

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

MULLEN INDUSTRIES LLC
Patent Owner.

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

**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. 11,234,117 (“the ’117 patent”)
1002	Prosecution History of U.S. Patent No. 11,234,117
1003	Declaration of David H. Williams (“Williams-Decl.”)
1004	Curriculum Vitae of David H. Williams
1005	U.S. Patent No. 7,333,820 (“Sheha”)
1006	U.S. Provisional Patent Application No. 60/305,975 (“Sheha-Prov.”)
1007	U.S. Patent Application Publication No. 2004/0024846 (“Randall”)
1008	International Patent Application Publication No. WO 02/17075 (“Randall-WIPO”)
1009	RESERVED
1010	RESERVED
1011	RESERVED
1012	RESERVED
1013	U.S. Patent No. 6,968,179 (“De-Vries”)
1014	RESERVED
1015	U.S. Patent No. 6,714,791 (“Friedman”)
1016	RESERVED
1017	RESERVED
1018	U.S. Patent No. 6,716,101 (“Meadows”)
1019	U.S. Patent No. 7,366,522 (“Thomas”)
1020	RESERVED
1021	RESERVED
1022	International Patent Application Publication No. WO 01/91486 (“Darling”)
1023	U.S. Patent No. 6,084,951 (“Smith”)
1024	U.S. Patent No. 6,714,793 (“Carey”)
1025	U.S. Patent No. 6,415,224 (“Wako”)

Exhibit	Description
1026	RESERVED
1027	Korean Patent Application Publication No. 10-2001-0091381 (“Han”)
1028	RESERVED
1029	U.S. Patent No. 6,456,854 (“Chern”)
1030	U.S. Patent No. 6,754,665 (“Futagami”)
1031	U.S. Patent No. 6,292,657 (“Laursen”)
1032	U.S. Patent Application Publication No. 2003/0097596 (“Muratov”)
1033	RESERVED
1034	RESERVED
1035	International Patent Application Publication No. WO 00/22860 (“Degnbol”)
1036	Civil Docket Report in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (last checked December 26, 2024)
1037	Federal Court Management Statistics–Profiles, U.S. District Courts–Combined Civil and Criminal (September 30, 2024) (available at https://www.uscourts.gov/file/79291/download)
1038	Docket Control Order in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (June 14, 2024) (Dkt. 30)
1039	Plaintiff’s Disclosure of Asserted Claims and Infringement Contentions in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (May 15, 2024)
1040	U.S. Patent No. 7,146,407 (“McNulty”)
1041	RESERVED
1042	RESERVED
1043	RESERVED
1044	RESERVED
1045	RESERVED
1046	RESERVED

Exhibit	Description
1047	RESERVED
1048	RESERVED
1049	RESERVED
1050	RESERVED
1051	RESERVED
1052	RESERVED
1053	RESERVED
1054	U.S. Patent No. 6,867,733 (“Sandhu”)
1055	RESERVED
1056	U.S. Patent No. 6,049,718 (“Stewart”)
1057	RESERVED
1058	RESERVED
1059	RESERVED
1060	RESERVED
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1067	RESERVED
1068	RESERVED
1069	RESERVED
1070	RESERVED
1071	U.S. Patent No. 7,203,752 (“Rice”)
1072	RESERVED
1073	RESERVED

Exhibit	Description
1074	U.S. Patent No. 6,285,867 (“Boling”)
1075	U.S. Patent No. 6,208,934 (“Bechtolsheim”)
1076	U.S. Patent Application Publication No. 2003/0040272 (“Lelievre”)
1077	U.S. Patent No. 5,048,117 (“Aisaka”)
1078	U.S. Patent No. 5,212,811 (“Kuge”)

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. 11,234,117 (“the ’117 patent”) issued (U.S. Patent Application No. 11/834,674) is a Continuation of U.S. Patent Application No. 10/400,296 (U.S. Patent No. 9,635,540), filed March 25, 2003.

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

- U.S. Patent Application No. 11/387,384 (U.S. Patent No. 8,374,575), filed March 22, 2006;
- U.S. Patent Application No. 11/485,161 (U.S. Patent No. 11,122,418), filed July 12, 2006;
- U.S. Patent Application No. 11/462,201 (U.S. Patent No. 9,204,283), filed August 3, 2006;

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

- U.S. Patent Application No. 11/841,734 (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. 11,234,117 also claims priority to U.S. Provisional Application No. 60/367,967, filed March 25, 2002.

2. USPTO Patent Trial and Appeal Board

The '117 patent was at issue in *Apple Inc. v. Mullen Industries LLC*, Case Nos. IPR2023-00115, IPR2023-00116, and IPR2023-00117.

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

- IPR2025-00018 challenging U.S. Patent No. 11,122,418;
- IPR2025-00019 challenging U.S. Patent No. 9,204,283;
- IPR2025-00021 challenging U.S. Patent No. 11,096,039;
- IPR2025-00124 challenging U.S. Patent No. 8,374,575;
- IPR2025-00197 challenging U.S. Patent No. 11,109,218;

- IPR2025-00227 challenging U.S. Patent No. 9,635,540.

Concurrently with the present petition, Petitioners are filing the following petitions for inter partes review of patents listed above:

- IPR2025-00365 and IPR2025-00367 challenging U.S. Patent No. 11,234,117
- IPR2025-00368 and IPR2025-00369 challenging U.S. Patent No. 11,246,024

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

The '117 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 '117 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 '117 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 15-41 of the '117 patent (EX1001).

I. INTRODUCTION

The '117 patent is one of seven related patents that Patent Owner (“Mullen”) accuses Petitioners’ products of infringing. Previously, Mullen asserted these patents against Apple Inc., and Apple filed IPRs. Apple’s IPR2023-00116 challenging claims 15-41 was instituted and terminated via settlement during trial.

This Petition presents two sets of grounds: one based on Sheha, under which the Board previously found a reasonable likelihood of unpatentability (IPR2023-00116, Paper 9 at 20-23); and a new set of grounds based on Randall, which has not previously been before the Board.

II. STANDING

Petitioners certify that the '117 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

Claims 15-41 are unpatentable under pre-AIA 35 U.S.C. §103 according to the following grounds (independent claims are indicated in **bold**). Declaration of David H. Williams (EX1003, “Williams-Decl.”), [0090].

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

Each reference above is prior art under at least pre-AIA 35 U.S.C. §102(e).

Randall, Boling, and Bechtolsheim are prior art under §102(a). Smith and Degnbol are prior art under §102(b).

As discussed *infra* §XII.B, none of these references were discussed by the Examiner during prosecution of the '117 patent.

IV. THE '117 PATENT

A. Specification Embodiments

Generally, the '117 patent's specification addresses determining and sharing a wireless device's location, such as via Global Positioning System ("GPS").

EX1001, 1:15-28. Cellphones share their locations with a remote system, from which other users obtain them. EX1001, 5:11-34. A user can restrict access to their location by identifying authorized users or groups. EX1001, 3:22-31.

Figure 2's example method (below) includes receiving a location request, determining whether the requesting user is authorized, and, if so, providing the location, which can be displayed on a map. EX1001, 8:11-14.

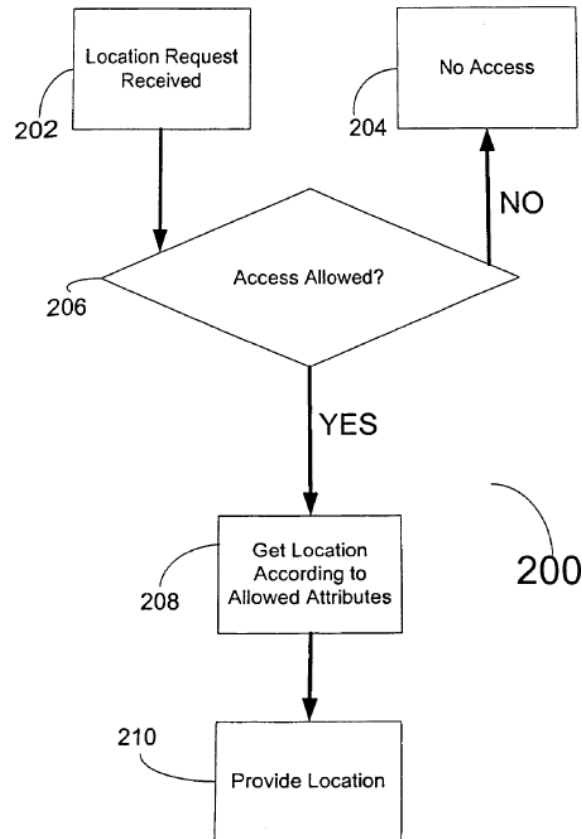


FIG. 2

Williams-Decl., [0056]-[0059].

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

A POSA would have had a bachelor’s degree in computer science, computer engineering, electrical engineering, or a similar degree, with one or two years of experience with wireless networks and devices, such as cellphones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as

GPS or triangulation. More education could compensate for less practical experience, and vice versa. Williams-Decl., [0051]-[0055].

C. Prosecution History

The '117 patent's prosecution spanned fourteen years and seven office actions. Finally, the applicant canceled all pending claims and added new claims, which the Examiner allowed because they "are similar to already allowed claims in other patents with small word or small phrase changes." EX1002, pp. 1484-94, 1542-61, 1503.

D. Challenged Claims

Independent claims 15 and 29 are "wireless telephone" claims that adapt recitations from method claim 1 of related U.S. Patent No. 9,204,283 and system claim 1 of related U.S. Patent No. 11,096,039, respectively. These claims are challenged below under similar grounds as in Petitioners' IPR2025-00019 challenging U.S. Patent No. 9,204,283 and IPR2025-00021 challenging U.S. Patent No. 11,096,039, respectively.

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: SHEHA+SMITH

Grounds 1-3 together demonstrate how the challenged claims are unpatentable over Sheha, alone or in combinations with other references. The Board previously found a reasonable likelihood of unpatentability based on similar Sheha-based combinations. *See* IPR2023-00116, Paper 9 (granting institution). Mullen’s arguments made in IPR2023-00116 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., [0401]-[0433].

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., [0074]-[0078].

Sheha describes a system with 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 report their positions 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 specify groups of authorized users who may obtain their respective location information. Sheha, 11:55-12:7.

A mobile device may request another mobile device's location through a phone call (mobile-to-mobile call embodiment) or "without having to initiate a telephone call" (no-call embodiment). Sheha, 11:10-54, 11:55-58; *see also id.*, 12:1-7. If authorized, the requesting device receives the position from the ODAS, which may include a map illustrating both devices' locations, route information, driving directions, etc. Sheha, 9:23-39. FIG. 3 (below) illustrates an example system. Williams-Decl., [0092]-[0097].

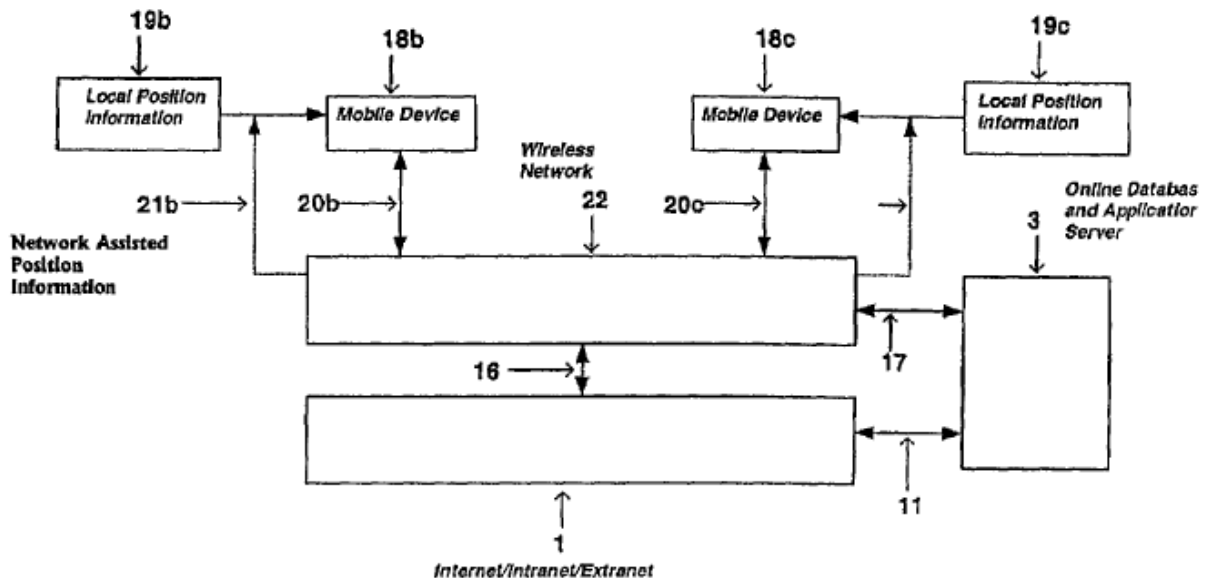


FIG. 3

B. Smith (EX1023)

Smith describes a cellphone user interface, including contact list functionality providing various information, including location information.

Smith, 5:15-18, 6:53-7:3, 7:41-49, 10:29-11:4, FIG. 16. Williams-Decl., [0098]-[0099].

C. Sheha-Smith Combination

POSAs would have been motivated to include in Sheha's wireless telephones conventional functionality as in Smith, such as contact lists and manual input. Williams-Decl., [0100]-[0103], [0065]-[0073]. POSAs would have reasonably expected success because such functionalities were routine and conventional in wireless devices. Williams-Decl., [0103].

D. Mapping to Challenged Claims²

1. Claim 15: [15PRE]

Sheha discloses a mobile-to-mobile configuration in FIG. 3 (annotated below): mobile devices 18b-18c communicate with wireless network 22 via wireless connections 20b-20c. Sheha, 11:12-35. A "mobile" device can be "*a wireless telephone.*" Sheha, 4:43-47, 9:40-43;³ Williams-Decl., [0105].

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

³ All emphases added unless otherwise specified.

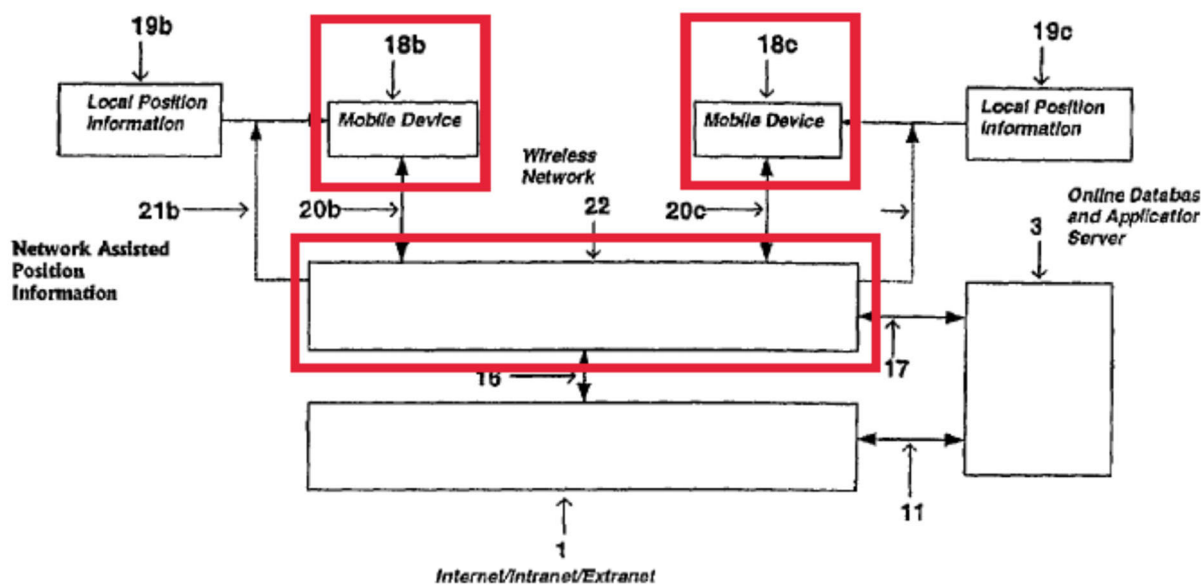


FIG. 3

a. [15A]

Sheha’s “current wireless phones...have...processing capability” (Sheha, 5:53-57); thus, the *wireless telephone* includes a *processor*. Williams-Decl., [0106]. Smith corroborates that wireless telephones conventionally included processors. Smith, 5:19-62; Williams-Decl., [0106].

b. [15B]

Sheha’s wireless devices include *positioning systems*, e.g., GPS (“*Global Positioning System*”), *for determining their locations*. Sheha, 1:35-38, 10:5-16, 11:15-20; Williams-Decl., [0107].

c. [15C]

Sheha's "current wireless phones...have...*memory*." Sheha, 5:53-57. As discussed *supra* §VI.A, Sheha's wireless telephones perform tasks including requesting, receiving, interpreting, and displaying data, which POSAs would have understood involves *programming* stored in *memory*. Williams-Decl., [0108]. Smith corroborates that wireless telephones conventionally performed their functionality via *memory storing programming*. Smith, 5:19-6:2; Williams-Decl., [0108].

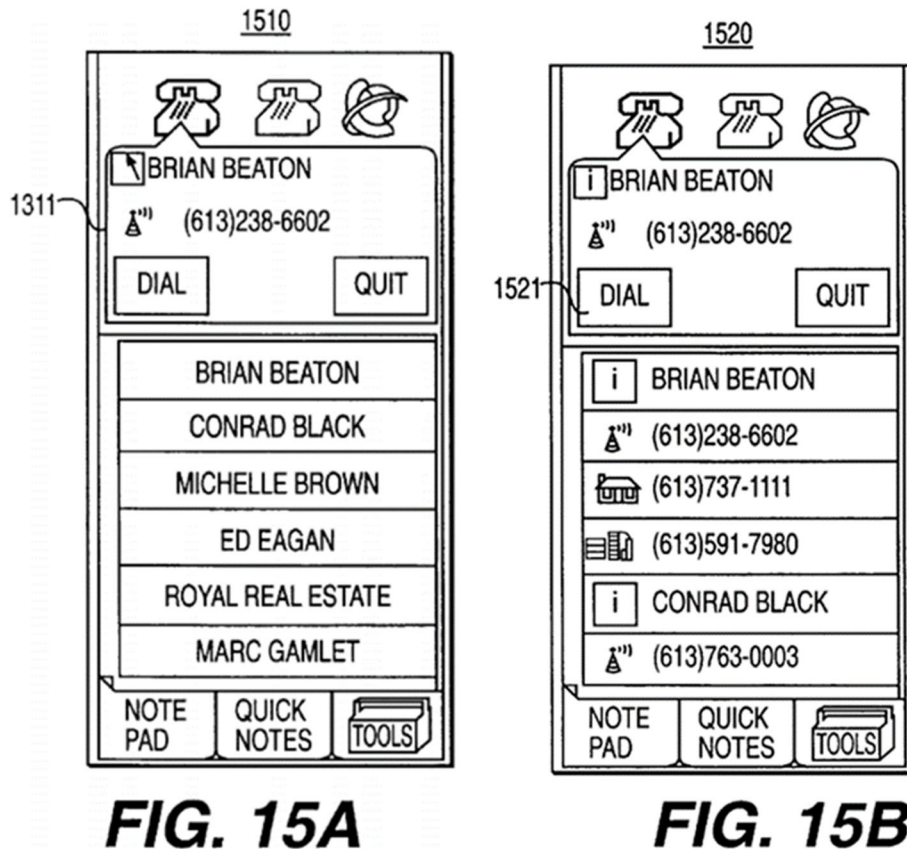
d. [15D]

In Sheha's system, "a *plurality* of unique *users*" are "on various devices," which can be "*wireless*" "*telephone*" devices. Sheha, 3:8-10, 4:3-7. Each device has its associated "users' account information." Sheha, 11:20-23, 8:25-53. Thus, *each one of a plurality of users is associated to a different one of a plurality of wireless telephones*. Williams-Decl., [0109]-[0110].

Sheha's mobile-device users can request another mobile device's location by dialing or otherwise inputting the target mobile device's telephone number. Sheha, 10:66-12:7; Williams-Decl., [0110]-[0111].

It was well-known to allow users to select a contact's number to dial from a contacts list displayed on the wireless device. Williams-Decl., [0112]. Smith

shows such conventional functionality in FIGs. 15A-15B (below). Smith, 5:15-18, 9:42-55; Williams-Decl., [0112]-[0113].



It would have been obvious to include the standard feature of *displaying* a contact list in Sheha's wireless devices to enable a user to easily select a contact of interest from among multiple saved contacts. Williams-Decl., [0114]-[0115]; *supra* §VI.C.

e. [15E]

Sheha's wireless devices allow numeric and alphanumeric input. Sheha, 2:64-3:3; Williams-Decl., [0116]. Smith teaches that a user may manually scroll

through the contact list to identify and select a person to contact. Smith, 9:42-61, 10:67-11:3, FIG. 14 (below), FIGs. 15A-15B; Williams-Decl., [0116]-[0118].

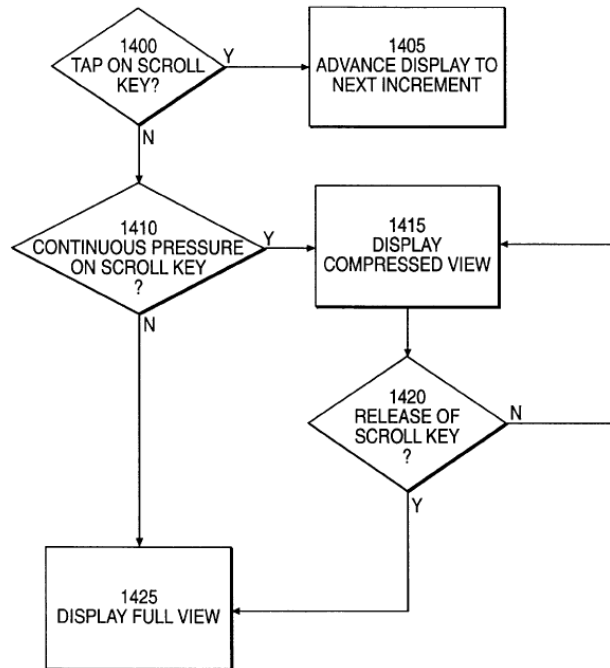


FIG. 14

It would have been obvious to include such functionality for Sheha's mobile-device user to select another user to request their location, as discussed *supra* §VI.D.1.d ([15D]). Williams-Decl., [0119].

Manually selecting another user from a displayed contacts list was well-known in POSAs' background knowledge as a suitable option with reasonable expectation of success for selecting a contact of interest, including to access their

location. Williams-Decl., [0120]-[0125] (citing corroborating EX1027 (“Han”), [0033]; EX1018 (“Meadows”), FIG. 4A, 5:30-47; EX1022 (“Darling”), 41:1-15).

f. [15F]

Sheha discloses that “every telephone account user has a username and password” that is part of “user identification information” that is sent to the ODAS by (and thus has been *received* on) the telephone. Sheha, 8:25-53, 11:20-23 (ODAS receives “users’ account information...for both mobile devices”), 11:55-12:7; Williams-Decl., [0126]. It would have been obvious for this received input to be implemented as *manual input*, because *manual input* on the *wireless telephone* was a typical, conventional, and predictable way with reasonable expectation of success for the user to submit such a username (*login*) and password to the server. Williams-Decl., [0127]-[0133] (citing corroborating EX1031 (“Laursen”), 8:55-9:5, 9:52-66, 11:37-43); EX1032 (“Muratov”), [0016], [0038], [0104]; EX1024 (“Carey”), FIG. 8 (below), 7:67-8:10).

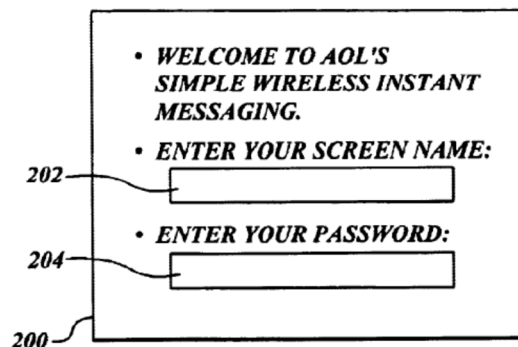


Fig. 8

g. [15G]

Sheha discusses the “username and password” as part of “user identification information” that is “sent to the ODAS”—“online database and application *server*,” which is *remote* from wireless telephones 18b-18c across network 22. Sheha, 8:30-53, 7:21-23, FIG. 3; Williams-Decl., [0134]. Sheha teaches that “authentication and authorization protocols” applied by the ODAS use the username and password to “verify the level of authority [that particular] user is granted, such as for differentiating services provided by the ODAS.” Sheha, 8:40-50. This includes the ODAS *determining whether* that user is *allowed to access location information* of a requested device. Sheha, 5:21-46, 11:63-12:7; Williams-Decl., [0134].

Sheha states that “[w]hen a mobile device’s position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user’s device.” Sheha, 12:1-7. For example, permissions can be established by the mobile devices’ privacy information including “a group database and authorization and authentication protocols” by which a user “can define a group of specific users that have access to” the user’s location information. Sheha, 11:55-12:7, 4:59-5:20; *see also id.*, 13:65-14:2, 14:54-61, 19:9-13; Williams-Decl., [0135]. The ODAS uses this privacy information to *determine whether* the target device has authorized the requesting

device to *access its location information*. Sheha, 3:4-14, 3:22-28, 4:8-18, 5:21-46, 8:42-53, 9:59-10:4; Williams-Decl., [0135].

In IPR2023-00116 (Paper 13 at 16-19; Paper 7 at 30-32), Mullen argued that Sheha’s privacy settings are only “privacy filters [that] a target mobile device has implemented for incoming requests” and that are “agnostic to requestor identity.” Mullen did not make that argument about the permissions specified in Sheha’s “group database,” but instead argued that the group database is “specific to landline position requests” and is not used in a mobile device embodiment, which Mullen treats as disparate embodiments. IPR2023-00116, Paper 13 at 22-27; *see also* Paper 7 at 8-15 (arguing that Sheha discloses four “discrete” embodiments: landline-to-landline phone calls, landline-to-mobile phone calls, mobile-to-mobile phone calls, and no phone calls). Mullen was incorrect.

Sheha does not describe the device-local privacy filters and requester-specific group database of permissions as features of mutually exclusive embodiments. 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., [0136]-[0137]. 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 id.*, 19:9-15, 19:44-45; Williams-Decl., [0138]-[0139].

Sheha thus discloses that mobile-to-mobile embodiments may employ both device-local privacy filters and a remote group database specifying which users are authorized for access. Sheha, 4:59-5:20, 11:55-12:7; Williams-Decl., [0139]. 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., [0139]. As the Board recognized for institution purposes, 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; *see* IPR2023-00116, Paper 9 at 19.

Alternatively, using group permission specifications in mobile-to-mobile embodiments would have been obvious because allowing a mobile user to specify a group of other mobile users to have access to the user's location (or to provide access on an individual-user basis), with or without initiating a phone call, was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's. Williams-Decl., [0140]-[0145] (citing corroborating EX1054 ("Sandhu"), 5:35-50; EX1022 ("Darling"), 2:1-15, 2:47-3:5, 32:39-33:32; EX1007 ("Randall"), [0052], [0070], [0136], [0144]-[0148]).

h. [15H]

As discussed *supra* §§VI.D.1.f-VI.D.1.g ([15F]-[15G]), Sheha discloses that users provide their username and password as a part of Sheha's authorization and authentication protocols to confirm their identity and that "using the authorization and authentication protocols a user can request the position of a mobile device." Sheha, 8:40-53, 12:1-7; Williams-Decl., [0146]. "[E]very telephone account user has a username and password" from which the ODAS determines which "particular user is signed-on to the system" and whether the "user is genuine." Sheha, 8:40-53. Thus, the *determining includes identifying a user of said wireless telephone using said login and determining said password is associated with said*

login. Williams-Decl., [0146]. The “authentication and authorization protocols” also use the username and password to “verify the level of authority [that particular] user is granted, such as for differentiating services provided by the ODAS.” Sheha, 8:40-50. This includes the ODAS determining whether that user has been given *access rights for said location information* by the target device’s user. Sheha, 5:21-46, 11:63-12:7; Williams-Decl., [0147].

In IPR2023-00116 (Paper 13 at 15-16), Mullen argued that Sheha uses the “username and password” only “to verify that a user is genuine and properly logged in to the ODAS” and not to “determine if a user has rights to position information.” Mullen was incorrect. Sheha teaches that for “position information” requests, “users can define a group of specific users that have access to this information...by utilizing a group database and ***authorization and authentication protocols to identify users that are permitted to access*** this information.” Sheha, 11:55-12:7. Sheha teaches that the “authentication and authorization protocols” use the “username and password” as “user identification information” to “establish that a user is genuine” (i.e., identify the user who is logging in) “***and verify the level of authority each user is granted***” (e.g., determine what access rights that user has). Sheha, 8:25-53; Williams-Decl., [0148]. “When a mobile device’s position information is requested, the system” can use these same “authorization and authentication protocols” to determine whether to “respond[] with the

appropriate position information to the requesting user's device.” Sheha, 12:1-7; *see also id.*, 3:4-14, 3:22-25, 4:8-18, 4:58-5:46; Williams-Decl., [0148].

In IPR2023-00116 (Paper 13 at 28), Mullen also argued that “Sheha does not disclose one device user providing rights exclusively to another device user.” Mullen proposed construing claim 15 as if “*provided access rights*” instead said “*provided **exclusive** access rights*” (and construing claim 29 as if “*location access rights of said wireless telephone*” instead said “*location access rights **possessed exclusively by said wireless telephone***”). *Id.* at 4-5. But that is not what the claims recite. Claim 15 nowhere recites “exclusively” or anything similar (nor does claim 29), and does not exclude the “*access rights*” from being provided to other devices as well. Mullen’s specification arguments (*id.* at 6-10) also fail, because they improperly attempt to import 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 ’117 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, 13:9-14, 3:23-25. Williams-Decl., [0149].

Alternatively, even if claim 15 required providing access rights to an individual user, Sheha renders this obvious because POSAs knew that “defin[ing] a

group” (Sheha, 11:63-65) can include defining a group having only one member. Williams-Decl., [0150]; *see* EX1022 (“Darling”), 41:20-42:2 (“A user defined group can be a single person.”). Alternatively, allowing a user to specify access rights for individuals in addition to groups would have been obvious because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. Williams-Decl., [0151]-[0154] (citing corroborating EX1007 (“Randall”), [0052], [0070], [0136], [0144]-[0146]; EX1015 (“Friedman”), 12:60-13:21; EX1022 (“Darling”), 3:3-5).

Mullen also argued in IPR2023-00116 (Paper 13 at 19-22) that only Sheha’s target mobile device, and not the ODAS, determines whether the requesting user has location access rights, because the ODAS “sends [the] request to the target mobile device, receives a response from the device and passes that response to the requesting device.” Mullen was incorrect. Sheha teaches embodiments where the ODAS implements the “authorization and authentication protocols” and the “group database,” described in 11:63-12:7, for determining whether the requesting user has access rights. *See* Sheha, 3:4-14 (“networked server system utilizing authentication and authorization procedures”), 4:8-18 (“online database and/or networked authentication and authorization connection server”), 7:22-23 (“online *database* and application server (ODAS)”), 8:42-53 (“ODAS 3 us[es] authentication and authorization protocols” to “verify the level of authority each

user is granted”), 9:61-10:4; Williams-Decl., [0155]. Moreover, 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., [0156]-[0161] (citing corroborating EX1054 (“Sandhu”), 5:8-6:22; EX1007 (“Randall”), [0511]-[0514]; EX1015 (“Friedman”), 12:60-13:21; EX1022 (“Darling”), 3:1-5).

i. [15I]

Sheha discloses that any mobile device user can configure privacy settings controlling which other devices may access the device’s location. Sheha, 5:38-46, 10:17-26, claim 47; Williams-Decl., [0162]. Configuring a device’s privacy permissions can include “defin[ing] a group of specific users that have access” to the device’s location. Sheha, 11:63-12:7; *see also id.*, 13:57-14:61, 18:47-19:46 (corroborating that “privacy information” includes information “identifying an authorized user group” that is “pre-defined” by a “mobile telephone” user). Thus, a mobile device can *assign access rights* for a requesting device to *obtain* its location information, and that requesting device can also *assign access rights* for other devices to *obtain* its *location*. Sheha, 5:3-9, 11:10-54 (discussing two-way location sharing), 11:55-12:7; Williams-Decl., [0162]-[0165]; *see supra* §VI.D.1.g ([15G]) (discussing scope of *access rights* and obviousness of providing user-specific *access rights*).

j. [15J]

Sheha discloses the requesting wireless device *receiving* the requested *location information* for the target wireless device from the ODAS (*server*).

Sheha, 11:36-51, 12:1-7; Williams-Decl., [0166].

k. [15K]

Sheha discloses *displaying* the target device's (and requesting device's) *location information*. Sheha, 4:22-26, 9:23-39, FIG. 5 (locations 33 and 34, annotated below); Williams-Decl., [0167].

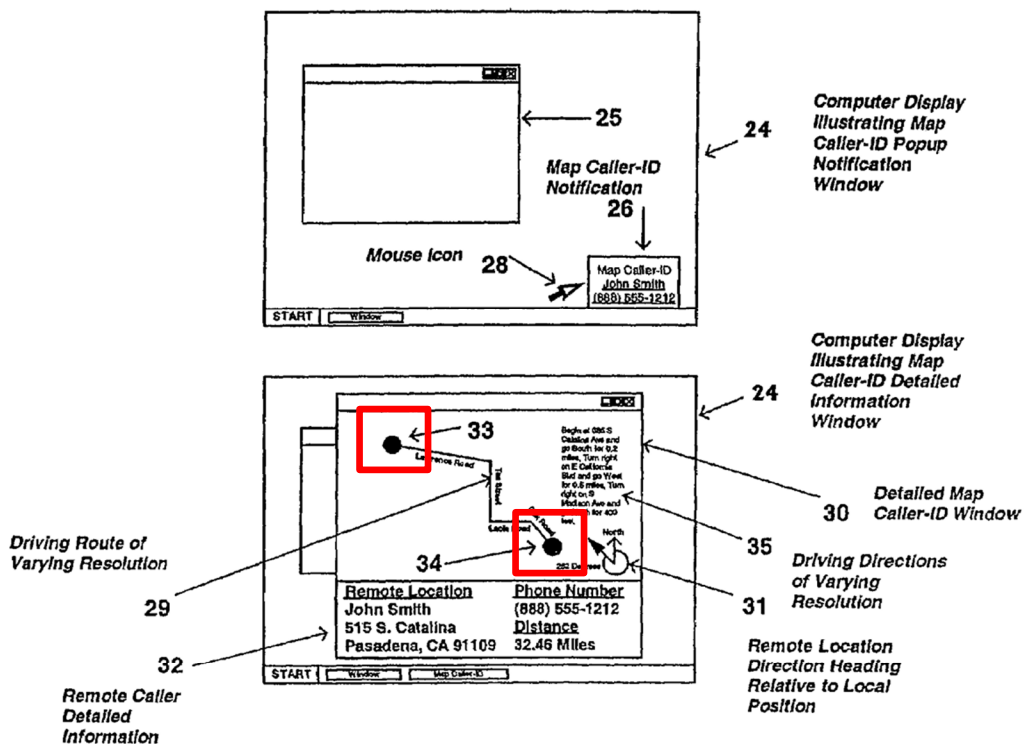


FIG. 5

Sheha discloses that such information “can be *displayed* on the mobile telephone.” Sheha, 4:52-58; Williams-Decl., [0168]. While FIG. 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, 4:52-58, 11:36-12:7; Williams-Decl., [0168]. Both requesting and target mobile devices can display maps showing both devices’ locations. Sheha, 4:52-58, 11:10-51; Williams-Decl., [0168]-[0169].

2. Claim 17

Sheha’s mobile device can “terminate” another mobile device’s location access “abruptly due to *manual intervention*” (i.e., *manual input*), meeting claim 17. Sheha, 5:14-15, 5:34-38; Williams-Decl., [0170].

Additionally, as discussed *supra* §§VI.D.1.d-VI.D.1.e ([15D]-[15E]), it would have been obvious to use conventional contact list functionality, like in Smith. Williams-Decl., [0171]; Smith, 5:15-18, 9:42-55, FIGs. 15A-15B. Smith teaches manually modifying contact information for other users via the contacts list. Smith, 10:7-16, 6:53-61; Williams-Decl., [0171]. Sheha allows a user to specify which users are authorized to obtain location information as discussed *supra* §§VI.D.1.g-VI.D.1.i ([15G]-[15I]), and it would have been obvious to do this by interacting with a contact list like Smith’s. Sheha, 4:58-5:20; 11:55-12:7;

Williams-Decl., [0172]-[0173]; *supra* §VI.C. It would have been obvious to allow a user to *modify* which users are able to access its location to provide the user control over their privacy permissions. Sheha, 2:64-3:3, 5:14-38; Williams-Decl., [0173]. The contact list is where aggregated information about other users is accessed, which POSAs would expect to also include privacy permissions. Williams-Decl., [0173]-[0174].

3. Claim 18

As discussed *supra* §§VI.D.1.g-VI.D.1.i ([15G]-[15I]), Sheha teaches that a wireless-telephone user can *instruct* the *server* to allow “specific users [to] have access” to their location “without...a telephone call” (Sheha, 11:55-12:7), which POSAs would have understood allows access *for an indefinite period of time*, because the authorized user may access the location at any time, untethered to any call. Williams-Decl., [0175]. Sheha also discloses a wireless telephone *instructing* the *server* to *allow access* to its location until “terminate[d]” by “manual intervention” or for “as long as [a] call is active,” which are both *indefinite periods of time* because their length is not known *a priori*. Sheha, 5:15-46; Williams-Decl., [0176]-[0177].

4. Claim 19

Sheha’s mobile device’s “privacy settings” that the ODAS “quer[ies]” can “determine[] the *period* of the position transfer” which “can be set for...a

predetermined length of time.” Sheha, 4:59-66, 5:9-14, 3:10-13; Williams-Decl., [0178].

5. Claim 26

Sheha describes each “mobile device receiv[ing] the Map Caller-ID” that displays “the other’s position information” for “providing real-time driving directions,” where a mobile device can be located in “a motor vehicle” and connected to “an in-vehicle navigational device.” Sheha, 11:42-52, 4:52-58, 10:27-41, 12:8-41. In this scenario, the *received and displayed* location of the other mobile device is *a location of a car*. Williams-Decl., [0179].

6. Claim 28

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

VII. GROUND 2: SHEHA+DEGNBOL+MCNULTY

A. Degnbol (EX1035)

Degnbol describes notifying a user when another pre-selected user enters a pre-determined area or into proximity to a particular location. Degnbol, Abstract, FIG. 1 (below). Users can establish various alert parameters, such as preferences specifying that alerts be generated when a buddy enters a predetermined range. Degnbol, 11:5-11. The predetermined range “may be associated with a geographic area” or “a direct distance.” Degnbol, 6:6-17; Williams-Decl., [0181]-[0183].

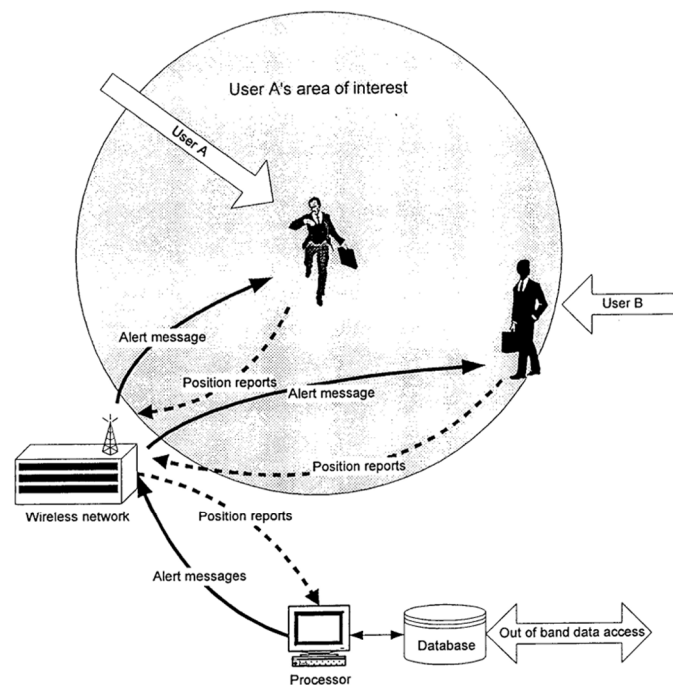
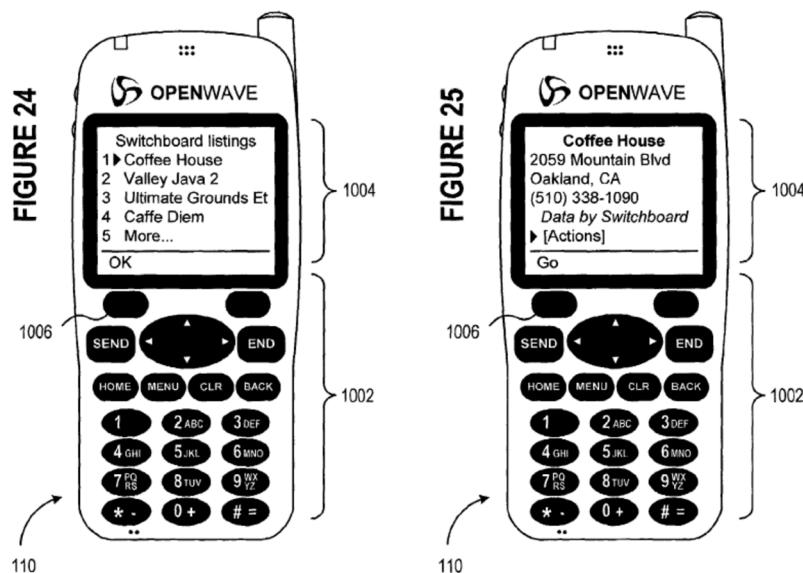


Fig. 1

B. McNulty (EX1040)

McNulty describes a system whereby information stored on a server (including location information) is accessed through a mobile device, such as a wireless telephone, via user-interface gestures such as pressing a key to select from a displayed list of data objects. McNulty, 2:19-44, FIGs. 24-25. Williams-Decl., [0184]-[0185].



C. Sheha-Degnbol-McNulty Combination

POSAs would have been motivated to incorporate various location-based alerts to more effectively share location data in Sheha's system, which also provides location-related notifications. *See, e.g.*, Sheha, 11:40-51, FIG. 4. POSAs, when considering when to send a location-related notification, would have looked to Degnbol to identify such triggers. Williams-Decl., [0186]; *see, e.g.*, Degnbol, Abstract, 6:6-17, 11:5-11. POSAs would have reasonably expected success

applying such alerts because Sheha's system already identifies and shares location information and Degnbol illustrates additional examples of when and how to do so, which would easily be applied using Sheha's hardware with minor software modifications. Williams-Decl., [0186], [0065]-[0073].

POSAs would further have been motivated to enhance this Sheha-Degnbol system by displaying configuration options in user-selectable lists as in McNulty. Williams-Decl., [0187]. POSAs would have expected some way of accepting user input to configure Sheha-Degnbol's alert rules, and would have reasonably expected success incorporating selection via displayed lists into Sheha-Degnbol's wireless devices because such functionalities were well-known. Williams-Decl., [0187].

D. Mapping to Challenged Claims

1. Claim 29

a. Previously Addressed Elements

Sheha-Degnbol-McNulty meets the following elements of claim 29 for the reasons discussed in the corresponding sections above. Williams-Decl., [0188]-[0192].

Element	Addressed in Section:
[29PRE]	§VI.D.1 ([15PRE])
[29A]	§VI.D.1.a ([15A])

[29B]	§VI.D.1.b ([15B])
[29C]	§VI.D.1.c ([15C])
[29D]	§VI.D.1.f ([15F])

b. [29E]

Sheha’s *wireless telephone provides its location* to the ODAS (*remote system—see supra §VI.D.1.g ([15G])) for recording, in association with said user information*. Sheha, 10:48-50 (“the mobile device...continually **sends updated position information to the ODAS**”), 11:23-37, 2:25-29, 4:66-5:2, 8:31-52 (“accompanying information, such as **user identification information**...is also sent to the ODAS” for the “authentication and authorization protocols”), 9:61-10:4 (“Once the ODAS” has “all the appropriate information, the system verifies, by using authorization and authentication protocols, if the user” is “signed-on to the system” and can “request the location of the mobile device”); Williams-Decl., [0193]. In this manner, “the position information of each device can be updated **in the ODAS**.” Sheha, 11:3-8.

Additionally, Degnbol illustrates how a “database” at a “central location[]” like Sheha’s ODAS can record devices’ “latest reported position” which is “dynamically updated” like in Sheha, for sharing with other user[s]. Degnbol, 22:10-18, 14:9-10, FIG. 1 (“Database” at network server), Table 2 (highlighted below); Williams-Decl., [0194].

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

5

Table 2. POSITION Data

POSAs would have been motivated and reasonably expected success based on Degnbol's teachings to implement Sheha's similar central server (ODAS) to "recei[ve] a position report message from the wireless" device, "check[]" to see if the unit is associated with a user of the system" based on the identified *user information*, and "update[]" the "user's record" in the ODAS's database to "reflect[] the reported unit position." Degnbol, 23:13-23; Williams-Decl., [0195]-[0196].

c. [29F]

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

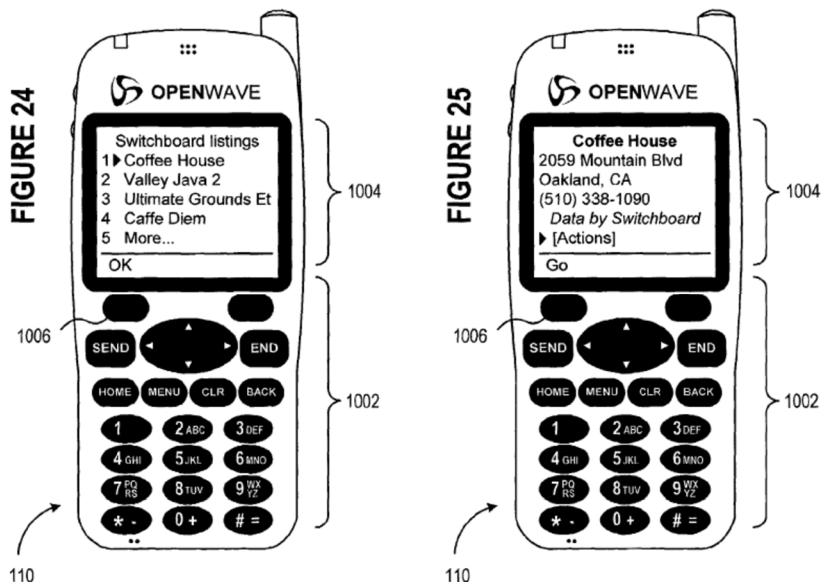
based event that is based, at least in part, on a location of a second wireless telephone. Williams-Decl., [0197].

Degnbol teaches that the *wireless telephone*'s user can "set[] various preferences...directly from the...cellular phone" with respect to "a 'Buddy List'" of "users whose location and/or movements the user wishes to be notified of." Degnbol, 9:32-10:3, 11:1-3. "Preferences can be configured on an individual Buddy basis" and "may include an ability to specify to be alerted only when certain criteria relating to distance, location, time or date are met." Degnbol, 10:17-11:3, 18:5-7. The *wireless telephone* user can "select[]" a "geographic area, such as a continent, country, district, city, co-ordinate range or a street," to be notified when the *second wireless telephone* enters that area. Degnbol, 6:1-8; Williams-Decl., [0198]. For example, the user can "request to be alerted of the[ir] spouse's arrival at a given area on his/her regular route home." Degnbol, 13:17-21. Or the *wireless telephone* user can "indicate[]" a "direct distance," to be notified when the *second wireless telephone* comes within that distance of the *wireless telephone*. Degnbol, 6:10-17, 11:5-8; Williams-Decl., [0198]. Either device can also be alerted that it was located by the other device. Degnbol, 21:5-6.

Thus, Degnbol describes more than three different types of *location-based events*, including whether the buddy (*second wireless telephone*) (1) is in a certain geographic area, (2) is within a certain distance of the device, (3) is in the same

continent, (4) is in the same country, (5) is in the same district, (6) is within a coordinate range, (7) on a street, and (8) whether the user has been the subject of an alert to another user. Williams-Decl., [0199]. Degnbol also describes configuring preferences for these events “directly from the handset of the user[’s] cellular phone.” Degnbol, 11:1-3; Williams-Decl., [0199]. It would have been obvious to combine Degnbol’s disclosure of both selection of *location-based events* and manual entry using the phone’s handset with Sheha, to improve user ease, given that such techniques were well-known and conventional. Williams-Decl., [0199].

Manually pre-selecting items from a list was also well-known. Williams-Decl., [0200]. For example, McNulty describes various interfaces to manually select items from a list of at least three selections. McNulty, 16:44-56, FIGs. 24-25 (below); Williams-Decl., [0200].



And McNulty describes the wireless telephone accepting “manually entered” input. McNulty, 11:54-59; Williams-Decl., [0201].

As discussed *supra* §VII.C, POSAs would have been motivated and reasonably expected success to enhance Sheha’s system by displaying configuration options selectable from a list per McNulty, and incorporating various location alert settings as those options, per Degnbol. Williams-Decl., [0202].

In IPR2023-00116 (Paper 7 at 38-40; Paper 13 at 31-40), Mullen argued that Degnbol only discloses distance-based alerts and therefore only one *type of location-based event*. As the Board recognized for institution purposes (IPR2023-00116, Paper 9 at 22-23), Mullen was incorrect. Degnbol explicitly teaches that alerting a user when another user is within a specified distance is just one set of available options, while other options alert the user when the other user is in a specified geographic area, and others alert the user when his location has caused an alert to another user. *See* Degnbol, 12:10-12 (“notification allows the user to...selectively (choose to) communicate with users in his area (***or another designated area***)”), 3:11-15 (“alert” based on “pre-defined area [***or*** proximity”), 3:23-27 (alerts to “proximity ***or*** approximate whereabouts of user”), 6:6-8 (“Each predetermined range may be associated with a geographic area, such as a continent, country, district, city, co-ordinate range or a street. The geographical area may be selected by the user.”), 12:4-6 (“criteria based on unit locations ***or***

proximity”), 19:1-3 (same), 18:5-8 (“specify” alerts when certain “criteria relating to distance, *location*, time or date are met”), 21:4-6 (alerting user “that he has been the subject of an alert to another user”); Williams-Decl., [0203].

For example, a user can “request to be alerted of the[ir] spouse’s arrival *at a given area on his/her regular route home*,” which is a specified geographic area rather than a distance from the user. Degnbol, 13:17-21; Williams-Decl., [0204]. And in Table 1 (highlighted below), “JohnS has [a] profile[]” specifying to “alert him of a specific user *reaching a particular map point*” specified as “City: Street.” Degnbol, 22:1-8:

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

Table 1. PROFILES Data

Degnbol thus teaches pre-selecting from *at least three types of location-based events*. Williams-Decl., [0205]-[0206].

d. [29G]

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

As discussed *supra* §VI.D.1 (claim 15), Sheha’s ODAS determines whether the target device has given the requesting device *location access rights*. Sheha, 3:4-14, 3:22-28, 4:8-18, 4:59-5:46, 8:42-53, 9:59-10-26, 11:55-12:7; *see also id.*, 13:65-14:2, 14:54-61, 19:9-13; Williams-Decl., [0208]. Because this occurs before any location access in Sheha, the *access rights* govern whether the *wireless telephone receives location-based event notifications* for the *second wireless telephone*’s location in Sheha-Degnbol-McNulty. Williams-Decl., [0208].

As discussed *supra* §VI.D.1.h ([15H]), claim 29 does not recite “*location access rights possessed exclusively by said wireless telephone*,” and even if it did, this would have been obvious. Williams-Decl., [0209].

Also, Degnbol teaches to condition mobile-to-mobile *location-based event notifications* on *location access rights*, and to allow a *second wireless telephone* to give *location access rights* exclusively to an individual *wireless telephone* or groups. Degnbol, 1:11-13 (mobile-to-mobile), 10:9-11 (groups), 11:13-14 (“All preferences can be configured on a *per-buddy basis*, [or] on a per-category basis....”), 10:17-18 (“Preferences can be configured *on an individual Buddy*

basis”), 12:4-8 (“alerting *permissions*”), 20:23-32 (“User B’s profile includes a *permission to notify User A* of his whereabouts.”), 21:23-29 (“database...includes *permission* information”), 22:1-8 (“JohnS has set permissions that allow his position information to be provided to certain other users selected by him.”); Williams-Decl., [0210]. POSAs would have been motivated and reasonably expected success, based on Degnbol’s teachings, to implement the *location access rights* in Sheha-Degnbol-McNulty this way. Williams-Decl., [0210]-[0211]. Degnbol teaches that this beneficially and successfully causes “[u]se of the system [to] build[] on mutual consent.” Degnbol, 11:16-18, 14:4-6.

e. [29H]

Degnbol’s *location-based events* include *region-based* events such as a user selecting “a geographic area, such as a continent, country, district, city, co-ordinate range or a street” to trigger an alert. Degnbol, 6:6-8, 8:18-20, 10:31-33, 22:1-6 (Table 1: “Geo Area”=“City: Street”), 13:19-20 (alert of user’s “arrival at a given area”); Williams-Decl., [0212].

Degnbol’s *location-based events* also include *distance-based* events such as “alerts when a Buddy comes within the range of 500 meters.” Degnbol, 11:5-11, 6:10-17, 8:22-29; Williams-Decl., [0213]-[0214].

2. Claim 30

Any of Sheha's wireless devices meet claim 30 as discussed *supra* §VI.D.1.b ([15B]), §VII.D.1.b ([29E]).⁴ Williams-Decl., [0215].

3. Claim 31

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

⁴ Claim 30's "*said first wireless device*" lacks antecedent basis and is interpreted herein as encompassing [29PRE]'s *wireless telephone*.

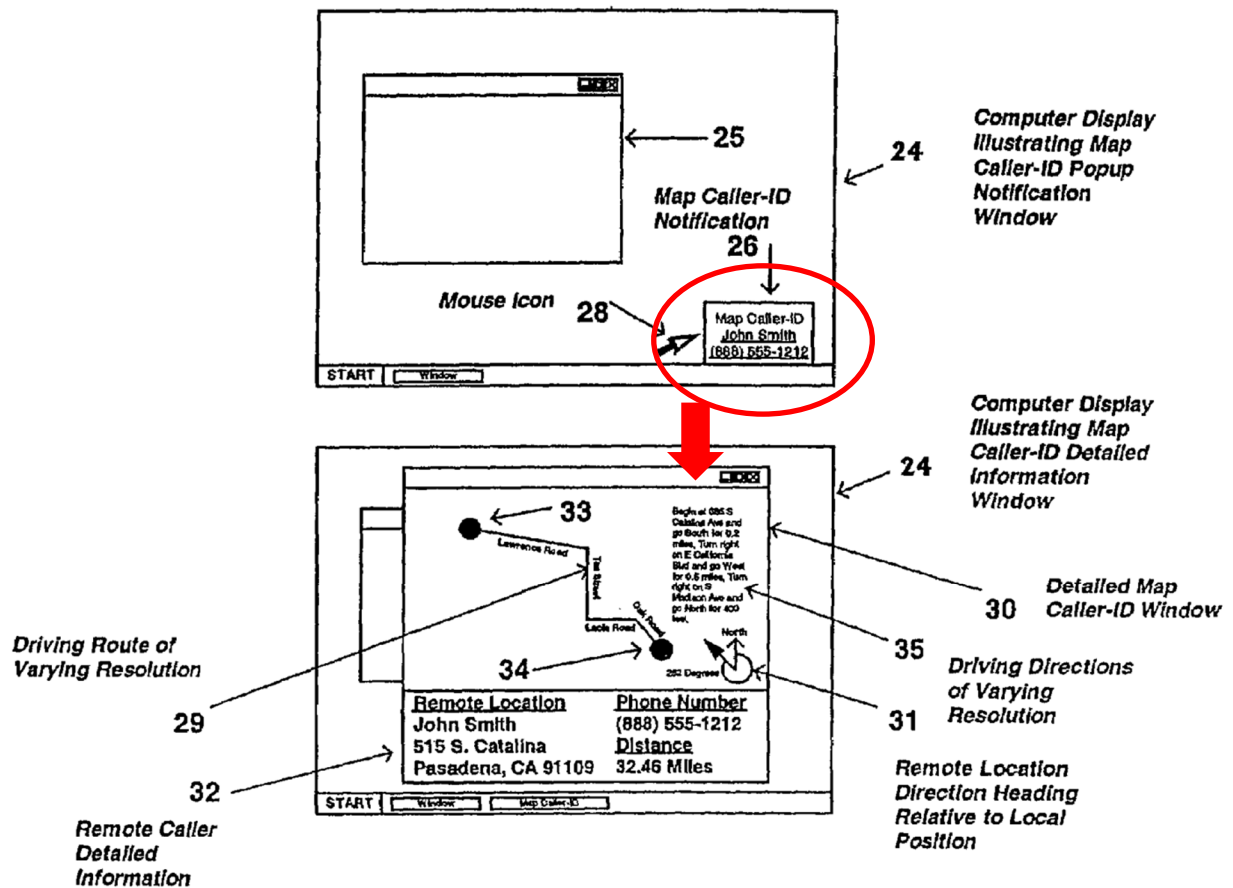


FIG. 5

As discussed *supra* §VII.D.1.c ([29F]), Degnbol describes *receiving* a *location-based event notification*, which can include “the location of the user.” Degnbol, 5:16-20; Williams-Decl., [0217]. POSAs would have found it obvious to provide a *selectable option* to view a map (e.g., with directions), per Sheha, *after receiving a location-based event notification*, per Degnbol, to provide further

useful information following the event notification. Williams-Decl., [0217]; *supra* §VII.C.

4. Claim 35

Sheha-Degnbol-McNulty incorporates Degnbol's teaching that the user can "set[] various preferences...directly from the...cellular phone," including to "select[]" a "geographic area" (i.e., *specifying said region*) to be notified when a contact's *wireless telephone* "arriv[es] at a given area." Degnbol, 9:34-10:3, 11:1-3, 6:1-8, 13:19-21; Williams-Decl., [0220]-[0221].

5. Claim 36

Sheha-Degnbol-McNulty incorporates Degnbol's teaching to "inform[]" (*alert*) a user at his *wireless telephone* "that he has been the subject of an alert to another user" (i.e., when the other user *locates said wireless telephone*, e.g., by being informed that the user's location is nearby the other user). Degnbol, 21:4-6, 18:27-31; Williams-Decl., [0222]. It would alternatively have been obvious to *receive an alert* whenever another user requests to access the *wireless telephone's* location in any way (whether or not as part of an alert), as this was a known useful option, even when the requesting entity already has location access rights. Williams-Decl., [0222]-[0224] (citing corroborating EX1071 ("Rice"), 9:26-51, 7:40-49, 12:20-33).

6. Claim 37

Degnbol describes “determining the position of” “communication units,” which include “wireless telephone[s],” “personal digital assistants,” and “*wristwatches*.” Degnbol, 4:1-31, 7:1-17, 6:22-23, 27:14-16; Williams-Decl., [0225]. In light of Sheha’s teachings to *receive and display* the *location of* various communication devices like those Degnbol lists (Sheha, 9:50-53), it would have been obvious to *receive and display* any suitable device’s *location*, including a *watch*. Williams-Decl., [0225]-[0226].

7. Claims 33-34, 39

Sheha-Degnbol-McNulty meets the limitations added by the following claims for the reasons discussed in the corresponding sections above. Williams-Decl., [0218]-[0219], [0227].

Claim:	Limitation Addressed in Section:
33	§VI.D.3 (claim 18)
34	§VI.D.4 (claim 19)
39	§VI.D.5 (claim 26)

VIII. GROUND 3: SHEHA IN COMBINATIONS WITH SMITH, DEGNBOL, MCNULTY, WAKO, BOLING, BECHTOLSHEIM

A. Wako (EX1025)

Wako discloses a vehicle navigation system that provides turn-by-turn directions to an identified destination, which can be a point of interest or a contact's address. Wako, Abstract, 10:28-13:14, FIGs. 10-12. Wako illustrates conventional displays desirable for providing useful navigation information. Wako, FIGs. 5-12. Williams-Decl., [0228]-[0230].

B. Boling (EX1074)

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

C. Bechtolsheim (EX1075)

Bechtolsheim describes "improved navigation programming" that assumes the user will drive part of a route, "park[] his/her vehicle[,]. . . and walk[] the remaining distance to the final destination." Bechtolsheim, 1:6-10, 9:30-35, 5:66-6:3, 7:44-47, 11:57-61. The programming computes "the time to travel" each possible "combination driving/walking route" to select the best one. Bechtolsheim, 19:17-36. Additionally, the "program can provide . . . routes that use public transportation" and compare the "travel time" to that "using a private

vehicle.” Bechtolsheim, 21:26-59. The navigation information can be provided “on hand-held computer devices, such as personal digital assistants, telephones,” etc. Bechtolsheim, 20:45-47. Williams-Decl., [0232].

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

Degnbol, Smith: POSAs would have been motivated and reasonably expected success to incorporate Degnbol’s teachings in Sheha-Smith (*supra* §VI.C) for the reasons *supra* §VII.C, and to incorporate Smith’s teachings in Sheha-Degnbol-McNulty (*supra* §VII.C) for the reasons *supra* §VI.C. Williams-Decl., [0233].

Wako: Sheha describes providing a map with “driving directions” from the mobile device’s location to the received other user’s location. Sheha, 3:29-36, 4:52-58, 9:10-16, 9:23-39; Williams-Decl., [0234]. Thus, Sheha motivates incorporating known navigation-system display features like Wako’s into Sheha-Smith and Sheha-Degnbol-McNulty. Williams-Decl., [0234]. POSAs would have reasonably expected success given Sheha’s teachings to provide navigation functionality. Williams-Decl., [0234].

Boling: In light of Sheha’s teachings to share various mobile devices’ locations (Sheha, 12:58-60, 19:41-46, 12:1-7), POSAs would have been motivated and reasonably expected success to share any suitable mobile device’s location,

such as a location-transmitting radio per Boling, in Sheha-Smith and Sheha-Degnbol-McNulty. Williams-Decl., [0235].

Bechtolsheim: Bechtolsheim teaches to provide a combination driving-and-walking route to the destination, since the “user may not necessarily be able to park at the destination location” and will walk there from their parking spot, and also to provide public-transportation route options that may save the user time.

Bechtolsheim, 1:27-50, 21:53-56. POSAs would therefore have been motivated to provide such routes in Sheha-Smith and Sheha-Degnbol-McNulty, and would have reasonably expected success based on Bechtolsheim’s teachings in a similar system providing navigation functionality on mobile devices. Bechtolsheim, 20:45-47; Williams-Decl., [0236].

E. Mapping to Challenged Claims

1. Claim 16

Claim 16 is obvious over Sheha-Smith-Wako. Sheha describes providing a map with “driving *directions*” from the *wireless telephone*’s location⁵ to the received other user’s location, such as when a user selects *an option* to view more detailed information about another user’s location. Sheha, 3:29-36, 4:52-58, 9:10-

⁵ Claim 16’s “*said first wireless telephone*” lacks antecedent basis and is interpreted herein as encompassing [15PRE]’s “*wireless telephone*.”

16, 9:23-39; Williams-Decl., [0237]. Users would expect *an option to obtain directions* to a location by interacting with a *display* screen after receiving a location, such as disclosed in Wako. Wako, FIGs. 12B-C, 12:35-13:37; Sheha, 9:10-16, 9:23-39, 13:32-44; Williams-Decl., [0237]-[0238].

2. Claim 20

Claim 20 is obvious over Sheha-Smith-Degnbol, because the “two-way wireless communication devices (e.g., telephones or pagers) [have] the ability to *alert* user ‘A’s’ communication device when a user ‘B’ enters the proximity of user ‘A’” per Degnbol’s teachings. Degnbol, 18:27-33, 10:17-33. The users are part of a list of users (a Buddy List). Degnbol, 9:32-34; Williams-Decl., [0239].

3. Claim 21

Claim 21 is obvious over Sheha-Smith-Degnbol. Sheha describes *requesting a remote server to provide* data based on a device location (Sheha, 6:15-16), and Degnbol teaches that alerts are provided by a “processor,” which is shown in FIG. 1 (annotated below) as *remote* from the users (Degnbol, FIG. 1, 21:3-6), and which POSAs would have understood to be commonly implemented as a *server*. Williams-Decl., [0240]. In Sheha-Smith-Degnbol, these *alerts* are *provided* by the processor based on a *request* from the user device. Degnbol, 11:1-14; Williams-Decl., [0241]-[0242].

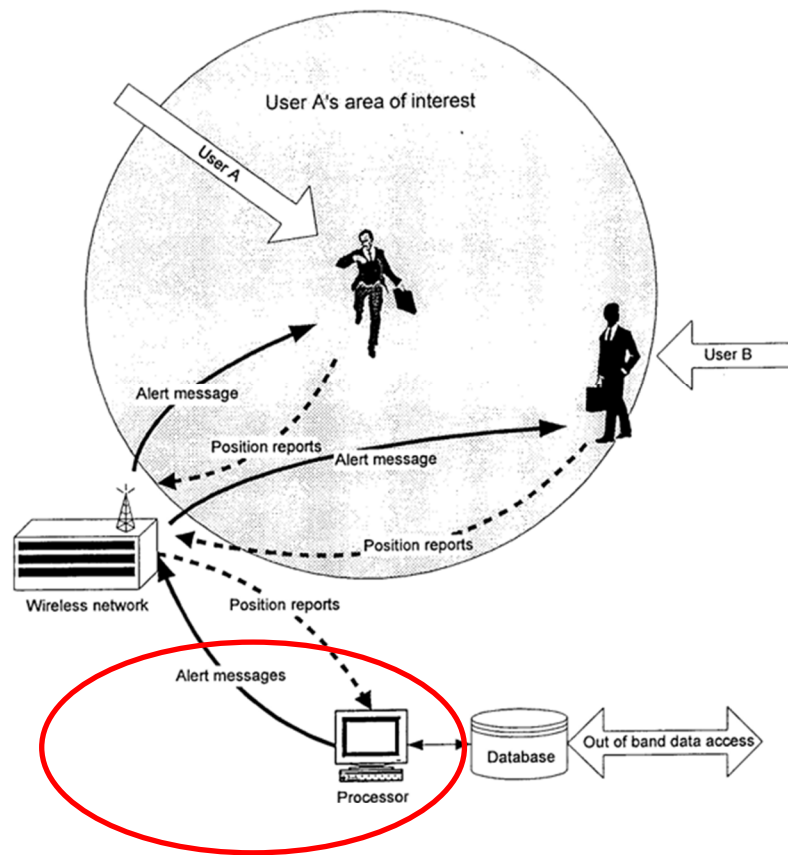


Fig. 1

4. Claim 22

Claim 22 is obvious over Sheha-Smith-Degnbol, which incorporates Degnbol's *geographic-area-based alerts* discussed *supra* §VII.D.4 (claim 35). Degnbol, 11:5-11 (“user” can “*specify*” to be “*alerted* when a buddy comes *within* a certain range”), 6:1-8 (“range may be associated with a *geographic area*” that

“may be selected by the user”), 9:34-10:3 (user can “set[] various preferences...directly from the...cellular phone”), 11:1-3, 13:19-21 (user “request[s] to be *alerted* of [other user’s] arrival at a given area”); Williams-Decl., [0243]-[0244].

5. Claims 23-24

Claims 23-24 are obvious over Sheha-Smith-Degnbol based on Degnbol’s teachings discussed *supra* §§VII.D.5-VII.D.6 (claims 36-37). Williams-Decl., [0245]-[0246].

6. Claims 25, 38

Claim 25 is obvious over Sheha-Smith-Boling, and claim 38 is obvious over Sheha-Degnbol-McNulty-Boling. Boling teaches, and it was background knowledge, that a mobile device having position-reporting capability can be a *radio*. Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64; *supra* §VIII.B; Williams-Decl., [0247]-[0248] (citing corroborating EX1076 (“Lelievre”), Abstract, [0047], FIG. 5). In light of Sheha’s teachings to *receive and display* various mobile devices’ *locations* (Sheha, 12:58-60, 19:41-46, 12:1-7), POSAs would have been motivated and reasonably expected success to *receive and display* any suitable mobile device’s *location*, such as a *radio* per Boling. Williams-Decl., [0249]-[0250]; *supra* §VIII.D.

7. Claims 27, 40

Claim 27 is obvious over Sheha-Smith-Wako-Bechtolsheim, and claim 40 is obvious over Sheha-Degnbol-McNulty-Wako-Bechtolsheim. Williams-Decl., [0251].

As discussed *supra* §§VIII.C-VIII.D, POSAs would have been motivated and reasonably expected success to incorporate in Sheha's system Bechtolsheim's teachings to provide a route to the destination *according to two types of travel: walking and driving*. Bechtolsheim, 1:27-50, 20:45-47; Williams-Decl., [0252]. Wako teaches it was "Background" knowledge to display "anticipated ***time to reach*** the final destination" as "route guidance." Wako, 2:30-34, 9:18-22. POSAs would therefore have been motivated and reasonably expected success to display this information with Sheha's driving directions (Sheha, 3:29-36). Williams-Decl., [0252]. In combination with Bechtolsheim, this displayed *time to reach* the destination (*second location*) is the "summed" *driving* and *walking* time. Bechtolsheim, 19:30-36; Williams-Decl., [0252]. Bechtolsheim teaches to *receive* the *information* from a "remote location" where it is computed. Bechtolsheim, 5:16-19.

Alternatively, Bechtolsheim also teaches to "compare[]" the "travel time using public transportation" (which POSAs would have understood typically includes *subway*) "to the travel time using a private vehicle" (*driving*).

Bechtolsheim, 21:53-56. POSAs would have been motivated and reasonably expected success to apply this teaching to allow the user to choose among transportation options. Williams-Decl., [0253]. POSAs would have understood an obvious way to allow the user to “compare” the two travel times is to *receive and display* them, meeting claims 27 and 40. Williams-Decl., [0253].

8. Claim 32

Claim 32 is obvious over Sheha-Degnbol-McNulty-Wako based on Wako’s teachings to *display a travel time* between the mobile devices’ locations as discussed *supra* §VIII.E.7 (claim 27). Wako, 9:18-22, 2:30-34; Williams-Decl., [0254]. It would have been obvious to do so *after receiving said location-based event notification* for reasons discussed *supra* §VII.D.3 (claim 31). Williams-Decl., [0254]-[0255].

9. Claim 41

Claim 41 is obvious over Sheha-Degnbol-McNulty-Smith based on Smith’s teachings discussed *supra* §VI.D.6 (claim 28). Williams-Decl., [0256].

IX. GROUND 4: RANDALL

A. Randall (EX1007-EX1008)

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

Randall is thus prior art under pre-AIA 35 U.S.C. §102(a) and §102(e). Citations

herein are to the U.S. publication (EX1007) paragraph numbers for convenience; the identical description is present in the international publication (EX1008).

Williams-Decl., [0080]-[0081] (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...shared by each of the applications.” Randall, [0002], [0006]. The wireless devices can be “radio telephones, smart phones,” etc., which “can access information on” “internet servers hosting extensible databases.” Randall, [0002], [0029]. Examples of applications on a wireless device that can all access the same server-based database framework and coordinate to provide services include “a directory application (which contains a user’s contacts list...)” and “a location application (which gives a user’s location and includes digital maps).” Randall, [0009], [0012], [0025], [0028] (“applications...share information”), [0080]-[0081], [0085]-[0115]; Williams-Decl., [0258]-[0263].

“As an example,...a user might choose to subscribe to a service which allowed others to track his or her location—location could be a new attribute” stored in the “database” as “information relating to [the] individual.” Randall, [0021]. “The user’s friends or parents etc who wish to track the user[’]s location...could add a ‘map’ application to their own devices, which could show

their position on digital maps and also, by using the location attribute of the user's data object, it could also show the position of the user." Randall, [0021]. In this example, the "personal information...and location based information" is "handled by contacts...and map type applications" coordinating together to provide the service. Randall, [0021]-[0022], [0025]; Williams-Decl., [0264].

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., [0265]-[0266]. 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 15

a. [15PRE]

Each of Randall's "*wireless* information device[s]" can be a "radio *telephone*[]" or "smart *phone*[]"—i.e., a *wireless telephone*. Randall, [0002]; Williams-Decl., [0267]. 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., [0267]. Bob’s device is an exemplary *wireless telephone* (as is Alice’s). Williams-Decl., [0267]-[0268].

b. [15A], [15C]

Randall teaches that its “wireless information devices run[] applications which access data...using a standardised set of APIs,” which involves running “[s]oftware.” Randall, [0048], [0450], p. 31 (claim 19). POSAs would have understood that devices such as smart phones (Randall, [0002]) that run software applications and use APIs typically, conventionally, and obviously do so via *a processor* executing *programming* stored in *memory*. Williams-Decl., [0269]-[0273], [0275]-[0279] (citing corroborating EX1013 (“De-Vries”), 12:40-51, 4:60-65, FIG. 6; EX1056 (“Stewart”), 5:41-58, FIG. 2; EX1023 (“Smith”), 5:19-6:2).

c. [15B]

Randall’s wireless device uses “GPS” to *determine* its *location*. Randall, p. 24 (“People tracking”), p. 22 Table 1 (“GPS location”), p. 29 (“Route finder”); Williams-Decl., [0274]. POSAs would have known that “GPS” stands for “global *positioning system*.” Williams-Decl., [0274]. The ’117 patent admits this was prior-art “background” knowledge. EX1001, 1:21-34.

d. [15D]

Each of Randall’s wireless devices can have “a directory application” that “contains a user’s contacts list.” Randall, [0009]. A user’s “contacts database”—

called their “Universe”—“is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]. “Table 2” is “an example” of “Alice’s Universe.” Randall, [0511].

TABLE 2

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

As Table 2 shows, a user’s Universe *displays a plurality of users*. Williams-Decl., [0280]-[0281]. Randall teaches that at least some of these users have their own wireless information devices. Randall, [0512], Appendix 1 p. 25 (user’s “address book” of contacts includes “mobiles you regularly phone”), [0511], Table 2 (showing “Number” of each contact). Thus, *each one of said plurality of users is associated to a different one of a plurality of wireless telephones*, where the claimed “*plurality of users*” can be a user’s whole contact list or the subset of the contact list wherein *each* of those *users is associated to a different wireless telephone*. Williams-Decl., [0281].

The Universe contacts database is both “stored on the i-server” and “cached on” the user’s “wireless information device[.]” Randall, p. 23 (“Auto-entering

address book”), [0062]-[0063], [0069]. Like other server-stored data, the copy of the user’s contacts list in the wireless device’s memory is for “*display* in an appropriate application.” Randall, [0013], [0021] (“contacts application” on user’s device “allow[s] them to see” their contacts’ information), [0179] (“Buddy view”), [0222] (similar), [0400] (other user’s “unique ID” can be “store[d]” in user’s “contact manager”); Williams-Decl., [0282].

Table 2 shows “Alice’s Universe” as an example; Bob similarly has his own “Universe” contacts list, and Bob and Alice can each be included as contacts displayed in each other’s contacts lists. Randall, [0509]-[0511], [0060], p. 24 (“Data freshness”: “Alice’s contact information can be shown on Bob’s wireless information device”), [0053] (“Consider Alice...and Bob”—language introducing Alice and Bob as generic examples); Williams-Decl., [0283]. Even if Randall had not explicitly taught this, it would have been an obvious implementation option to allow any wireless device users to subscribe to the same functionality (including contacts functionality and location functionality) in Randall’s system, and to allow any user to include any other user in their contacts list. Williams-Decl., [0283].

Thus, Bob’s contact list (with Alice as a contact) is displayed on Bob’s wireless device and Alice’s contact list (with Bob as a contact) is displayed on Alice’s wireless device. Either meets [15D]. Williams-Decl., [0284].

e. [15E]

Randall teaches that “[w]hen one of the people in [Alice’s] list...looks at Alice[]...on their...wireless information device[]...in their contacts application” (e.g., when Bob selects Alice in his device’s displayed contacts list), “they see a view onto Alice’s personal data that is defined by Alice.” Randall, [0512], [0049], [0053], [0067], [0509] (“Bob” is Alice’s “contact” and has “access” to Alice’s “information”); Williams-Decl., [0285]. That view is of a subset of Alice’s “Identity” information which contains data “objects” that are “information relating to an individual.” Randall, [0180]-[0187], [0118], [0505]-[0508], [0021]; Williams-Decl., [0285]. Bob’s device can “display an icon or other shorthand” for such an object, and Bob can “select[] the icon or shorthand” to view “attributes of the object.” Randall, [0022], [0060] (“Bob’s device” can display “icon appearing next to Alice’s contact information”). A “user’s data object” in “a contacts application” can have a “location attribute” used to “show the position of the user.” Randall, [0021].

Thus, Randall teaches, or at minimum renders obvious, that Bob can *select* a displayed entry representing Alice (by icon or other shorthand) to view Alice’s location attribute. Williams-Decl., [0285]-[0286]. POSAs would have understood this to disclose *a first manual input* meeting [15E], or at minimum to render it obvious because *manual input* was a well-known way for wireless device users to

input such a selection. Williams-Decl., [0286]; Randall, [0012] (“user could click on” data displayed on wireless device “to perform...actions”), [0146]-[0151] (user can take “action” on a “specific contact” in “their buddy list”).

Additionally, it would have been obvious to implement Bob’s device to allow Bob to manually *select* Alice from Bob’s displayed contacts list to request Alice’s location information. Manually selecting another user from a displayed contacts list was well-known in POSAs’ background knowledge as a suitable option with reasonable expectation of success for “look[ing] at [another user’s] ADS Number” to “see a view onto [that user’s] personal data” (Randall, [0512]) such as location. Williams-Decl., [0287]-[0293] (citing corroborating EX1023 (“Smith”), 5:15-18, 6:53-7:3, 7:41-49, 9:42-61, 10:29-11:4, FIGs. 14-16; EX1027 (“Han”), [0033]; EX1018 (“Meadows”), FIG. 4A, 5:30-47; EX1022 (“Darling”), 41:1-15); *see supra* §§VI.B-VI.C, §§VI.D.1.d-VI.D.1.e (discussing POSAs’ background knowledge evidenced by Smith).

f. [15F]

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

[his] favourite colour/restaurant/recent film etc.” Randall, [0067]. In some examples, this can be “relevant...where Bob borrows someone else’s wireless information device or uses a public device” to access both “his own personal information” and information of his contacts, including Alice. Randall, [0067]; Williams-Decl., [0294].

Because Bob can be authenticated as “Bob the person, rather than Bob’s device,” even when using “someone else’s” device or “a public device,” POSAs would have understood Randall to teach that Bob inputs a *login* (i.e., an identifier “identifying an entity seeking information” as purporting to be “Bob the person”) on the *wireless telephone* he is using. Randall, [0067]; Williams-Decl., [0295]. The “PIN” or “select[ed] answer[] from a multiple choice” is a *password* that, if it “correctly” matches what the server has stored for Bob (Randall, [0067]), authenticates that the user is truly Bob. Williams-Decl., [0295]; Randall, [0380] (“authentication can use...a basic WID and password/passphrase”). POSAs would have understood that *manual input* on the wireless device was a typical and obvious way for such identifier and PIN or answer word to be submitted. Williams-Decl., [0295]-[0298] (citing corroborating EX1024 (“Carey”), FIG. 8, 7:67-8:10; EX1031 (“Laursen”), 8:55-9:5, 9:52-66, 11:37-43; EX1032 (“Muratov”), [0016], [0038], [0104]). Randall’s “authentication” can be used for

access control “both locally and on the server” (Randall, [0380]), corroborating that it is *received* locally on the wireless device. Williams-Decl., [0299].

Alternatively, it would have been obvious to implement Randall to *receive* the claimed *inputs* on Bob’s device to authenticate Bob. Using *login and password* inputs to authenticate a device user seeking another user’s information (including location) was well-known in POSAs’ background knowledge as a beneficial and commonly used option with predictable results. Williams-Decl., [0300]-[0307] (citing corroborating EX1024 (“Carey”), Abstract, 1:8-12, 3:18-34, 4:6-33, 5:5-28, 7:65-8:16, FIGs. 8-14; EX1019 (“Thomas”), 2:58-3:6, 5:49-54, 6:53-7:49, 6:53-7:3, 7:27-40; EX1029 (“Chern”), 6:55-7:20; EX1054 (“Sandhu”), 5:9-51; EX1030 (“Futagami”), 8:56-67, 10:9-17; EX1022 (“Darling”), 2:1-12, 8:32-34).

g. [15G]

Randall’s server *determines whether to allow access of* Alice’s device’s *location information* when “the server recognis[es] Bob’s device and determin[es] the database access rights which Alice has given him.” Randall, [0067]; Williams-Decl., [0308]. As discussed *supra* §IX.B.1.f ([15F]), this involves “the server...authenticating Bob” via his *login and password* (Randall, [0067]), which therefore are *provided to the server for use in the determining*. Williams-Decl., [0308]. Randall’s server is an “internet server[]”—a “server on the Internet”—which POSAs would have known is a *remote* server. Randall, [0029], [0053],

[0030] (“*remote*, extensible database”), FIG. 4 (servers located remotely from wireless devices); Williams-Decl., [0308].

“The database can define which entities can read different fields: Alice can therefore give Bob rights to read only certain fields in her database.” Randall, [0047]. As shown in Table 1 (highlighted below), a field in Alice’s “i-Data” (“Identity”) database is her device’s “GPS location,” which she has designated as only being accessible to users whom she has designated as part of the “i-Group” called “partner.” Randall, [0503]-[0512], [0116]-[0136] (“Identity” used for sharing “Location information”); Williams-Decl., [0309].

TABLE 1

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

TABLE 1-continued

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

Thus, “[t]he I-server is up-dated with the location of a person..., enabling authorised people to track the location of [Alice’s] GPS wireless information device by polling the server.” Randall, p. 24 (“People tracking”). “[S]ensitive information is only available to people in certain iGroups; allowing Alice to control what data they see.” Randall, [0509], [0128], [0136] (“Location information” is “[v]isible to specific people (or groups)”). Thus, when Bob’s device polls the server by requesting Alice’s information, the server *determines whether to allow access* to Alice’s GPS location by determining whether the received *login and password* properly authenticate Bob and whether Alice has designated Bob as a member of the i-Group she has designated as having access to her GPS location. Randall, [0067], [0503]-[0512]; Williams-Decl., [0310]-[0311].

h. [15H]

As discussed *supra* §§IX.B.1.f-IX.B.1.g ([15F]-[15G]), Randall teaches or alternatively renders obvious that the server uses an input *login* to identify Bob as the user to be authenticated as using the *wireless telephone*, and an input *password* to determine whether it correctly matches the password stored as being associated with Bob (i.e., *associated with said login*) to authenticate that the user is truly Bob. Williams-Decl., [0312]. This “[a]uthentication (i.e. identifying an entity seeking information)” is part of “the server recognising Bob’s device” (including “[a]uthentication of Bob the person”) “and determining the database access rights

which Alice has given him” (Randall, [0067])—which can include “authoris[ing] [Bob] to track the location of [Alice’s] GPS wireless information device by polling the server” (Randall, p. 24)—and, thus, is part of *said determining* and includes *determining whether Alice has provided access rights for said location information* to Bob. Randall, [0067], [0503]-[0512], [0116]-[0136], p. 24 (“People tracking”); Williams-Decl., [0312]-[0313].

i. [15I]

Randall teaches that any “user must be able to switch location information on for a person or group..., being able to select the person and allow access” to make the *location* “[v]isible to specific people (or groups).” Randall, [0144], [0136], [0143]. Thus, Bob can operate his *wireless telephone* to *assign location access rights* to Alice’s device *for obtaining said location* of Bob’s device, meeting [15I]. Williams-Decl., [0314].

As another example, Randall teaches that “whenever Alice wishes to, she can change the level of access of a current contact—perhaps promoting Bob from ‘business’ to ‘friend.’” Randall, [0509]. This is a “method[] of making contacts into members of a particular i-Group.” Randall, [0509]. As discussed *supra* §IX.B.1.g ([15G]), a user can designate members of a particular i-Group as having access to the user’s device’s GPS location. POSAs would have understood this to be a generic example equally applicable to Bob as to Alice. Williams-Decl.,

[0314]; Randall, [0067] (“Bob also has stored on the server his own personal information”); *see supra* §IX.B.1.d ([15D]) (Bob and Alice are generic examples).

Thus, Bob could promote Alice to an i-Group that Bob has specified as having access to Bob’s GPS location, thus using Bob’s device to *assign location access rights* to Alice’s device whose number is in Bob’s contacts. Williams-Decl., [0315]. “Access rights can be associated with individual entities, and can also be associated with groups of entities.” Randall, [0070]. Thus, in one example, if Bob assigns Alice to the “partner” i-Group having access to Bob’s GPS location and Bob has only one partner, then Bob is assigning location access rights only to Alice (and her device). Williams-Decl., [0316]-[0317]; Randall, p. 21

Table 1.

j. [15J]

Randall teaches that “[o]nce [Bob is] authenticated” for access, “the server passes to Bob’s device the information it requests.” Randall, [0067]. As discussed *supra* §IX.B.1.g ([15G]), Alice’s data *received* by Bob can include Alice’s *location information*. Williams-Decl., [0318].

k. [15K]

Randall’s above-discussed process enables “People tracking,” which “enabl[es] authorised people to track the location of [e.g., Alice’s] GPS wireless information device by polling the server.” Randall, p. 24. “As an example,” a

“user’s friends or parents etc who wish to track the user[’]s location” can have “a ‘map’ application [on] their own devices, which could show their position on digital maps and also...the position of the user.” Randall, [0021]. Thus, once Bob’s *wireless telephone* has received Alice’s *location information* as discussed *supra* §IX.B.1.j ([15J]), it can *display* that information—e.g., on a map. Williams-Decl., [0319].

Randall teaches that requesting users “might initially have” the tracked user’s contact information in “a contacts application,” and then “a ‘map’ application...show[s] the position of the [tracked] user.” Randall, [0021]. Thus, the tracked user’s (e.g., Alice’s) location attribute is “handled by contacts...and map type applications” together (Randall, [0021]), reinforcing that Bob can select Alice from his contacts list to view her information including her location on a map, as discussed in this §IX.B.1 (claim 15). Williams-Decl., [0320]-[0321]; *see* Randall, [0025] (“linkage is inherent because the data components work across multiple applications”), [0086] (services provide capabilities accessible “from anywhere in the device,” including “Location” capabilities accessible from various applications); [0094] (wireless device can have “a single capabilities framework into which all services are installed”), [0109]-[0115] (services can be strung together, so “service integration enables scenarios which span several services in the course of a single task flow”).

2. Claim 17

In Randall, Bob can provide on his device *a manual input* that *modifies said location access rights* discussed *supra* §IX.B.1.i ([15I]) by, e.g., changing the period of time for which Alice has access to his location. Randall, [0144] (user can “select [a] person and allow access” for a “period of time” that is “easily extensible by the user,” at the end of which “the location information should again become invisible”); Williams-Decl., [0322]. Another way Bob can *modify said location access rights* is by “chang[ing] the level of access of a current contact” (e.g., Alice) by changing her i-Group membership in his contacts database. Randall, [0509]; Williams-Decl., [0322].

POSAs would have understood these to disclose *a manual input* meeting claim 17, or at minimum to render such manual input obvious because manual input was a well-known way for wireless device users to input selections and settings. Williams-Decl., [0323]-[0324]; Randall, [0012] (“user could click on” data displayed on wireless device “to perform...actions”), [0146]-[0151] (user can take “action” on a “specific contact” in “their buddy list”).

3. Claim 18

As discussed *supra* §IX.B.2 (claim 17), Randall teaches that Bob’s *wireless telephone* can *instruct* the i-server *to allow Alice to access Bob’s location* “for a pre-defined period of time.” Randall, [0144]. Randall teaches that Bob can

“extend the visibility period to ‘forever’”—i.e., to *an indefinite period of time*.

Randall, [0144]; Williams-Decl., [0325]-[0327].

4. Claim 19

Randall teaches that Bob can “select the person and allow access” (as discussed *supra* §§IX.B.2-IX.B.3 (claims 17-18)) for only “a pre-defined *period of time*,” after which “the location information...again become[s] invisible.”

Randall, [0144], [0143] (allowing location access for “*specific period of time*”); Williams-Decl., [0328]-[0329].

5. Claim 25

Randall teaches that “wireless information device[s]” include “*radio* telephones,” and that each wireless information device can “track the location of” any other “GPS wireless information device” for which it is “authorised.” Randall, [0002], p. 24 (“People tracking”), [0021] (teaching “show[ing] the position of” the tracked device “on digital maps”). Bob’s device can thus *receive and display a location of a radio*. Williams-Decl., [0330]. It would alternatively have been obvious to *receive and display a location of* any type of location-transmitting *radio*, which were well-known in POSAs’ background knowledge. Williams-Decl., [0331]-[0334] (citing corroborating EX1074 (“Boling”), Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64; EX1076 (“Lelievre”), Abstract, [0047], FIG. 5); *supra* §VIII.E.6.

6. Claim 26

Randall teaches to provide a “Route finder” service “similar to GPS tracking in cars, but for mobile phones,” where “the phone...give[s] you step by step instructions on how to get” “where you want to go”—“eg. Turn left at the next lights. ...Go straight over the roundabout.” Randall, p. 29. It would have been apparent to POSAs from these teachings that a user may be using the mobile phone in *a car* when using this service, as users would benefit from such instructions while driving, and instructions to “[t]urn...at...lights” and how to navigate a “roundabout” are typical driving instructions. Williams-Decl., [0335]. In this scenario, POSAs would have understood the mobile phone’s location to be *a location of a car*, which Bob’s device can *receive and display* if Bob is authorized by that user. Williams-Decl., [0335].

Additionally, POSAs would have understood that a typical implementation of a “radio telephone[]” (Randall, [0002]) as discussed *supra* §IX.B.5 (claim 25) was a car phone, whose location is *a location of a car*. Williams-Decl., [0336]-[0339] (citing corroborating EX1077 (“Aisaka”), 1:14-23; EX1078 (“Kuge”), 1:1-34).

7. Claim 28

As discussed *supra* §IX.B.1.d ([15D]), Bob’s “Universe” is his “contacts database” which lists “all the entities known to” Bob with their contact

information. Randall, [0511], Table 2, [0509]-[0510], [0060]. POSAs would have understood this to be *a phone book corresponding to Bob*. Randall, p. 25 (“your phone’s address book”); Williams-Decl., [0340]. As also discussed *supra* §IX.B.1.d ([15D]), the “Universe” is stored in a “database” at the i-server (*remote system associated with said remote server*) and also may be “cached on” the user’s “wireless information device[.]” Randall, [0511], p. 23 (“Auto-entering address book”), [0062]-[0063], [0069]. Thus, Bob’s device can *download* his “Universe” *phone book from a remote system associated with said remote server*. Williams-Decl., [0340].

X. GROUND 5: 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. “This proximity parameter can have the form of a geographic distance threshold” or “same city/town/neighborhood,” etc. De-Vries, 9:1-18. “[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., [0341].

B. Randall-De-Vries Combination

Randall, like De-Vries, provides notifications via wireless devices when certain contacts are nearby, including via an “Old buddy finder” service that, e.g., “alerts Bob when a contact happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city and didn’t know it).” Randall, p. 24. To the extent that Randall does not specify how the server transmits these alerts or that the user can set the rules/parameters for receiving them and choose among various ways of defining what triggers notifications with respect to particular other device users, POSAs would have been motivated to implement Randall’s service that way based on De-Vries’s above-discussed teachings. For example, De-Vries’s techniques beneficially provide the user with control over what alerts they receive and trigger, about whom, and in what circumstances. Williams-Decl., [0342]-[0343]. POSAs would have reasonably expected success based on De-Vries’s teachings of successfully implementing such functionality in a system like Randall’s with wireless device users accessing each other’s locations. Williams-Decl., [0343].

C. Mapping to Challenged Claims

1. Claim 20

In Randall's "Old buddy finder," Bob's "device *alerts* Bob when a contact happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city...)." Randall, p. 24. This *alert regarding Alice is based on Alice's device's location* being near Bob's location. Williams-Decl., [0344].

De-Vries concerns the same type of proximity-based *alerts* as Randall. De-Vries, Abstract ("notifications to inform when certain people...are nearby"), 2:18-35, 4:39-44, 4:60-65, 5:20-62 (wireless device GPS locations are "stored in the people/place database" on the server to "provide *alerts*" to other users' devices); Williams-Decl., [0345]. De-Vries teaches to implement such alerts by the "server send[ing] a notification" to the *wireless telephone*, which thus *receives the alert*. De-Vries, 8:1-3, 8:31-40, FIG. 1; Williams-Decl., [0345]-[0346].

2. Claim 21

De-Vries teaches that "[t]he information service" (Randall-De-Vries's *remote server*) "supports a parameter for the user to disable and enable notifications," by which "user A could enable notifications from a group including person B." De-Vries, 9:46-62, FIG. 1 ("information service" is server-implemented). POSAs would have understood such "enabl[ing] notifications" to be *requesting said remote server to provide said alert*. Williams-Decl., [0347].

De-Vries further teaches that a mobile device user can set parameters controlling which other users' locations will trigger alerts and in what circumstances, as discussed *supra* §§X.A-X.B. De-Vries, 2:52-59, 3:5-14, 9:1-22. The “parameter settings” from “the user’s...mobile...device” are “stored by the information service” to control what alerts the server transmits. De-Vries, 8:41-62. POSAs would have understood setting these parameters to be *requesting said remote server to provide said alert* when the parameters are met. Williams-Decl., [0348]-[0349].

3. Claim 22

Randall teaches that *said alert* can be *geographic area-based*—e.g., *indicating that the other user’s location is within a city*. Randall, p. 24 (“Old buddy finder” “alerts Bob when...Bob and Alice are both in the same foreign city”); Williams-Decl., [0350]. De-Vries also teaches *geographic area-based alerts*, and that the *wireless telephone* user can *specify said geographic area* by setting “proximity parameters, such as same city/town/neighborhood,” within which the server will “provid[e] notifications” that specified other users’ “locations are within the scope indicated by the parameter.” De-Vries, 8:41-9:18; Williams-Decl., [0350].

4. Claim 29

a. Previously Addressed Elements

Randall-De-Vries meets the following elements of claim 29 for the reasons discussed in the corresponding sections above. Williams-Decl., [0351]-[0355].

Element	Addressed in Section:
[29PRE]	§IX.B.1.a ([15PRE])
[29A]	§IX.B.1.b ([15A])
[29B]	§IX.B.1.c ([15B])
[29C]	§IX.B.1.b ([15C])
[29D]	§IX.B.1.f ([15F])

b. [29E]

As discussed *supra* §IX.B.1.f ([15F]), Randall teaches that Bob provides *user information* including *login* and *password* to the i-server for “authentication” to access not only Alice’s data, but also “his own personal information” that “Bob...has stored on the server.” Randall, [0067], [0380]. As discussed *supra* §IX.B.1.g ([15G]), part of that i-Data is the user’s wireless device’s *location*. Randall, [0505], [0116]-[0136]. Any user can “up-date[]” the i-server with their “location” as “transmit[ted]” by their “GPS wireless information device.” Randall, p. 24 (“People tracking”); Williams-Decl., [0356]. By presenting Bob’s GPS location to the i-server with authentication information for accessing and updating

his personal information, Bob's *wireless telephone provides said location for recording on the i-server in association with said user information*. Williams-Decl., [0356]. The i-server is a *remote system* as discussed *supra* §IX.B.1.g ([15G]).

c. [29F]

Randall's "Old buddy finder" alert is a *location-based event* provided based in part on Alice's *second wireless telephone's* location as discussed *supra* §X.C.1 (claim 20). Randall, p. 24; Williams-Decl., [0357].

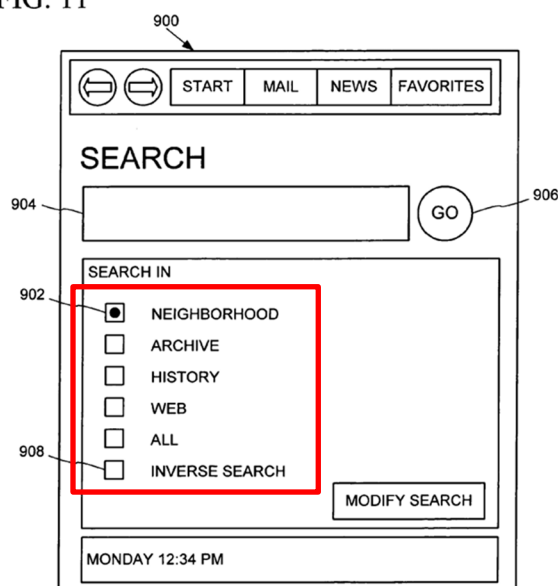
De-Vries similarly concerns *location-based events*. De-Vries, Abstract, 2:18-35, 4:39-44, 4:60-65, 5:20-62; Williams-Decl., [0358]; *supra* §X.C.1 (claim 20). De-Vries teaches to provide *at least three types* of such *location-based events*. One type is distance-based: a "parameter sets a proximity threshold...for purposes of...providing notifications" which can be a "distance threshold, e.g., a radius in miles or kilometers, within which the people...must be located to be considered in proximity to the user." De-Vries, 9:1-8. Another type is region-based: "proximity parameters, such as same city/town/neighborhood." De-Vries, 9:8-13. Other types include "same building, same room," etc. De-Vries, 9:13-14. Still further types are based on one or both users' "place context," which is "place-specific information" beyond simply the "location"—e.g., whether the user's current location is their "home or place of work" or a "public place[]," or "a movie

theatre” vs. “a shopping mall or library.” De-Vries, 6:4-7:12, 7:44-54, 8:41-67, 9:63-10:11. Further types of *location-based events* are additionally based on “times of the day or week.” De-Vries, 9:63-10:19. De-Vries thus teaches to provide *at least three types of location-based events* in the Randall-De-Vries combination discussed *supra* §X.B. Williams-Decl., [0358]-[0359].

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

De-Vries teaches that parameter settings can be part of “a graphical user interface” (GUI) “for accessing the information service from a client device.” De-Vries, 8:60-67; Williams-Decl., [0361]. In FIG. 11 (annotated below), De-Vries illustrates a typical GUI for selecting among available options, by *manually pre-selecting* one of the options from a *list*. Williams-Decl., [0361].

FIG. 11



Although FIG. 11 is illustrating an example GUI for submitting a search query (De-Vries, 16:34-44), POSAs would have known that this form of GUI was typical and common for user selection among available options. POSAs would, therefore, have been motivated and reasonably expected success in implementing Bob's pre-selection of a type of *location-based event* to receive about Alice's location in this way, by *manually pre-selecting from a list* of the available *at least three types of location-based events* on Bob's device. Williams-Decl., [0362]-[0363].

d. [29G]

Randall's system provides a *location-based event notification* when Bob's "device alerts Bob" about Alice's location. Randall, p. 24 ("Old buddy finder"); *see supra* §X.C.4.c ([29F]); Williams-Decl., [0364]. As discussed *supra*

§§IX.B.1.g-IX.B.1.i ([15G]-[15I]), Randall teaches that Bob’s device can only access Alice’s location (as is necessary for alerting Bob about Alice’s location) *as a result of* Alice having provided Bob’s *wireless telephone* sufficient *location access rights* from Alice’s *second wireless telephone*. Williams-Decl., [0364].

As discussed *supra* §X.C.1 (claim 20), De-Vries teaches *receiving* such *location-based event notifications* at the *wireless telephone* from the server. De-Vries, Abstract (“service provides...**notifications**...via the user’s personal communications/computing device”), 8:27-39 (same); Williams-Decl., [0365]. And De-Vries teaches to provide such *location-based event notifications as a result of location access rights of said wireless telephone from said second wireless telephone*. De-Vries, 9:32-45 (a user like Alice can “set the visibility parameters to be either visible or not visible to a particular user” like Bob “or group of users,” such that “by setting the visibility parameter for different groups of people, the person could elect to have the information service inform some groups of his or her contacts about his or her proximity, while not informing others”); Williams-Decl., [0365]-[0366].

e. [29H]

As discussed *supra* §X.C.4.c ([29F]), in Randall-De-Vries, *a first one* of the *types of location-based events* is *region-based* (“same foreign city” (Randall, p. 24) or “town/neighborhood” (De-Vries, 9:12-13)), and *a second one* of the *types of*

location-based events is distance-based (“within a defined proximity” (Randall, p. 24) defined in “the form of a geographic distance threshold, e.g., a radius in miles or kilometers” (De-Vries, 9:5-8)). Williams-Decl., [0367].

5. Claim 30

See supra §IX.B.1.c ([15B]), §X.C.4.a ([29B]). Williams-Decl., [0368].

6. Claim 31

In Randall’s system, Alice’s “friends/parents [e.g., Bob] could add a ‘map’ application to their own devices, which could show their position on digital maps and...could also show the position of the user” Alice. Randall, [0021]. On Bob’s *wireless telephone* this application/function *provides a map associated with said location* of Alice’s *wireless telephone*. Williams-Decl., [0369].

POSAs would have found it obvious to *display a display screen* with a *selectable option* to view this map *after receiving said location-based event notification*, because many users would want a choice to view the other user’s location after being notified that the other user is nearby (or to ignore the notification or address it at a more convenient time). Williams-Decl., [0370].

POSAs would have understood that this would beneficially help the users “locate each other in town” (Randall, [0143]) once notified that they are in the same town (Randall, p. 24, “Old buddy finder”). Williams-Decl., [0370]-[0371].

7. Claims 33-35, 38-39, 41

Randall-De-Vries meets the limitations added by the following claims for the reasons discussed in the corresponding sections above. Williams-Decl., [0372]-[0377].

Claim:	Limitation Addressed in Section:
33	§IX.B.3 (claim 18)
34	§IX.B.4 (claim 19)
35	§X.C.3 (claim 22)
38	§IX.B.5 (claim 25)
39	§IX.B.6 (claim 26)
41	§IX.B.7 (claim 28)

XI. GROUND 6: RANDALL IN COMBINATIONS WITH DE-VRIES, WAKO, BECHTOLSHEIM, DEGNBOL

A. Combinations of Randall and Randall-De-Vries with Wako, Bechtolsheim, Degnbol

Randall provides a “Route finder” service, “similar to GPS tracking in cars, but for mobile phones. You identify where you want to go, the phone knows where you are already. It can therefore give you step by step instructions on how to get there.” Randall, p. 29.

Randall also provides a “Rendezvous” service “on your mobile phone to help you meet friends and family” by “hav[ing] your location visible to others—so using your phones everyone in your group can tell precisely where the others are.” Randall, p. 29. Randall teaches that “your phone can display a map of the area you are standing in” (Randall, p. 29) and can also “show [your] position” and “the position of [another] user” (Randall, [0021]). POSAs would have understood and found it obvious from these disclosures that another user’s position can be “where you want to go” in Randall’s “Route finder” (Randall, p. 29). Williams-Decl., [0380]-[0381].

Wako, Bechtolsheim: POSAs would have recognized Wako’s and Bechtolsheim’s techniques discussed *supra* §§VIII.A-VIII.D as the type of “GPS tracking in cars” techniques that Randall’s “Route finder” is “similar to” (Randall, p. 29). Williams-Decl., [0382]. POSAs would therefore have been motivated and reasonably expected success incorporating Wako’s and Bechtolsheim’s navigation information and display techniques when implementing Randall’s “Route finder” service in Randall and Randall-De-Vries (*supra* §X.B), with another user’s location as the destination. Williams-Decl., [0382].

Degnbol: Randall’s system provides proximity-based alerts, as discussed *supra* §X. Randall, p. 24 (“Old buddy finder”). Based on Degnbol’s teachings regarding a similar system providing similar location-based alerts, POSAs would

have been motivated and reasonably expected success to “inform[]” a user at his wireless telephone “that he has been the subject of an alert to another user,” as well as to “determin[e] the position of” “communication units” including “wristwatches.” Degnbol, 21:4-6, 18:27-31, 4:1-5:20, 6:22-7:17, 27:14-16; Williams-Decl., [0383].

B. Mapping to Challenged Claims

1. Claim 16

Claim 16 is obvious over Randall-Wako. As discussed *supra* §§IX.B.1.d-IX.B.1.e ([15D]-[15E]), Randall’s wireless device displays a contacts list from which a contact can be selected to access their location. The Randall-Wako combination discussed *supra* §XI.A *displays an option* to select the contact (e.g., Alice) from the displayed contacts list to access Route finder navigation to *obtain directions* to the contact’s location. Williams-Decl., [0384]. Wako teaches that the user can select a contact’s name from a menu list to *obtain directions* to that contact’s location. Wako, 12:35-13:37, FIGs. 12B-12C (below); Williams-Decl., [0385].

Fig. 12B

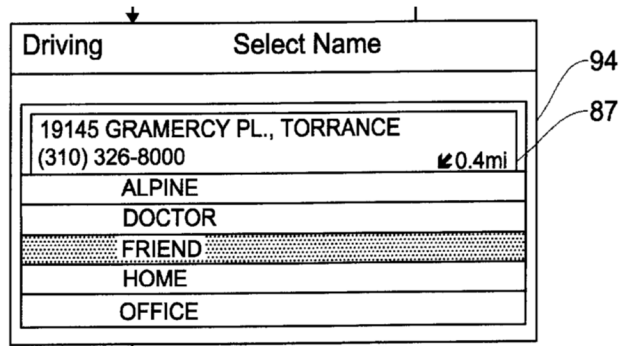
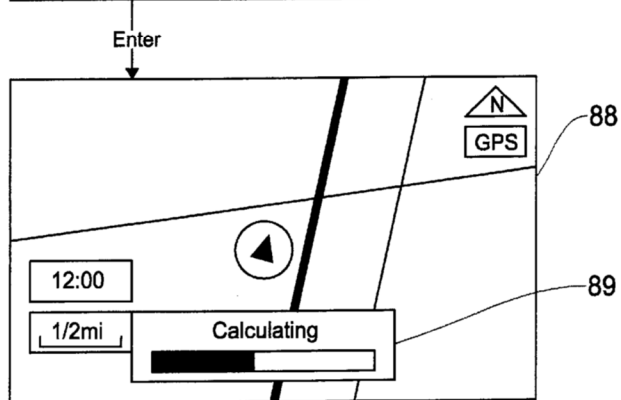


Fig. 12C



POSAs would have been motivated to implement such a *displayed option* in Randall to allow the user to make use of the received location, such as by choosing to navigate there. Williams-Decl., [0386]-[0387].

2. Claims 23, 36

Claim 23 is obvious over Randall-Degnbol, and claim 36 is obvious over Randall-De-Vries-Degnbol. Williams-Decl., [0388].

Based on Degnbol's teachings discussed *supra* §VII.D.5, it would have been obvious to *receive an alert* at Bob's *wireless telephone* in Randall and Randall-De-Vries when "he has been the subject of an alert to another user" by which that user *locates* Bob's *wireless telephone* as being nearby. Degnbol, 21:4-6, 18:27-31; Williams-Decl., [0389]. It would alternatively have been obvious to *receive an*

alert whenever another user requests Bob’s location, as this was a known useful option. Williams-Decl., [0389]-[0391] (citing corroborating EX1071 (“Rice”), 9:26-51, 7:40-49, 12:20-33); *supra* §VII.D.5.

3. Claims 24, 37

Claim 24 is obvious over Randall-Degnbol, and claim 37 is obvious over Randall-De-Vries-Degnbol. Randall teaches that its “wireless information device[s]” can be “any kind of device with one or two way wireless information capabilities,” and teaches *receiving and displaying a location of* a wireless information device as discussed *supra* §§IX.B.1.j-IX.B.1.k ([15J]-[15K]). Randall, [0002], [0021]; Williams-Decl., [0392]-[0393]. As discussed *supra* §VII.D.6, Degnbol describes “determining the position of” “communication units,” which include “wristwatches” and can receive information. Degnbol, 4:1-5:20, 6:22-7:17, 27:14-16; Williams-Decl., [0394]. POSAs would have understood Degnbol’s “wristwatches” to be a suitable wireless information device in Randall and Randall-De-Vries; thus, it would have been obvious to *receive and display the location of a watch*. Williams-Decl., [0394]-[0395].

4. Claims 27, 40

Claim 27 is obvious over Randall-Wako-Bechtolsheim, and claim 40 is obvious over Randall-De-Vries-Wako-Bechtolsheim. Williams-Decl., [0396].

As discussed *supra* §VIII.C, §VIII.E.7, Bechtolsheim teaches to provide a route *according to two types of travel: walking and driving* (Bechtolsheim, 1:27-50), and Wako teaches that it was “Background” knowledge to display the “anticipated *time to reach* the final destination” as “route guidance” (Wako, 2:30-34, 9:18-22). In the Randall-Wako-Bechtolsheim combination (with/without De-Vries), this displayed *time to reach* the destination (*second location*) is the “summed” *driving* and *walking* time. Bechtolsheim, 19:30-36; Williams-Decl., [0397]. Bechtolsheim teaches to *receive* the *information* from a “remote location” where it is computed. Bechtolsheim, 5:16-19.

Alternatively, Bechtolsheim’s teaching to “compare[]” the “travel time using public transportation...to the travel time using a private vehicle” (Bechtolsheim, 21:53-56) also meets claims 27 and 40. Williams-Decl., [0398]; *see supra* §VIII.E.7. POSAs would have been motivated and reasonably expected success to apply this teaching to allow the user to choose among transportation options. Williams-Decl., [0398].

5. Claim 32

Claim 32 is obvious over Randall-De-Vries-Wako, because as discussed *supra* §XI.B.4 (claim 27), it would have been obvious in view of Wako to *display a travel time* between Bob’s and Alice’s *wireless telephone*’s locations. Wako, 9:18-22, 2:30-34; Williams-Decl., [0399]. It would have been obvious to do so

after receiving said location-based event notification for reasons discussed *supra* §X.C.6 (claim 31). Williams-Decl., [0399]-[0400].

XII. NO BASIS EXISTS FOR DISCRETIONARY DENIAL

A. Section 314(a)

1. *Fintiv*

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

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

a. Stay Potential

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

b. Trial Timing

A motion is pending to transfer the district-court proceeding to the Northern District of California (EX1036 at 8), where the median time-to-trial is 47.9 months (EX1037 at 66). If that motion were not granted, the other factors favoring institution would still outweigh the trial-timing factor.

c. Litigation Investment

The district-court parties have invested little in invalidity-related issues, the scheduled *Markman* hearing is over four months away (EX1038 at 3), and “a significant portion of work remains to be done” including “fact and expert discovery and dispositive motions.” *Protect Animals With Satellites LLC v. OnPoint Sys., LLC*, IPR2021-01483, Paper 11 at 14-15 (Mar. 4, 2022).

Moreover, Mullen’s infringement contentions asserted 272 claims across nine patents.⁶ EX1039. Nevertheless, Petitioners diligently filed this Petition over a month before any statutory bar.

d. Issue Overlap

This Petition challenges 26 claims of the ’117 patent, whereas Mullen must elect “no more than 5” to assert in district court. EX1038 at 4. This weighs against denial. *Markforged Inc. v. Continuous Composites*, IPR2022-00679, Paper 7 at 32-33 (Oct. 25, 2022).

e. Litigation Defendants

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

⁶ Mullen filed an amended complaint dropping one patent (25 claims) only a month ago. EX1036 at 10.

f. Other Circumstances

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

2. General Plastic

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

This Petition and those concurrently challenging other ’117 patent claims are “the first filed by Petitioner[s] against the” ’117 patent. *Id.* Petitioners have “different allegedly infringing products and in different district court proceedings” than Apple (petitioner in prior IPR2023-00116), have not coordinated with Apple regarding the ’117 patent, and thus have no “significant relationship” with Apple. *Ford Motor Co. v. Neo Wireless LLC*, IPR2023-00763, Paper 28 at 7, 10 (Mar. 22, 2024) (director review).

Moreover, this Petition presents new Randall-based Grounds 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 De-Vries was of record during prosecution of the '117 patent, and was not applied in any rejection or considered in combination with Randall. Friedman, Meadows, Thomas, Chern, and the published-application version of Rice were also of record, but are used herein only as corroborating background references, different from any application in prosecution.

Apple's IPR2023-00116 "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 N.A., LLC v. Michigan Motor Techs., LLC*, IPR2023-01032, Paper 14 at 16 (Jan. 29, 2024).

Furthermore, Grounds 4-6 based on Randall, which was not of record in prosecution or IPR2023-00116, warrant institution regardless of the status of Sheha-based Grounds 1-3. *Current Lighting Sols., LLC v. Jiaxing Super Lighting Electric Appliance Co., Ltd.*, IPR2023-00270, Paper 18 at 51 (Aug. 16, 2023).

XIII. CONCLUSION

The Board should institute review and cancel claims 15-41.

Dated: 2024-12-30

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 13,971 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: December 30, 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 December 30, 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: December 30, 2024

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

XIV. CLAIM LISTING

The following claim listing assigns labels (e.g., [15A], [15B], etc.) to certain claim elements for ease of reference.

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

Claim 16

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

Claim 17

The wireless telephone of claim 15, wherein said programming is further capable of receiving a manual input for modifying said location access rights.

Claim 18

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

Claim 19

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

Claim 20

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

Claim 21

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

Claim 22

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

Claim 23

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

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

be manually pre-selected from a list of at least three types of location-based events; and

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

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

Claim 30

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

Claim 31

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

Claim 32

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

Claim 33

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

Claim 34

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

Claim 35

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

Claim 36

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

Claim 37

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

Claim 38

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

Claim 39

The wireless telephone of claim 29, wherein said programming is further capable of receiving and displaying a location of a car.

Claim 40

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

Claim 41

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