receiving Mullen's infringement contentions and about four months before any statutory bar. *See Samsung Elecs. Co., Ltd. v. Mojo Mobility Inc.*, IPR2023-01089, Paper 11 at 19 (Jan. 11, 2024) ("[G]iven the number of claims asserted" across "seven patents," petitioner "was diligent in filing the Petition" within "four months of

service of infringement contentions, and approximately eight months after the Complaint was filed.").

d. Issue Overlap

This Petition challenges all thirty claims of the '418 patent, only seven of which are asserted in district court. EX1039 at 1. This weighs against denial. *Markforged Inc. v. Continuous Composites, Inc.*, IPR2022-00679, Paper 7 at 32-33 (Oct. 25, 2022).

e. Litigation Defendants

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

f. Other Circumstances

The Petition's "strong showing on the merits" weighs against denial. Interim Procedure, 3-5.

2. *General Plastic*

Discretionary denial under *General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (Sept. 6, 2017) (precedential as to §II.B.4.i) "is not justified" where, as here, first and second petitioners "do not have a significant relationship." *Videndum Production Sols., Inc. v. Rotolight Ltd.*, IPR2023-01218, Paper 12 at 7 (Apr. 19, 2024) ("*Videndum*") (director review). "Petitioner's reliance on [an] earlier-filed" IPR, "even as a menu and roadmap, is not sufficient to create a significant relationship that favors denial." *Id*. at 5 (internal quotation marks and citations omitted).

Here, "the instant Petition is the first filed by Petitioner[s] against the" '418 patent. *Id*. Petitioners have "different allegedly infringing products and in different district court proceedings" than Apple (petitioner in prior IPR2023-00090), have not coordinated with Apple regarding the '418 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 not only Sheha-based grounds similar to IPR2023-00090, but also entirely new Randall-based grounds developed subsequent to Apple's IPR.

Discretionary denial "is not justified." *Videndum* at 7.

B. Section 325(d)

Of the references combined in this Petition's grounds, only Wollrab was of record during prosecution of the '418 patent. Friedman, Grube, and Meadows were of record in prosecution, but are used herein only as corroborating background references, different from any application in prosecution. The Examiner combined Wollrab with "Wallenius," using Wollrab to teach "displaying a map with a marker representative of the location of said second wireless device." EX1002, 187. Applicant did not dispute that Wollrab teaches this, and instead argued that Wollrab does not disclose a different limitation that was later deleted from the claims (EX1002, 203-204, 644-645). The Randall-Wollrab combination

herein was never previously presented or considered by the Office. Therefore, "the first prong of the *Advanced Bionics* test" is "not satisfied." *K/S HIMPP v. Bragi GmbH*, IPR2023-01205, Paper 8 at 20 (Mar. 19, 2024) (discussing *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (Feb. 13, 2020) (precedential)).

Apple's IPR2023-00090 "was terminated after institution but before a final written decision was issued," so "the concerns underlying § 325(d) are 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, this Petition's Grounds 5-9 based on Randall, which was not of record in prosecution or in IPR2023-00090, themselves sufficiently warrant institution, regardless of the status of Sheha-based Grounds 1-4. *Current Lighting Sols., LLC v. Jiaxing Super Lighting Electric Appliance Co., Ltd.*, IPR2023-00270, Paper 18 at 51 (Aug. 16, 2023).

XVI. CONCLUSION

The Board should institute review and cancel claims 1-30.

Dated: 2024-10-07

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 13,997 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: October 7, 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 October 7, 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: October 7, 2024

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XVII. CLAIM LISTING

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

Claim 1
[1PRE] A system comprising:
[1A] a first wireless device, wherein a location of said first wireless device is operable of being determined and provided to a remote system,
[1B] said location of said first wireless device is operable of being requested by a second wireless device outside of a call for communication between said first wireless device and said second wireless device,
[1C] a permission is operable of being provided by said first wireless device for said second wireless device to access location information about said location,
[1D] said permission is operable of being stored in said remote system, wherein said remote system is located remotely from said first and second wireless devices,
[1E] said location information about said location is operable of being provided from said remote system to said second wireless device in accordance with said permission outside of said call,
[1F] wherein said first wireless device is operable of providing a first map provided with respect to said location.
Claim 2
The system of claim 1, wherein said first and second wireless devices are wireless telephones.
Claim 3
The system of claim 1, wherein said second wireless device displays a map with a location marker associated with said location.
Claim 4
The system of claim 1, wherein a speed said first wireless device is traveling is operable of being determined.

Claim 5
The system of claim 1, wherein a direction said first wireless device is traveling is operable of being determined.
Claim 6
The system of claim 1, wherein said permission is operable of being removed, by said first wireless device, for said second wireless device to obtain said location.
Claim 7
The system of claim 1, wherein said location is determined by a positioning system that receives signals from a plurality of positioning satellites, said location is updated by said positioning system, and said updated location is provided to said remote system.[2]
Claim 8
The system of claim 1, wherein said second wireless device is operable of being alerted when said first wireless device is within a distance of said second wireless device.
Claim 9
[9PRE] The system of claim 1, wherein:
[9A] a first dating matching profile is operable of being provided by said first wireless device;
[9B] a second dating matching profile is operable of being provided by said second wireless device;
[9C] a second location is operable of being obtained, wherein said second location is the location of said second wireless device; and
[9D] said location, said second location, said first dating matching profile, and said second dating matching profile is operable of being utilized to provide an alert.

[2] Claim 7 originally recited "said facility," and was changed by Certificate of Correction to recite "said remote system." EX1002 at 724.

Claim 10
The system of claim 1, wherein a second location is associated with said second wireless device and said location of said first wireless device is displayed relative to said second location of said second wireless device.
Claim 11
The system of claim 1, wherein a direction that said second wireless device is traveling in is operable of being displayed.
Claim 12
The system of claim 1, wherein said second wireless device is operable of being allowed to set location alerts associated with said first wireless device.
Claim 13
The system of claim 1, wherein said permission is assigned for a period of time.
Claim 14
The system of claim 1, wherein said second wireless device is operable of being alerted when said first wireless device enters a geographic region.
Claim 15
The system of claim 1, wherein said facility stores a history of locations for said first wireless device.
Claim 16
The system of claim 1, wherein said server stores a history of locations for said first wireless device and said history is utilized to provide an approximate location of said first wireless device.
Claim 17
The system of claim 1, wherein said first wireless device is OFF when said location is provided to said second wireless device.
Claim 18
[18PRE] A system comprising:
[18A] a first wireless device, wherein a first location of said first wireless device is operable of being determined,
[18B] a second location of a second wireless device is operable of being determined,

[18C] said first and second locations are operable of being provided to a server, wherein said server is located remotely from said first and second wireless devices,
[18D] said first location is operable of being requested by said second wireless device outside of a call for communication between said first wireless device and said second wireless device,
[18E] said second location is operable of being requested by said first wireless device
[18F] a first permission is operable of being provided by said first wireless device for said second wireless device to obtain said first location
[18G] a second permission is operable of being provided by said second wireless device for said first wireless device to obtain said second location
[18H] said first and second permissions are operable of being stored on said server,
[18I] said first location from said server is operable of being provided to said second wireless device as a result of said first permission outside of said call, and
[18J] said second location is operable of being provided from said server to said first wireless device as a result of said second permission,
[18K] wherein said first wireless device is operable of providing a first map from a perspective of said first wireless device.
Claim 19
[19PRE] A system comprising:
[19A] a first wireless device operable of determining a first location of said first wireless device,
[19B] a second location of a second wireless device, is operable of being determined,
[19C] said first and second locations are operable of being provided to a server, said server is located remotely from said first and second wireless devices,
[19D] said first location is operable of being requested by said second wireless device outside of a call for communication between said first wireless device and said second wireless device,
[19E] said second location is operable of being requested by said first wireless device,

[19F] a first permission is operable of being provided by said first wireless device for said second wireless device to obtain said first location,
[19G] a second permission is operable of being provided by said second wireless device for said first wireless device to obtain said second location,
[19H] said first and second permissions are operable of being stored on said server,
[19I] said first location is operable of being provided from said server to said second wireless device as a result of said first permission outside of said call,
[19J] said second location is operable of being provided from said server to said first wireless device as a result of said second permission,
[19K] updates of said first location are operable of being provided to said second wireless device as a result of said first permission, and
[19L] updates of said second location are operable of being provided to said first wireless device as a result of said second permission,
[19M] wherein said first wireless device is operable of providing a first map from a perspective of said first location.
Claim 20
The system of claim 18, wherein said first and second wireless devices are wireless telephones.
Claim 21
The system of claim 18, wherein said second wireless device displays a map with a location marker associated with said first location.
Claim 22
The system of claim 18, wherein a speed of said first wireless device is traveling is operable of being determined.
Claim 23
The system of claim 18, wherein the direction said first wireless device is traveling is operable of being determined.
Claim 24
The system of claim 18, wherein said first permission is operable of being removed, by said first wireless device, for said second wireless device to obtain said first location.

Claim 25
The system of claim 18, wherein said second wireless device is operable of being alerted when said first wireless device is within a distance of said second wireless device.
Claim 26
The system of claim 19, wherein said first and second wireless devices are wireless telephones.
Claim 27
The system of claim 19, wherein said second wireless device displays a map with a location marker associated with said first location.
Claim 28
The system of claim 19, wherein a speed said first wireless device is traveling is operable of being determined.
Claim 29
The system of claim 19, wherein the direction said first wireless device is traveling is operable of being determined.
Claim 30
The system of claim 19, wherein said first permission is operable of being removed, by said first wireless device, for said second wireless device to obtain said first location.