

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. IPR2025-00227

Patent No. 9,635,540

**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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OTHER AUTHORITIES

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APPENDIX LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 9,635,540 (“the ’540 patent”)
1002	Prosecution History of U.S. Patent No. 9,635,540
1003	Declaration of David H. Williams (“Williams-Decl.”)
1004	Curriculum Vitae of David H. Williams
1005	U.S. Patent No. 7,333,820 (“Sheha”)
1006	U.S. Provisional Patent Application No. 60/305,975 (“Sheha-Prov.”)
1007	U.S. Patent Application Publication No. 2004/0024846 (“Randall”)
1008	International Patent Application Publication No. WO 02/17075 (“Randall-WIPO”)
1009	U.S. Patent No. 7,233,795 (“Ryden”)
1010	U.S. Provisional Patent Application No. 60/277,117 (“Ryden-Prov”)
1011	RESERVED
1012	U.S. Patent No. 7,013,148 (“Ganesh”)
1013	U.S. Patent No. 6,968,179 (“De-Vries”)
1014	U.S. Patent No. 6,920,328 (“Wollrab”)
1015	U.S. Patent No. 6,714,791 (“Friedman”)
1016	RESERVED
1017	U.S. Patent No. 6,885,874 (“Grube”)
1018	U.S. Patent No. 6,716,101 (“Meadows”)
1019	U.S. Patent No. 7,366,522 (“Thomas”)
1020	RESERVED
1021	RESERVED
1022	International Patent Application Publication No. WO 01/91486 (“Darling”)
1023	U.S. Patent No. 6,084,951 (“Smith”)
1024	RESERVED
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	RESERVED
1030	U.S. Patent No. 6,754,665 (“Futagami”)
1031	RESERVED
1032	RESERVED
1033	RESERVED
1034	RESERVED
1035	RESERVED
1036	Civil Docket Report in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (last checked November 21, 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	RESERVED
1041	RESERVED
1042	RESERVED
1043	RESERVED
1044	RESERVED
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Exhibit	Description
1048	RESERVED
1049	RESERVED
1050	RESERVED
1051	RESERVED
1052	RESERVED
1053	RESERVED
1054	U.S. Patent No. 6,867,733 (“Sandhu”)
1055	RESERVED
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1071	RESERVED
1072	U.S. Patent No. 6,366,856 (“Johnson”)
1073	U.S. Patent No. 6,154,745 (“Kari”)

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. 9,635,540 (“the ’540 patent”) issued (U.S. Patent Application No. 10/400,296) claims priority to U.S. Provisional Application No. 60/367,967, filed March 25, 2002.

The following applications are 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. 11/834,674 (U.S. Patent No. 11,234,117), filed August 6, 2007;
- U.S. Patent Application No. 11/841,750 (U.S. Patent No. 11,096,039), filed August 20, 2007;
- U.S. Patent Application No. 11/841,734 (U.S. Patent No. 11,109,218), 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.

2. USPTO Patent Trial and Appeal Board

The '540 patent was at issue in *Apple Inc. v. Mullen Industries LLC*, Case No. IPR2023-00098.

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;
- IPR2025-00179 challenging U.S. Patent No. 11,109,218.

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

The '540 patent is currently asserted in *Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:24-cv-00049.

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

The '540 patent was previously asserted in *Mullen Industries LLC v. Apple Inc.*, Case No. 5:23-cv-00437 (terminated).

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

The '540 patent was previously asserted in *Mullen Industries LLC v. Apple Inc.*, Case No. 6:22-cv-00145 (transferred and terminated).

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

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

I. INTRODUCTION

The '540 patent (EX1001) is one of eight related patents that Patent Owner (“Mullen”) has accused Petitioners’ products of infringing in pending litigation. Previously, Mullen asserted these patents against Apple Inc., and Apple filed IPRs, most of which were instituted and then terminated due to settlement during trial. Apple’s IPR2023-00098 challenging the '540 patent was not instituted.

This Petition presents two sets of grounds against all claims 1-35. One is a new set of grounds based on Randall, which have not previously been before the Board. The other set of grounds is based on Sheha, which was a primary reference in Apple’s IPR2023-00098. This Petition presents Sheha in combination with Darling and Futagami, which teach the features the Board found missing in IPR2023-00098’s Sheha-based grounds. Declaration of David H. Williams (EX1003, “Williams-Decl.”), [0094].

II. STANDING

Petitioners certify that the '540 patent is available for *inter partes* review and that Petitioners are not barred or estopped from requesting *inter partes* review as to the challenged claims. 37 C.F.R. §42.104(a).

III. GROUNDS FOR UNPATENTABILITY

Ground Number and Reference(s)		Claims	Basis
1	Randall (EX1007-EX1008), Darling (EX1022), Futagami (EX1030)	1-3, 5, 11-16, 19-24, 29, 33-35	§103
2	Randall, Darling, Futagami, Ryden (EX1009)	3, 8	§103
3	Randall, Darling, Futagami, De-Vries (EX1013)	4, 9-10, 17-18, 28, 30	§103
4	Randall, Darling, Futagami, Wako (EX1025)	6-7, 25-27	§103
5	Randall, Darling, Futagami, Wollrab (EX1014)	31-32	§103
6	Sheha (EX1005), Darling, Futagami	1-3, 5-6, 11-16, 22-26, 29, 33-35	§103
7	Sheha, Darling, Futagami, Ryden	3, 7-8, 27	§103
8	Sheha, Darling, Futagami, De-Vries	4, 9-10, 17-18, 28, 30	§103
9	Sheha, Darling, Futagami, Smith (EX1023)	19-21	§103
10	Sheha, Darling, Futagami, Wollrab	31-32	§103

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

Randall and Darling are prior art under §102(a). Smith is prior art under §102(b).

None of these references were discussed or applied by the Examiner during prosecution of the '540 patent.

IV. THE '540 PATENT

A. Specification Embodiments

The '540 patent discusses determining and sharing a wireless device's location, e.g., using the Global Positioning System ("GPS"). EX1001, 1:15-26. Cellphones can share their locations with a remote system, from which other users

can obtain them. EX1001, 5:4-26. A user can also 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, 8:6-21.

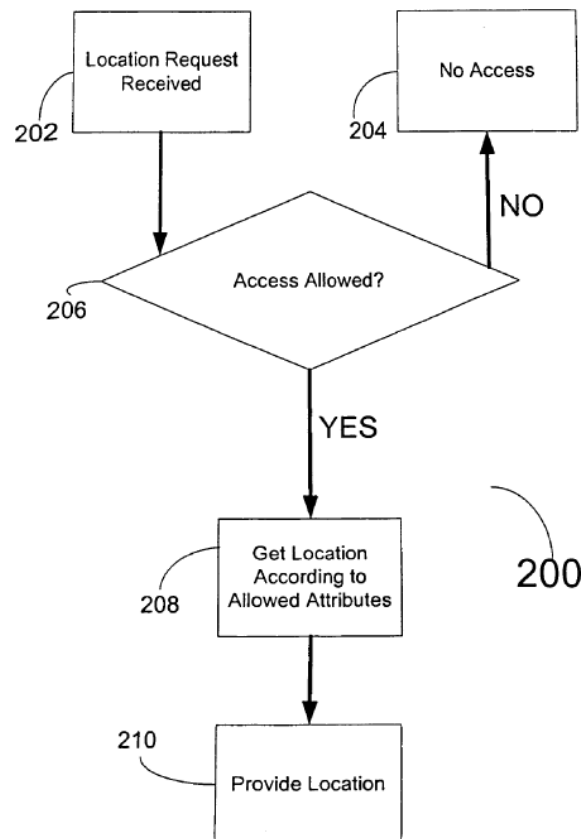


FIG. 2

Williams-Decl., [0056]-[0060].

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., [0050]-[0054].

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: RANDALL+DARLING+FUTAGAMI

A. Randall (EX1007)

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 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]-[0082] (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., [0095]-[0099].

“As an example,...a user might choose to subscribe to a service which allowed others to track his or her location—location could be a new attribute” stored in the “database” as “information relating to [the] individual.” Randall, [0021]. “The user’s friends or parents etc who wish to track the users location...could add a ‘map’ application to their own devices, which could show their position on digital maps and also, by using the location attribute of the user’s data object, it could also show the position of the user.” Randall, [0021]. In this example, the “personal information...and location based information” is “handled by contacts...and map type applications” coordinating together to provide the service. Randall, [0021]-[0022], [0025]; Williams-Decl., [0100].

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., [0101]-[0102]. When a wireless user Bob requests access to 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. Darling (EX1022)

Darling relates to "[m]obile telephones," and "enabl[ing] a user to determine the location of another user." Darling, 1:26, 9:11-16, 2:10-12. Each phone's GPS position is provided to a server. Darling, 2:1-8, 2:47-50. "Each user may specify that location information is available only to specified users or groups," and "the server stores" this "permission information." Darling, 2:1-8, 2:47-3:5, 22:23-40, 33:15-32, 41:21-42:2. When a second user requests a first user's location, the server "check[s] the permission information prior to...transmitting" the location. Darling, 2:6-8, 3:1-3. "If the second user is not permitted to know the location of the first user, the information is not transmitted." Darling, 3:8-9. "In addition or instead of a first user granting permission to a second user, the second user may

request permission to have access to...the first user's...location information.”

Darling, 3:15-18. “A request for permission may be communicated to the first user, preferably as a question, who may respond, preferably with a simple yes/no command.” Darling, 3:18-19. Williams-Decl., [0103].

C. Futagami (EX1030)

Futagami describes techniques to “control access to personal information of a user...of a portable telephone device.” Futagami, Abstract. “A management server stores [the] personal information,” and “if a user...transmits a request...to the management server to transmit personal information of [another] user..., the management server determines” whether the requesting user has permission. Futagami, Abstract, 14:50-15:12. If the server determines that the requesting user “is not permitted to access” the requested information, the server “transmit[s] a message” informing the requesting user. Futagami, 15:40-53. In response to this “refusal message, if the user still wants to access the [requested] personal information,” the user can “request...to change the access restriction.” Futagami, 15:54-62. The server then “inquires of the [other] user...whether to give permission,” and “[i]f permission is given, the management server provides the personal information” to the requesting user. Futagami, Abstract, 16:7-32. Williams-Decl., [0104].

D. Randall-Darling-Futagami Combination

Randall, Darling, and Futagami describe highly overlapping techniques and use cases. Williams-Dec1., [0105].

All three describe a system where a server stores personal information of client users of wireless devices. Randall, [0502]-[0505], Table 1 (“Alice’s iData” stored on i-server, including “name,” “E-mail,” “Mobile Phone” number, “Home Address,” etc.); Darling, 3:1-8 (server has “information stored for each user”), 21:19-22:17 (“Personal Profile” including “name,” “Mobile Phone Number,” “Personal Email Address,” “Date of Birth,” “Address,” etc.); Futagami, 4:7-12 (“server...manages personal information of all users” including “portable telephone device 5,...for example, names, telephone numbers, addresses, dates of birth, and electronic mail addresses”); Williams-Dec1., [0106]-[0108].

All three references describe similar access control techniques, where each user specifies which other individual users or groups of users have access rights to specific items of the user’s personal information. Randall, [0131]-[0136] (“data provided by or on behalf of the user will have varying levels of visibility assigned to it” that users “define...for themselves,” including “[v]isible to specific people (or groups)”), [0509] (“sensitive information is only available to people in certain i-Groups; allowing Alice to control what data they see”); Darling, 3:3-5 (“Each user may specify that location information is available only to specified users or

groups”), 22:37-23:13 (“People who have access to My Personal Details”), 33:16-34:3 (“People who have access to My Location Details”); Futagami 13:33-67 (“for each user, the access restriction information may specify personal information which is not permitted to be accessed by the user”), 14:1-44 (“user B is permitted to access data A and data C; user C is permitted to access data C and data D;” etc.), FIGs. 15-16; Williams-Decl., [0109]-[0112].

In all three references, when a second user requests an item of a first user’s personal information, the server determines whether the second user has access rights from the first user to that information, and only transmits the information to the second user if the second user has such access rights. Randall, [0067]; Darling, 3:1-9; Futagami, 14:44-15:53, 18:26-19:27; Williams-Decl., [0113]-[0116].

Therefore, a POSA implementing Randall’s system would have been motivated to incorporate teachings and techniques from Darling and Futagami, and would have reasonably expected success given the many similarities among the described systems. Williams-Decl., [0117], [0065]-[0073]. For example, POSAs would have been motivated to supplement Randall’s access control techniques for personal information requests (including location requests) with aspects of both Darling’s and Futagami’s access control techniques, given that all three references discuss overlapping, complementary, and beneficial techniques for controlling access to personal information, and both Randall and Darling teach that such

personal information can include location information. Randall, [0505] Table 1 (Alice's iData including "Bluetooth location" and "GPS location"); Darling, 3:1-8 (applying "[s]imilar permissions" to "location information" and "other information stored for each user"), 21:19-23:13 ("Personal Profile" with access rights options), 32:39-34:3 ("Location Profile" with same access rights options); Williams-Decl., [0117].

For example, Darling demonstrates that it was known to "request permission" for a "second user" to access a "first user's...location information" if the second user does not already have permission. Darling, 3:15-19; Williams-Decl., [0118]. Darling further teaches that "[s]imilar permissions" as are applied to location information "may be associated with other information stored for each user" (Darling, 3:1-8), and Darling teaches to apply the same techniques for "Requests for Access to this profile" to providing "access to My Location Details" as to providing "access to My Personal Details" (Darling, 22:21-23:13, 33:14-34:3). Williams-Decl., [0118]. This would have reinforced POSAs' motivation and reasonable expectation of success to apply to location requests in Randall's system any of Darling's and/or Futagami's techniques for controlling access to personal information. Williams-Decl., [0118].

As a specific example, for the above reasons, POSAs would have been motivated and reasonably expected success to apply, to location requests in

Randall’s system, Futagami’s teachings for how to proceed when the requesting user does not already have access to the requested information, including providing the requesting user the option to have the server request access from the target user (or not). Futagami, 15:40-16:32, 18:62-20:67, FIGs. 19-20; Williams-Decl., [0119]. POSAs would have understood Futagami’s technique to be desirable, e.g., because it allows the requesting user to choose whether it makes sense to disturb the other user at that particular time with a request to obtain location access rights. Williams-Decl., [0119].

E. Mapping to Challenged Claims²

1. Claim 1: [1PRE]

Randall teaches “[a] *method* of enabling a wireless information device to access data.” Randall, Abstract,³ [0002], [0006]. As discussed *supra* §VI.A, the method provides access control for a mobile-device user to track the location of another mobile-device user (*mobile-to-mobile locating*). Randall, [0021], pp. 24 (“People tracking”), 29 (“Rendezvous”); Williams-Decl., [0120]-[0122].

a. [1A]

Randall’s system includes “*wireless* information *device*[s],” which can be “radio telephones, smart phones,” etc. Randall, [0002]. Randall discusses some

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

³ All emphases are added unless otherwise specified.

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., [0123]. Alice’s device is an exemplary *first wireless device* and Bob’s is an exemplary *second wireless device* (and vice versa, because POSAs would have understood that Randall presents Alice and Bob as arbitrary examples illustrating functionality that is equally available to any wireless information device in Randall’s system). Williams-Decl., [0123].

“[R]esident on the wireless information device” is a “location application (which gives a user’s location and includes digital maps).” Randall, [0009], [0021]. “That location data can be obtained via a GPS wireless information device, which transmits location information to [an] *i-server*, enabling authorised people to track the location of the GPS wireless information device by polling the server.” Randall, p. 24 (Table 4, “People tracking”). The i-server is an “internet *server*[.]”—a “*server* on the Internet”—which POSAs would have known is *located remotely* from the wireless devices. Randall, [0029], [0053], [0030] (“*remote*, extensible database”), FIG. 4 (showing system’s servers located remotely from wireless devices); Williams-Decl., [0124].

For example, “Alice stores her data on a *server* on the Internet.” Randall, [0053]. As shown in Table 1 (highlighted below), one of the fields in Alice’s “i-Data” (“Identity”) database on the i-server is her device’s “GPS *location*.”

Randall, [0503]-[0512], [0116]-[0136] (“Identity” used for sharing “*Location* information”); Williams-Decl., [0125].

TABLE 1

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

TABLE 1-continued

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

Randall teaches that Bob's *second wireless device* can *request* Alice's data from the i-server (which includes the *location of her first wireless device* as discussed above) "by sending to the server an unchanging pointer or key (an 'ADS Number') which is unique to" Alice. Randall, [0049]; Williams-Decl., [0126]. Thus, as Alice's data changes (e.g., as "[t]he I-server is up-dated" with Alice's current location), "Bob can pull the new data into his device" by "polling the server." Randall, p. 24 ("People tracking"), [0053], [0015] ("pull[ing]" information from server is "*request[ing]*" it); Williams-Decl., [0126]. If Alice has given Bob the appropriate permissions, "the server passes to Bob's device the information it *requests*." Randall, [0049], [0067], [0512]; Williams-Decl., [0126]. Bob's device indicates which "relevant information" it is requesting (which may be, e.g., Alice's location information) by "sending various data tags defining its enquiry." Randall, [0067]; Williams-Decl., [0126].

Randall thus discloses [1A]. Additionally, Darling reinforces Randall's teaching to meet [1A]. Darling, 2:1-15 ("receiving at the server a request from a second user querying where the first user is located," as "communicated by means of mobile devices"), 34:22-35:22, 89:23-30; Williams-Decl., [0127]-[0128].

b. [1B]

Randall's "server recognis[es] Bob's *device* and *determin[es]* the database *access rights* which Alice has given him." Randall, [0067]. "The database can

define which entities can read different fields: Alice can therefore give Bob rights to read only certain fields in her database.” Randall, [0047]. As discussed *supra* §VI.E.1.a ([1A]) and shown in Table 1, one of the fields in Alice’s database is her device’s “GPS *location*,” and she has designated that field as only being accessible to users whom she has designated as part of the “i-Group” called “partner.” Randall, [0503]-[0512]; Williams-Decl., [0129]. “[S]ensitive information is only available to people in certain i-Groups; allowing Alice to control what data they see.” Randall, [0509], [0136] (“Location information” is “[v]isible to specific people (or groups)”). Thus, if Alice has not designated Bob as being in an i-Group that she has designated as having access to her location, then the server *determines that Bob’s second wireless device does not have location access rights for Alice’s first wireless device*. Williams-Decl., [0129].

“When one of the people in [Alice’s contacts] list” (e.g., Bob) “looks at Alice’s ADS Number, (using an application on their...wireless information devices), they see a view onto Alice’s personal data that is defined by Alice. For example, someone in the business 1 group might see the Table 3 information.” Randall, [0512], Table 3:

TABLE 3

Name	Ms Alice Edwards
Title	European Marketing Manager
Company	Wireless Information Device gets R Us
ADS Number	urls.co.uk/1238947532345235
Last verified	7 th July 2000
e-mail	alice.edwards@Wireless Information Device getsrus.com
Work phone 1	0207 200 2000
Work phone 2	0207 200 2012
Mobile	0840 1234 567
Address	1 The Science Park, London, N1 9PQ
Other info	Met her at meeting with Tom Jones, August 2000.

Comparing Table 3 with Table 1 demonstrates that, in this example, if Bob is in Alice’s “business 1” i-Group, the server *determines that Bob’s second wireless device does not have location access rights for Alice’s first wireless device*, and therefore provides Bob only the subset of Alice’s i-Data that is in Table 3, which does not include Alice’s “GPS location” designated as accessible to the “partner” i-Group in Table 1 (excerpt highlighted below). Williams-Decl., [0130]-[0131].

TABLE 1

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

Randall thus discloses [1B]. Additionally, Darling reinforces Randall's teaching to meet [1B]. Darling, 3:1-9 ("[T]he server stores...and...check[s] the permission information.... If the second user is not permitted to know the location of the first user, the information is not transmitted."), 35:24-28; Williams-Decl., [0132]-[0133]. Futagami also reinforces this teaching. Futagami, 15:40-53 ("it is determined in step S62 that" the requesting user "is not permitted to access the personal information"), FIG. 17 (arrow "N" from S62), FIG. 19 ("(P45) Determination as to allowance of access: not allowed"), FIG. 20 (P55); Williams-Decl., [0134].

c. [1C]

Futagami teaches that "if it is determined in step S62 that" the requesting user "is not permitted to access the personal information[,]...the process goes to step S63. In step S63" (i.e., *after determining that said second wireless device does not have access rights for said first wireless device's personal information that was requested*), "the server...transmit[s] a message (refusal message) to the client terminal." Futagami, 15:40-53. "When the user reads the refusal message," the user is provided an option "if the user still wants to access the retrieved personal information," to "transmit[] a message (restriction removal request message)...to request...to change the access restriction information so that the user is allowed to access the personal information." Futagami, 15:54-62, 19:15-23, 19:47-59. As

shown in FIGs. 19-20 (highlighted below), the refusal message prompts for a “determination as to whether to issue a request for changing the access restriction,” to which either “yes” or “no” can be “input by the user.”

FIG. 19

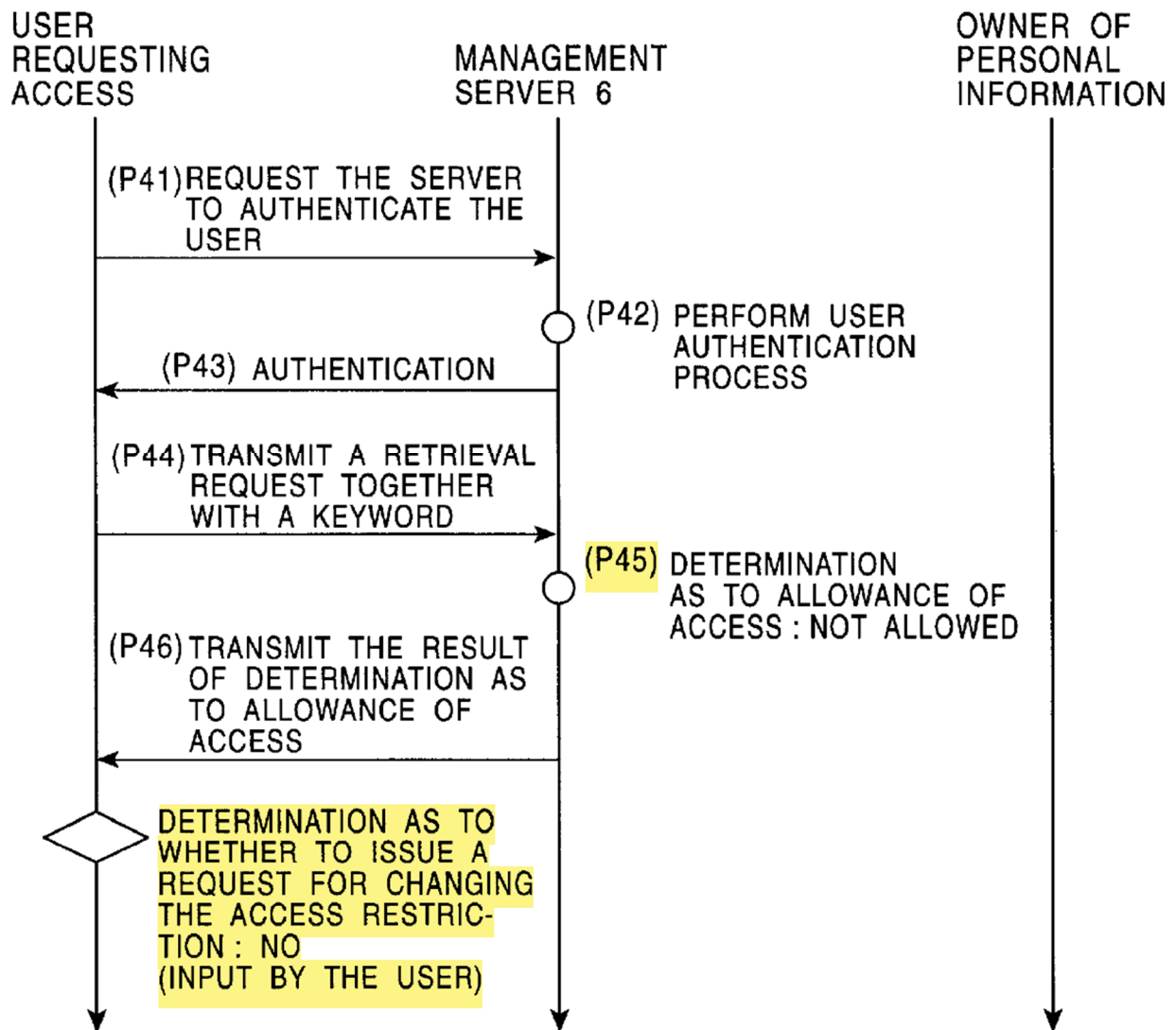
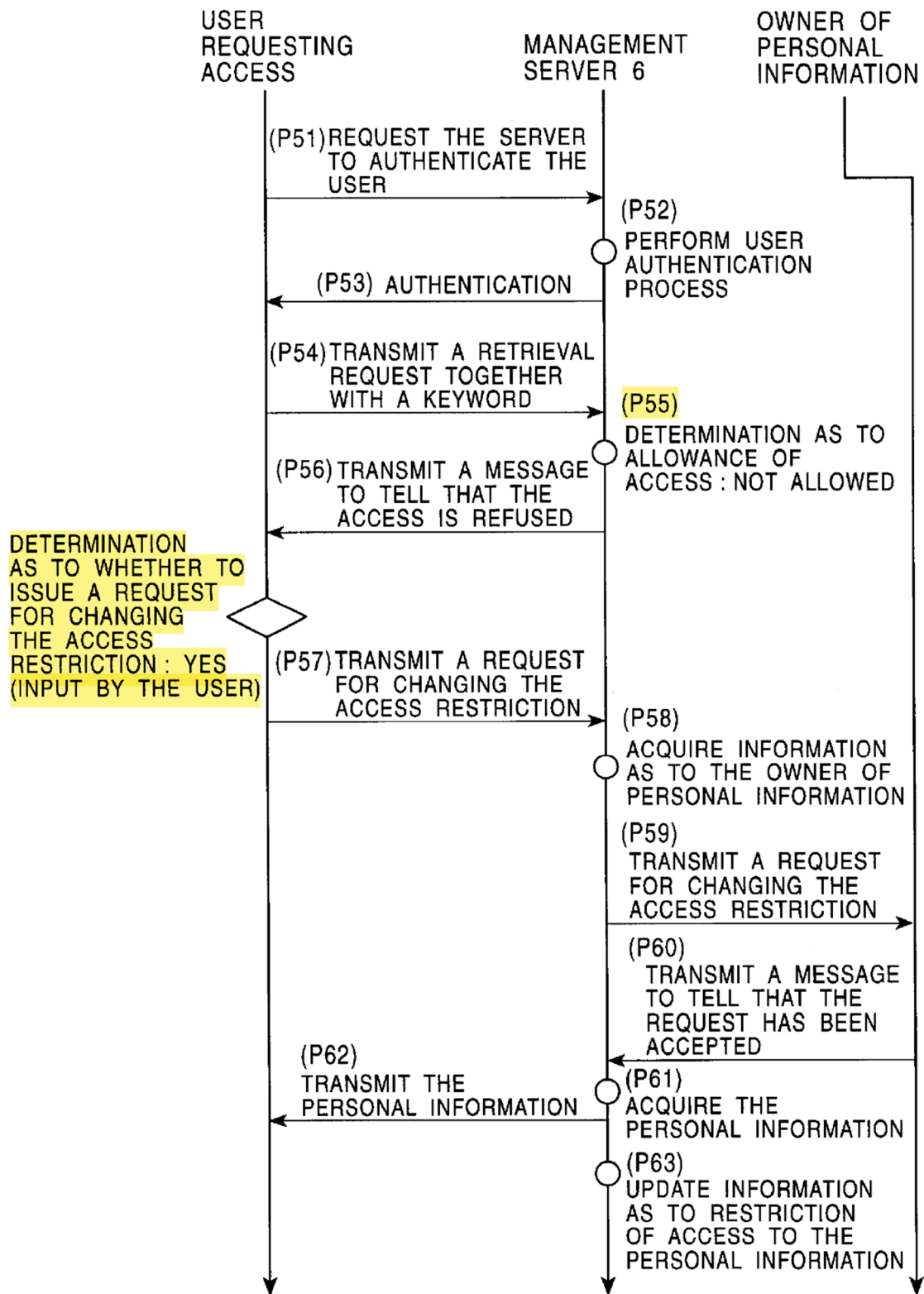


FIG. 20



POSAs would have understood, for example, that an obvious implementation to solicit the “yes” or “no” to be “input by the user” would include a question prompt in the refusal message (e.g., “Would you like to request removal of the access restriction?”). Williams-Decl., [0135]-[0136].

Thus, Futagami teaches *asking said second wireless device if the access rights are to be requested from said first wireless device after determining that said second wireless device does not have the access rights for said first wireless device*. Williams-Decl., [0137]. In the combination with Randall and Darling, as discussed *supra* §VI.D, the personal information being requested by Bob is Alice’s *first wireless device*’s location, and the access rights are *location access rights*, meeting [1C]. Williams-Decl., [0138]. As discussed *supra* §VI.D, POSAs would have been motivated to implement this asking, to provide a user (Bob) with a way to obtain location access rights from another user (Alice) if he has not already been given them, in a way that allows him to control whether to disturb Alice with an access request. Williams-Decl., [0138]. POSAs would have reasonably expected success based on Futagami’s teachings of successfully implementing such functionality in a system like Randall’s with a server sharing personal information among wireless device users, as discussed *supra* §VI.D. Williams-Decl., [0138].

d. [1D]

Futagami teaches that if the user inputs “yes” to the question in [1C] (*supra* §VI.E.1.c), the user’s device transmits a “restriction removal request message” to the server, which then “transmit[s] a message (restriction removal inquiry message) to the client terminal of the user who is the owner of the...personal information” (the *first wireless device*) “to inquire whether to permit the access restriction information to be changed...such that the requester” (the *second wireless device*) “is permitted to access the personal information.” Futagami, 15:56-62, 16:7-21, 17:1-8, 19:27-59, 20:38-43, FIGs. 17, 20 (highlighted below).

FIG. 17

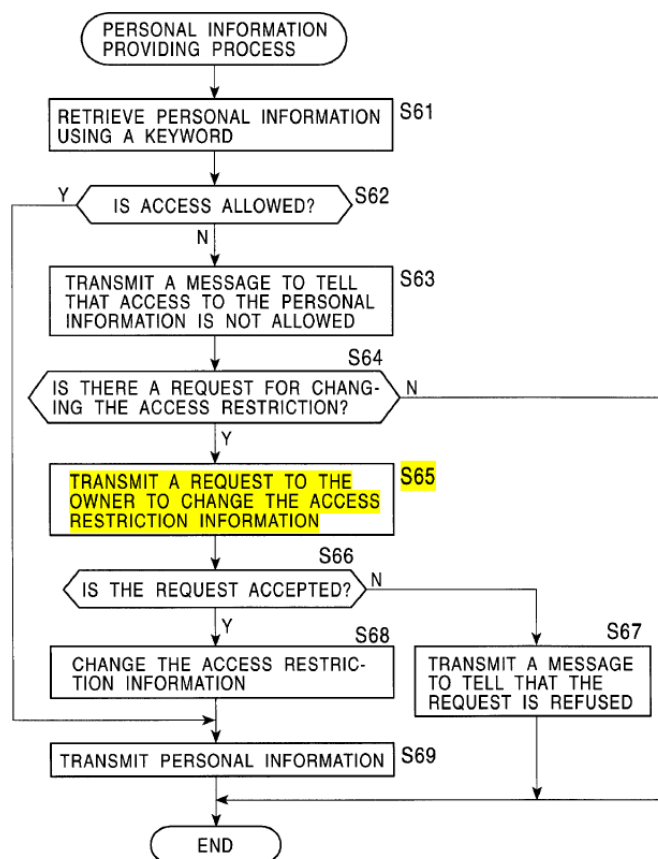
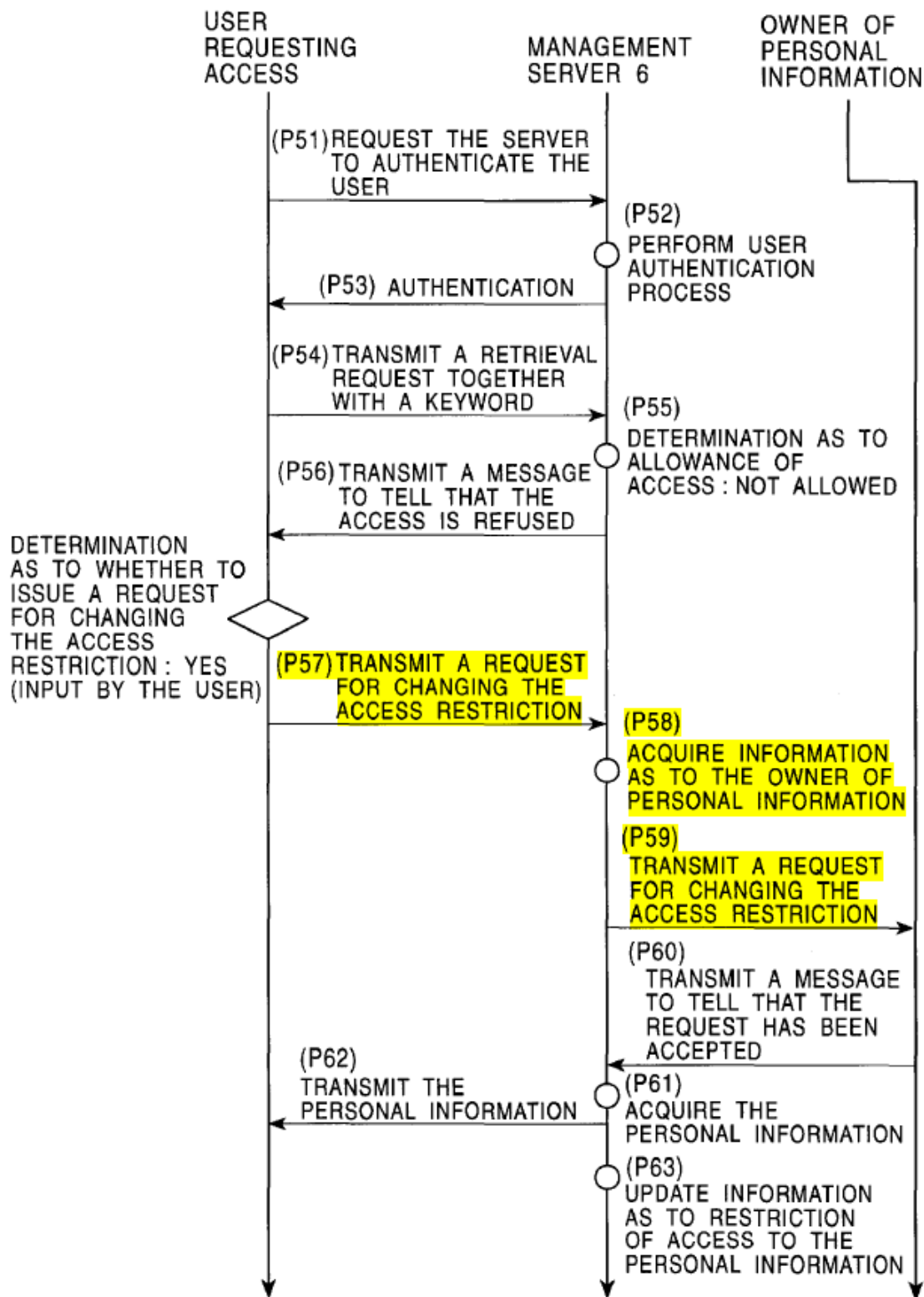


FIG. 20



Thus, Futagami teaches *requesting that the access rights be assigned for said second wireless device by said first wireless device*. Williams-Decl., [0139]-[0140]. Darling further reinforces this, teaching that when “the second user is not [already] permitted to know the location of the first user,” a “request for permission may be communicated to the first user,” who may respond with a “yes/no command.” Darling, 3:1-19; Williams-Decl., [0141].

e. [1E]

Randall teaches that “whenever Alice wishes to, she can ***change the level of access*** of a current contact—perhaps promoting Bob from ‘business’ to ‘friend.’” Randall, [0509]. This is a “method[] of making contacts into members of a particular i-Group,” which Alice can use via her *first wireless device* to *assign said location access rights on said server to Bob’s second wireless device*, by assigning Bob to an i-Group that Alice specifies as having access to her location (or Alice can change her location field to be accessible to the i-Group that Bob is already in). Randall, [0509], [0495]; Williams-Decl., [0142]. Randall thus discloses [1E]. Williams-Decl., [0142].

Further, Futagami teaches to prompt the *first wireless device* user to do this in response to a request as in [1D] (*supra* §VI.E.1.d). “When the owner of the personal information reads the restriction removal inquiry message, ***if he/she decides to give permission, ...he/she transmits a message (restriction removal***

approval message)...to the management server” which then “changes the access restriction information” in the server’s database. Futagami, 16:25-58, 17:8-13, 19:60-20:7, FIGs. 17, 20 (highlighted below); Williams-Decl., [0143].

FIG. 17

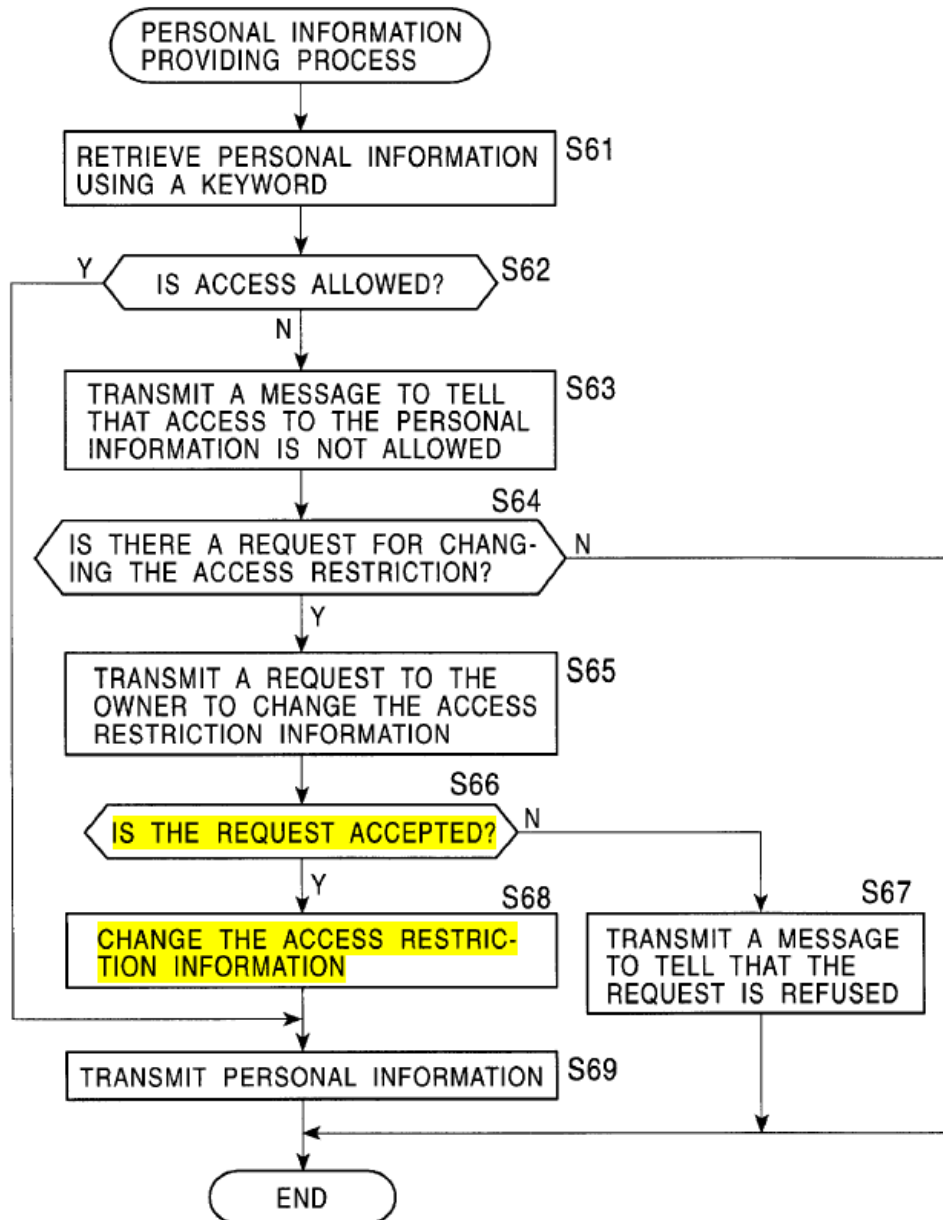
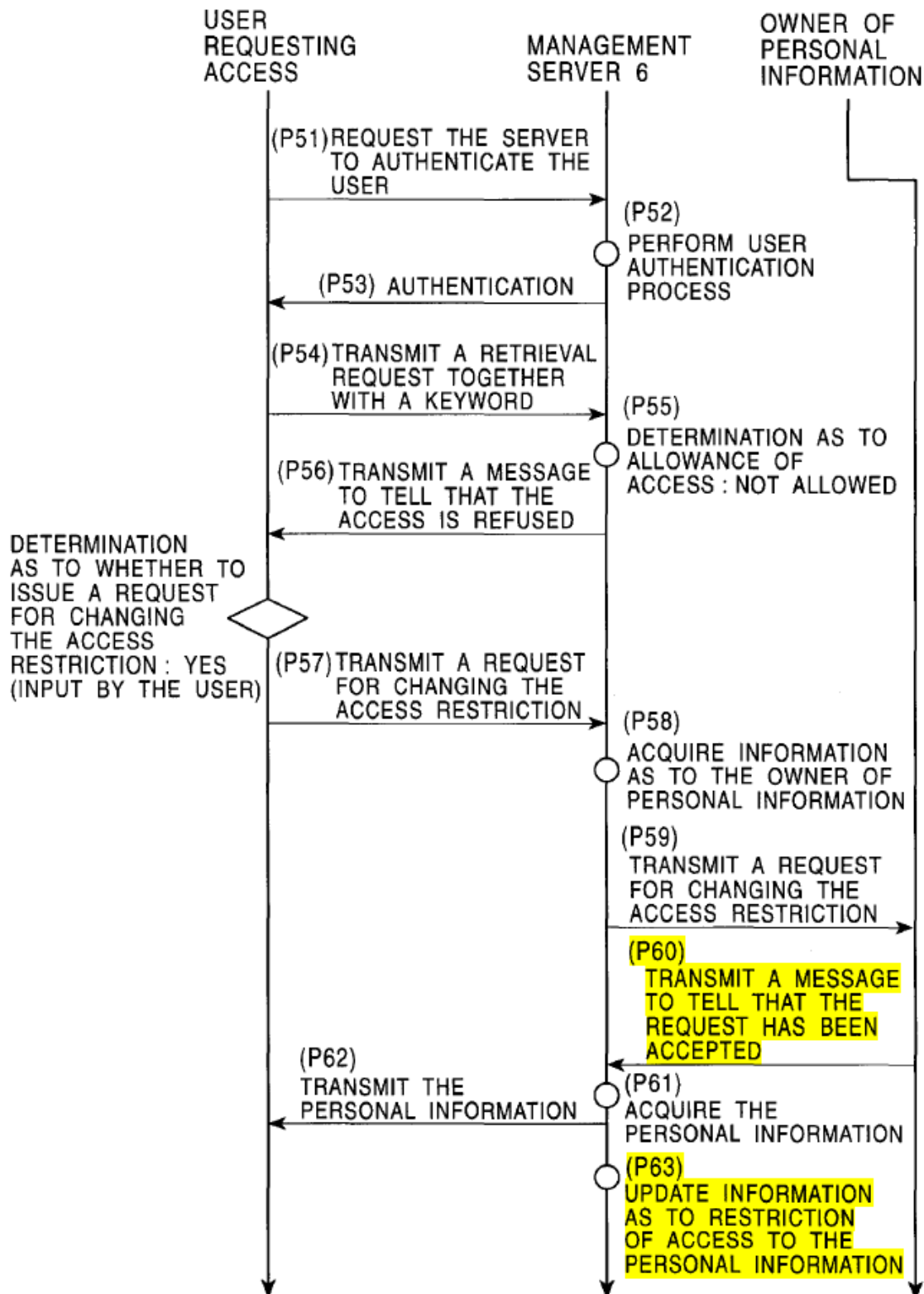


FIG. 20



Darling reinforces this teaching. Darling, 3:18-19 (“A request for permission may be communicated to the first user, preferably as a question, who may respond, preferably with a simple yes/no command.”); Williams-Decl., [0144].

f. [1F]

Randall’s “internet servers host[] extensible databases with attributes.” Randall, [0046]. “The database can define which entities can read different fields.” Randall, [0047]. When Alice “specif[ies] the remote database access rights given to different people or groups” including Bob, those *access rights* are “***stored*** as an attribute which gives ***access permissions*** to data in the database.” Randall, [0052]. Thus, the *location access rights* for Bob to access Alice’s location are *stored on* the i-server. Williams-Decl., [0145]; Randall, [0501]-[0512] (Alice’s Table 1 database on i-server assigns different permissions to different i-groups) (discussed *supra* §VI.E.1.b ([1B])).

Randall thus discloses [1F]. Williams-Decl., [0146].

Further, Futagami teaches to *store the access rights on said server* when the *first wireless device* user provides them in response to a request as in [1D]-[1E] (*supra* §§VI.E.1.d-VI.E.1.e). Futagami teaches that when “the restriction removal approval message has been received,...the server...***changes the access restriction information*** included in...personal information database 33” on the server (FIG. 9)

such that the requesting user “is permitted to access the personal information of interest.” Futagami, 16:49-58, 19:66-20:7, 20:60-67, FIG. 17 (highlighted below, teaching *access rights* can be *stored* (S68) before transmitting the personal information (S69)), FIG. 20 (highlighted below, teaching *access rights* can be *stored* (P63) after transmitting the personal information (P62)); Williams-Decl., [0147].

FIG. 17

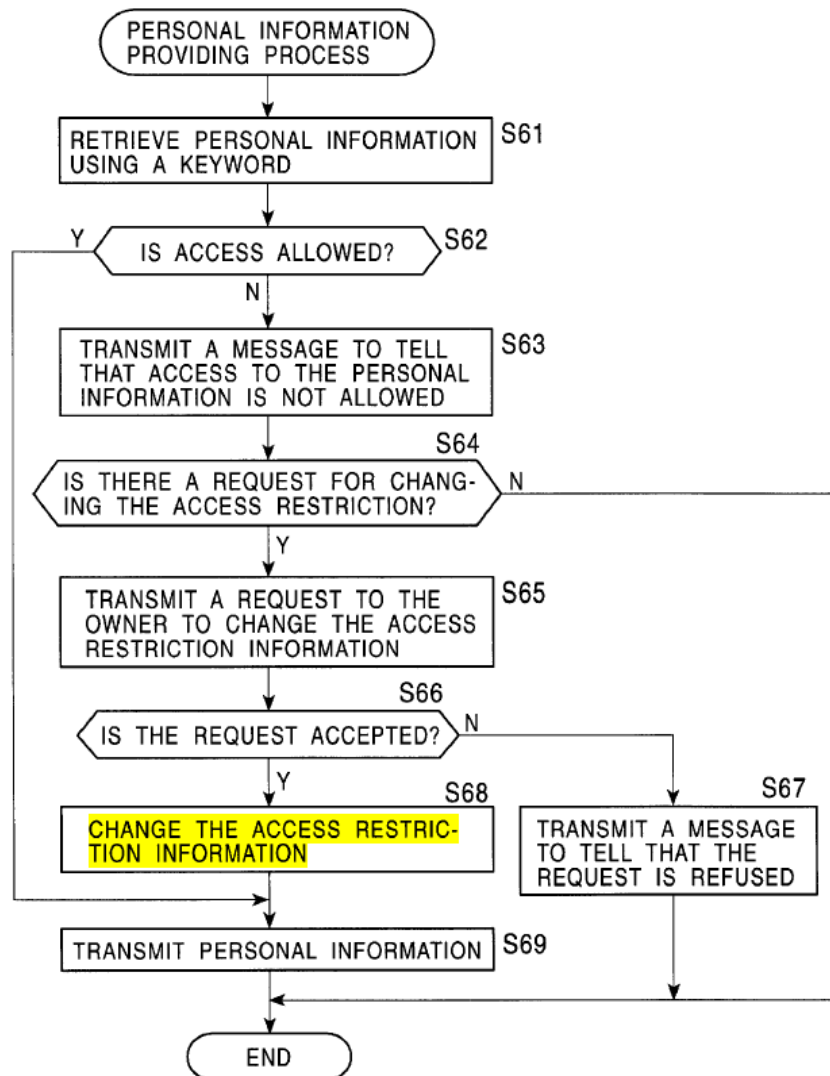
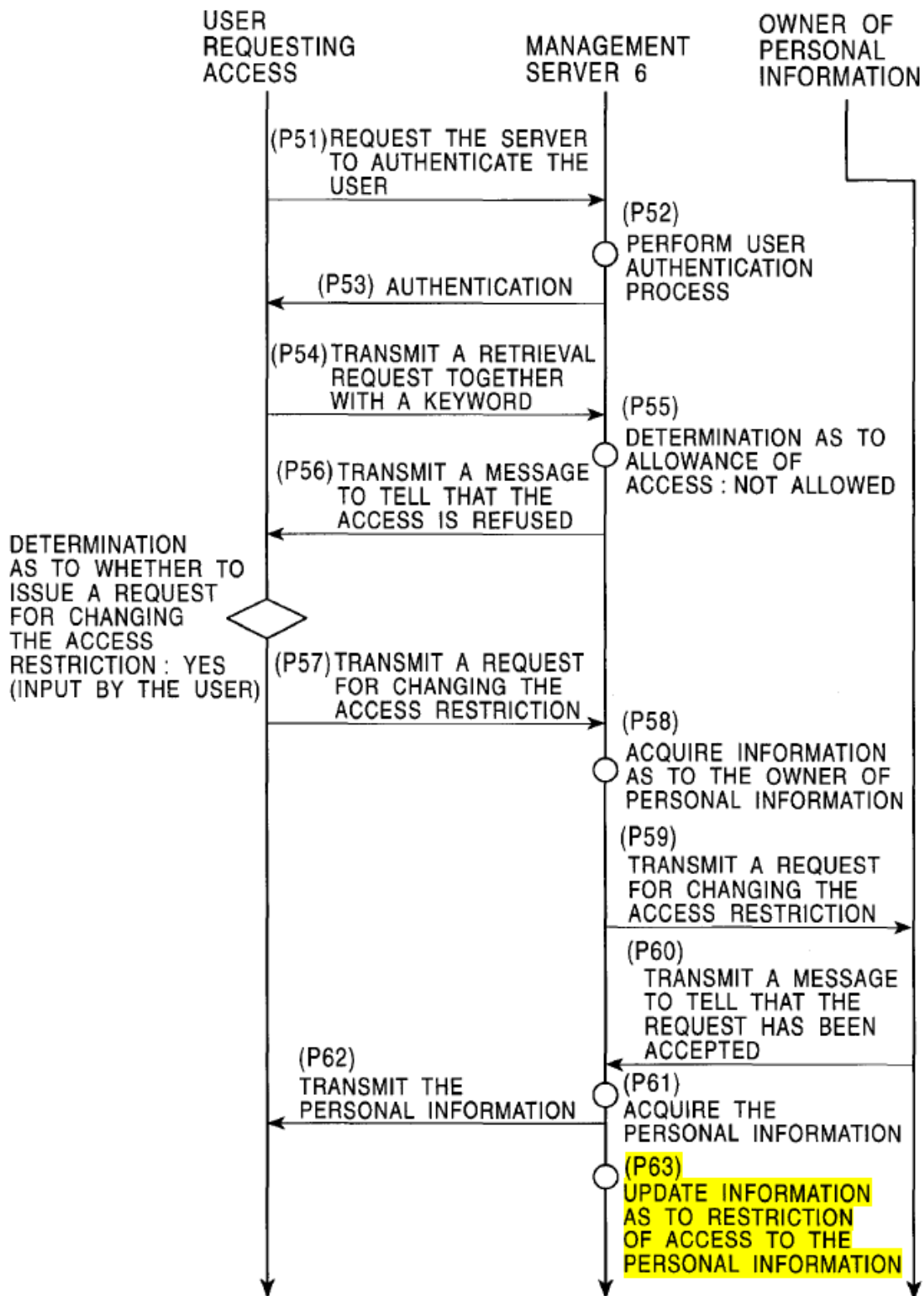


FIG. 20



g. [1G]

Randall’s “server recognis[es] Bob’s device and *determin[es]* the database *access rights* which Alice has given him,” and then “[o]nce authenticated, the server passes to Bob’s device the information it requests.” Randall, [0067], [0049], [0053], [0509] (“Bob” is Alice’s “contact” and has “access” to Alice’s “information”), [0512]. This “enabl[es] authorised people to track the location of the GPS wireless information device by polling the server” which has been “updated with the location of” Alice’s device. Randall, p. 24 (Table 4, “People tracking”); Williams-Decl., [0148]. Thus, once Alice has *assigned* the *access rights* to Bob’s *second wireless device on said server by her first wireless device* as discussed *supra* §VI.E.1.e ([1E]), Randall’s server *determines* them, meeting [1G]. Williams-Decl., [0149].

Further, Futagami teaches that the server “*determine[s]*” that “the restriction removal approval message has been received from the client terminal of the owner of the personal information,” wherein the message *assigns* the *access rights* for the requesting “client terminal...to access the personal information of interest.” Futagami, 16:49-58; Williams-Decl., [0150].

Because Bob previously did not have *access rights* (*supra* §VI.E.1.b ([1B])), POSAs would have understood that Randall-Darling-Futagami will *determine* that

he now has been *assigned access rights* by Alice before giving him the requested information. Williams-Decl., [0151].

h. [1H]

As discussed *supra* §VI.E.1.g ([1G]), Randall’s “server recognis[es] Bob’s device and determin[es] the database access rights which Alice has given him,” and then “[o]nce authenticated, the server passes to Bob’s device the information it requests,” which may be Alice’s *location*. Randall, [0067]. Randall thus discloses [1H]. Williams-Decl., [0152].

Further, Futagami teaches that “if it is determined...that the restriction removal approval message has been received,” the server “transmit[s]” “the personal information...to the client terminal which has issued the retrieval request.” Futagami, 16:49-61, 17:8-11, 19:66-20:7, FIGs. 17, 20 (highlighted below); Williams-Decl., [0153]. Futagami teaches that the information can be transmitted to the requesting device before (FIG. 20) or after (FIG. 17) the storing of the access rights (*supra* §VI.E.1.f ([1F])), and Randall teaches updating and storing the access rights before sending the information to Bob’s *second wireless device* (*supra* §VI.E.1.b ([1B]), §VI.E.1.e ([1E])). POSAs would have understood that claim elements [1F]-[1H] need not be performed in any particular order and, regardless, it would have been obvious as a programming design choice to *store location access rights* before *providing* Alice’s *location* to Bob’s *second wireless*

device. Williams-Decl., [0153]. Because Bob previously did not have *access rights* (*supra* §VI.E.1.b ([1B])), POSAs would have understood that Randall-Darling-Futagami only provides Bob the requested information dependent upon on a *determination* (*supra* §VI.E.1.g ([1G])) that he now has *access rights*. Williams-Decl., [0153].

FIG. 17

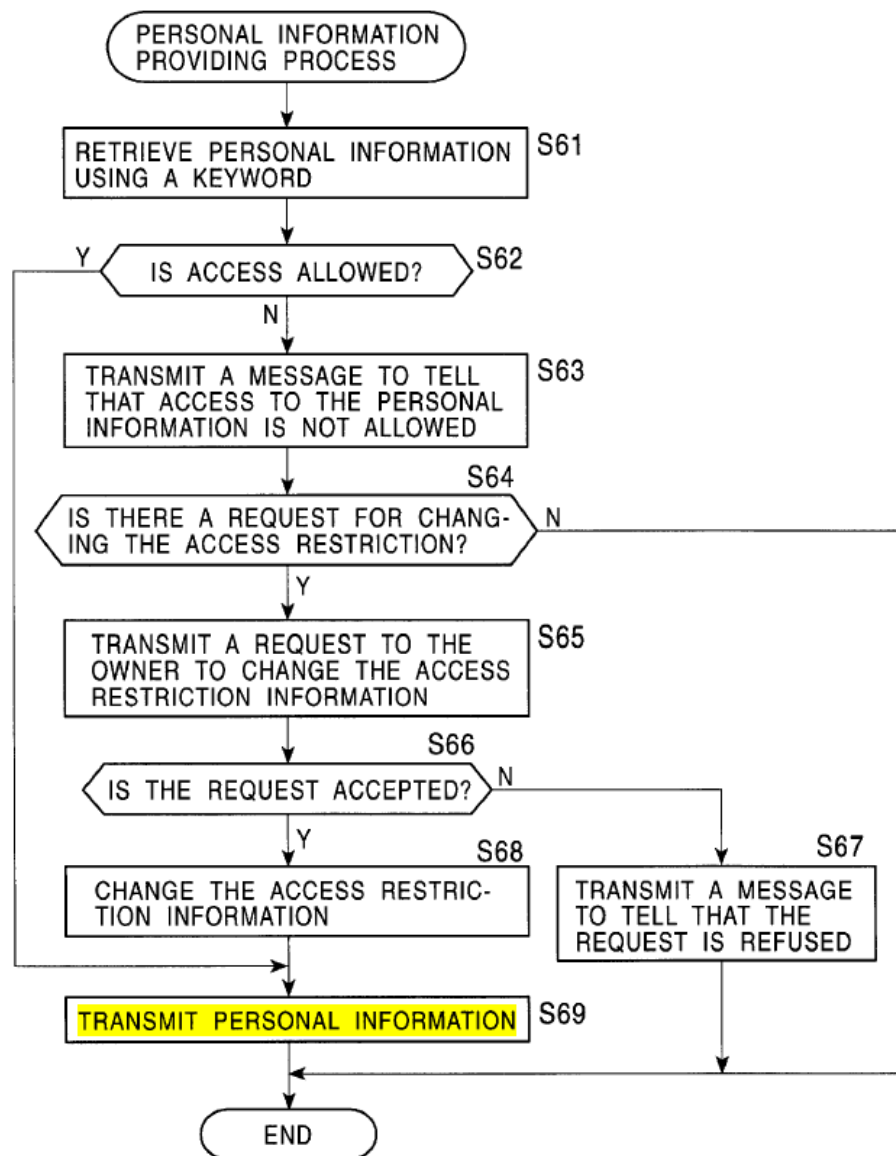
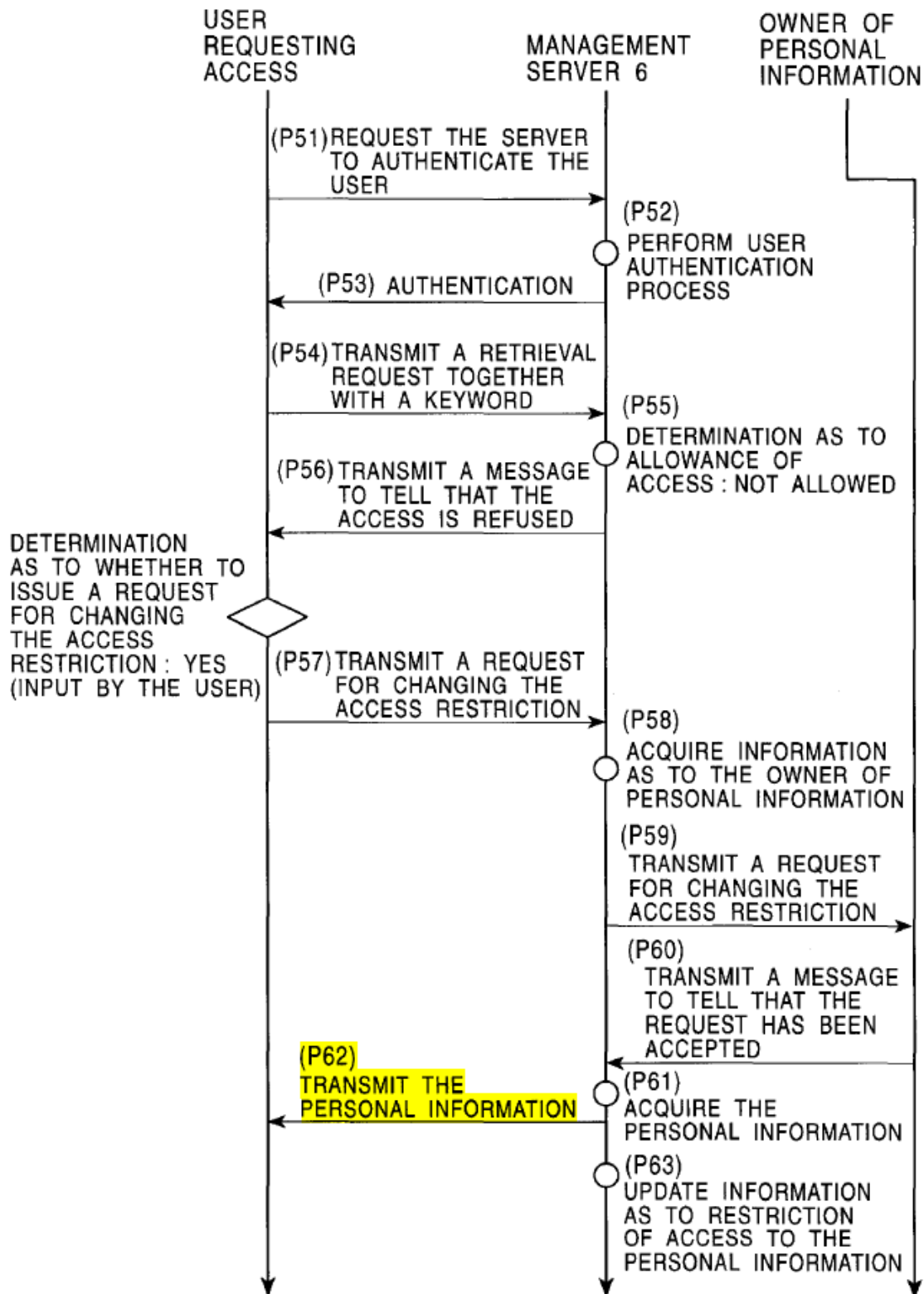


FIG. 20



2. Claim 2

Randall's "wireless information device[s]"—including Alice's and Bob's—can be "radio *telephones*" or "smart *phones*" that communicate over cellular networks ("GSM[,] UMTS, CDMA and WCDMA"). Randall, [0002], [0491] ("Bob's...mobile *phone*"), [0495] ("Alice's *phone*"). POSAs would have understood that these are examples of *cellular phones*. Williams-Decl., [0154]-[0155].

3. Claim 3

As discussed *supra* §VI.E.1 (claim 1), the *location access rights* in Randall's system *include the ability to obtain Alice's location*. Because Bob's *second wireless device* obtains Alice's location from the i-server where it is stored, POSAs would have understood that the i-server can *provide said location* to Bob's *second wireless device even when Alice's first wireless device is OFF* when Bob accesses Alice's last-updated location. Williams-Decl., [0156]. Darling confirms this understanding. Darling, 2:1-12 ("storing" a "first user['s]" "location information" "at a server" and "transmitting" it from the server "to the second user" "enable[s] a user to determine the location of another user...even...when their mobile telephone...is switched *off*"); Williams-Decl., [0156]-[0157].

4. Claim 5

In Randall's system, once Alice "has subscribed to the location service, then [Alice's] friends[] [such as Bob] could add a '*map*' application to their own

devices, which could show their position on digital *maps* and...also show the position of the user [Alice].” Randall, [0021]. POSAs would have understood that “show[ing]” Alice’s “position” on the map (Randall, [0021]) involves using Alice’s *location* to *provide a location marker* on the map, because the position is a *location* and showing it would involve displaying a *marker*. Williams-Decl., [0158].

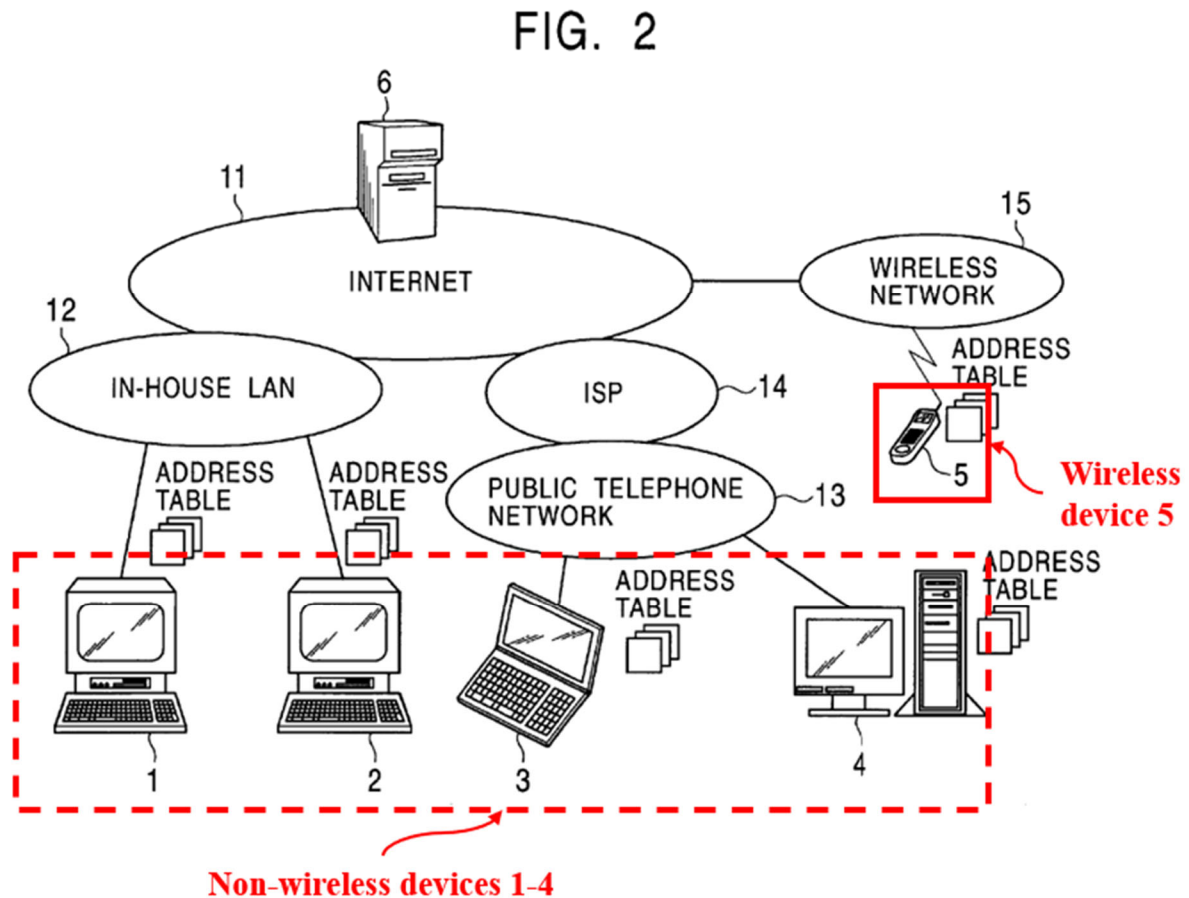
Alternatively, it would have been an obvious implementation of this disclosure to *provide a location marker* at Alice’s location on the map, because displaying a marker was well-known in POSAs’ background knowledge as a beneficial and commonly used option for representing a location of interest (including a current location of a person’s wireless device) on a digital map. Williams-Decl., [0159]-[0165] (citing corroborating EX1014 (“Wollrab”), 4:40-58, FIG. 4B (markers 44-2 through 44-5); EX1018 (“Meadows”), FIGs. 4B, 5B; EX1005 (“Sheha”), FIG. 5; EX1017 (“Grube”) 4:38-57, 6:14-27, 6:59-7:6).

5. Claim 11

Randall teaches that a user like Bob can be “[a]uthenticat[ed]” to *request* Alice’s data “where Bob...uses a public device,” which POSAs would have understood is often a *non-wireless device* such as library or Internet café desktop computer. Randall, [0067]; *see also* [0049] (“[a] wireless information device (*as well as web browsers*) can access an entity’s database,” where “web browsers”

would have been understood as encompassing *non-wireless devices*), [0365]
(“users will want...to access data and services from a variety of terminals and devices”); Williams-Decl., [0166].

Additionally, Futagami confirms POSAs’ understanding that a “server” like Randall’s that “manages personal information of...users” can serve *non-wireless* “computers 1-4” as well as “portable telephone device[s].” Futagami, 4:7-10, 1:27-36, FIG. 2 (annotated below):



Futagami teaches that “personal information of a certain user” can be “*requested* by any of the computers 1-4.” Futagami, 4:7-20; Williams-Decl., [0167]-[0169].

6. Claim 12

Darling teaches to *obtain the location* of a *non-wireless device* (e.g., a “fixed telephone”) “based on a database correlating telephone numbers (or other information) and a measure of location” in a system like Randall’s. Darling, 121:12-15, 2:40-45. Williams-Decl., [0170]-[0171].

7. Claim 13

Randall teaches that “an entity seeking information,” such as Bob on his *second wireless device* seeking Alice’s location, must be “[a]uthenticat[ed] (i.e. *identified*...)” by “the server recognising Bob’s *device*.” Randall, [0067]. “Recognising Bob’s device can be achieved in several ways; for example, Bob’s device could have a unique, secret ID number which it transmits to the server” for recognition. Randall, [0067]. “The authentication can use...a basic *WID* [*login*] and *password*/passphrase,” where the “WID[.]” identifies the “Wireless Information *Device*[.]” Randall, [0380], [0385]. Williams-Decl., [0172]. Thus, Randall discloses *receiving a login and password from Bob’s second wireless device to identify said second wireless device*. Williams-Decl., [0172].

Darling and Futagami both reinforce this teaching. Darling, 11:12-20 (“**Login**” with “Identifier Field” including “Mobile Phone Number” and “**Password** Field”), 19:11-14; Futagami, 8:62-67 (server “may request presentation of the user *identification* and the *password* of the user of that [requesting] client terminal so as to authenticate the user”); Williams-Decl., [0173]-[0174].

8. Claim 14

Randall teaches that “[a] wireless information device...can access an entity’s database by sending to the server” a number “unique to that entity.” Randall, [0049]. “[I]f Bob is given Alice’s ordinary *telephone number*...Bob can use the ordinary number to access a web database” to download Alice’s “ADS Number.” Randall, [0073]. “When Bob’s device sends Alice’s ADS Number to the server, then the server recognises Bob’s device and allows that device to read Alice’s information held on the database which is specified as being accessible to Bob.” Randall, [0049]. Thus, Randall teaches that the *location of Alice’s first wireless device is requested by receiving input, in the form of a telephone number of said first wireless device, on Bob’s second wireless device*. Williams-Decl., [0175].

Darling reinforces this, by teaching to allow a user to “Find People” by inputting the target user’s “Mobile Number” as a “search field.” Darling, 34:22-35:33; Williams-Decl., [0176]-[0177].

9. Claim 15

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.’ *Alice’s device* will report this to the server.” Randall, [0509]. Thus, Randall teaches *using Alice’s first wireless device to modify said location access rights for Bob’s second wireless device* (e.g., if Alice has set the “friend” i-Group and not the ‘business’ i-Group to have access to her location). Williams-Decl., [0178].

Another way Randall meets claim 15 is by teaching that Alice can “switch location information on for a person” by “select[ing] the person and allow[ing] access.” Randall, [0144]; Williams-Decl., [0179]. Darling also teaches to allow the user to “Add” and “Remove” contacts from the “List of individuals who have access to the Location Details.” Darling, 33:16-34:3; Williams-Decl., [0180]-[0181].

10. Claim 16

Randall teaches that Alice can “switch location information on for a person” (e.g., for Bob) “for a specific period of time,” and “[a]t the end of the pre-defined period the location information” can “again *become invisible*.” Randall, [0143]-[0144]. Thus, by pre-defining a period of time after which Bob’s access to Alice’s location ends, *Alice’s first wireless device can delete said location access rights for Bob’s second wireless device*. Williams-Decl., [0182]. Additionally, “Alice’s device” can “change the level of access” of Bob’s device by placing Bob in an i-

Group that does not have *location access rights* for her device. Randall, [0509]; Williams-Decl., [0183]. Darling also teaches to allow the user to “Remove” contacts from the “List of individuals who have access to the Location Details.” Darling, 33:16-34:3; Williams-Decl., [0184]-[0185].

11. Claim 19

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 *an identifier list*, listing the user’s contacts with identifiers such as “name.” Williams-Decl., [0186]-[0187].

Table 2 shows “Alice’s Universe” as an example; Randall teaches or, at minimum, renders obvious that Bob similarly has his own “Universe” contacts list,

and Bob and Alice can each be included as contacts displayed in each other's contacts lists. Randall, [0509]-[0510] ("Bob's details" are in "Alice's Universe" and "downloaded to Alice's mobile device," and likewise "Alice's contact" is provided to "Bob's device[]"), [0060] (Bob "view[s]" "Alice's contact information" on his device), p. 24 Table 4 ("Data freshness": "visual indication" regarding "Alice's contact information can be shown on Bob's wireless information device"); Williams-Decl., [0188]-[0189].

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" (i.e., 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]; Williams-Decl., [0190]. 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., [0190]. 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 an entry representing Alice and her device's location can be displayed in Bob's contacts list, and Bob can select that entry to view Alice's location attribute. Williams-Decl., [0190]-[0191]. POSAs would have understood this to disclose *selecting Alice's first wireless device from an identifier list*, or, at minimum, to render such selection obvious. Williams-Decl., [0191]; 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 *select Alice's first wireless device* from Bob's displayed contacts list (*identifier list*) to request Alice's location information. Darling teaches to provide a "Search for a friend" "Menu" that "Allows the user to scroll through the list of people that they are allowed to view locations for and find out where they are." Darling, 41:2-5; Williams-Decl., [0192]. Selecting another user from a displayed contacts list was also 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., [0192]-[0198] (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).

12. Claim 20

As Table 2 (highlighted below) illustrates, Randall's *identifier list*, from which *said first wireless device* is *selected* as discussed *supra* §VI.E.11 (claim 19), *comprises a list of telephone numbers*. Randall, [0511]; Williams-Decl., [0199]-[0200].

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

13. Claim 21

As Table 2 (highlighted below) illustrates, Randall's *identifier list*, from which *said first wireless device* is *selected* as discussed *supra* §VI.E.11 (claim 19), *comprises a list of user profiles* containing “details” on each user. Randall, [0511]; Williams-Decl., [0201]-[0202].

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

14. Claim 22

POSAs would have understood that it was typical and obvious for the *non-wireless device* discussed *supra* §VI.E.5 (claim 11) to be a non-mobile device (e.g., Futagami’s desktop computers 1-2 in FIG. 2) that does *not comprise a positioning system* given that its “location is not usually changed very often.” Williams-Decl., [0203]-[0204] (quoting corroborating EX1073 (“Kari”), 6:15-23).

15. Claim 23

Randall’s wireless device uses “GPS” to determine its location and provide it to the i-server. Randall, p. 24 Table 4 (“People tracking”), p. 22 Table 1 (“GPS location”), p. 29 (“Route finder”). A POSA would have known that “GPS” stands for “global *positioning system*.” Williams-Decl., [0205]-[0206]. The ’540 patent admits this was prior-art “background” knowledge. EX1001, 1:19-32.

16. Claim 24

a. [24A]-[24B]

Randall’s system enables any user to provide via their *wireless device* a virtual profile to share information about themselves. Randall, [0118] (“Identity allows people to share information about themselves using their wireless information devices—...establishing a virtual identity”); Williams-Decl., [0207]-[0208]. Via Randall’s “New buddy finder” service, “[c]ompatible personal profiles” are “identified” to the users. Randall, p. 24 (Table 4). In this context, POSAs would have understood that two users’ profiles—provided by their

respective *wireless devices*—function as *first* and *second dating matching profiles*. Williams-Decl., [0208]-[0211]. Darling similarly teaches a “Pick-Up Profile” (a.k.a. “Get Lucky Profile”) for each *wireless device* user. Darling, 57:12-60:1; Williams-Decl., [0208].

b. [24C]

Randall teaches that any “user must be able to switch location information on” to make the user’s device’s location “[v]isible” to other people. Randall, [0144], [0136], [0143], [0021], p. 24 (“People tracking”). Thus, a *second location* of Bob’s *second wireless device* can be *obtained*. Williams-Decl., [0212]-[0213].

c. [24D]

Via Randall’s “New buddy finder” service, “[c]ompatible personal profiles” (e.g., *first and second dating matching profiles*) are “identified and the corresponding individuals *alerted* to their mutual presence at a party, club etc.” (thus *utilizing* the *locations* of the devices). Randall, p. 24. Darling similarly teaches, “After checking location, the system checks for matches at the current location for other people...who match profiles and preferences” and “sends...a message.” Darling, 58:40-59:24. Williams-Decl., [0214]-[0216].

17. Claim 29

Randall teaches that Alice can specify that the *location access rights* are *only assigned* to make her “[l]ocation information” “[v]isible to specific people”

(e.g., to Bob) “*for a specific period of time*” after which it “become[s] invisible.”

Randall, [0136], [0143]-[0144]; Williams-Decl., [0217]-[0218].

18. Claim 33

Futagami teaches that after determining that *said second wireless device* does not have permission to access *said first wireless device* user’s personal information, the server transmits a “refusal message” to the *second wireless device*. Futagami, 15:40-53. “When the client terminal receives the refusal message...the refusal message is *displayed*.” Futagami, 15:54-56. As discussed *supra* §VI.E.1.c ([1C]), “[w]hen the user reads the refusal message,” this “*displayed*” message provides *the opportunity*, “if the user still wants to access the...personal information” of the other user, to make a “restriction removal request” to “change the access restriction information” (*i.e., request said location access rights from said first wireless device*) “so that the user is allowed to access the personal information.” Futagami, 15:54-62, 19:15-23, 19:47-59, FIGs. 19-20 (highlighted below—user inputs “yes” or “no” as “to whether to issue a request for changing the access restriction”). Williams-Decl., [0219]-[0220]; *see supra* §VI.E.1.c ([1C]) (discussing obviousness of displaying question prompt in refusal message).

FIG. 19

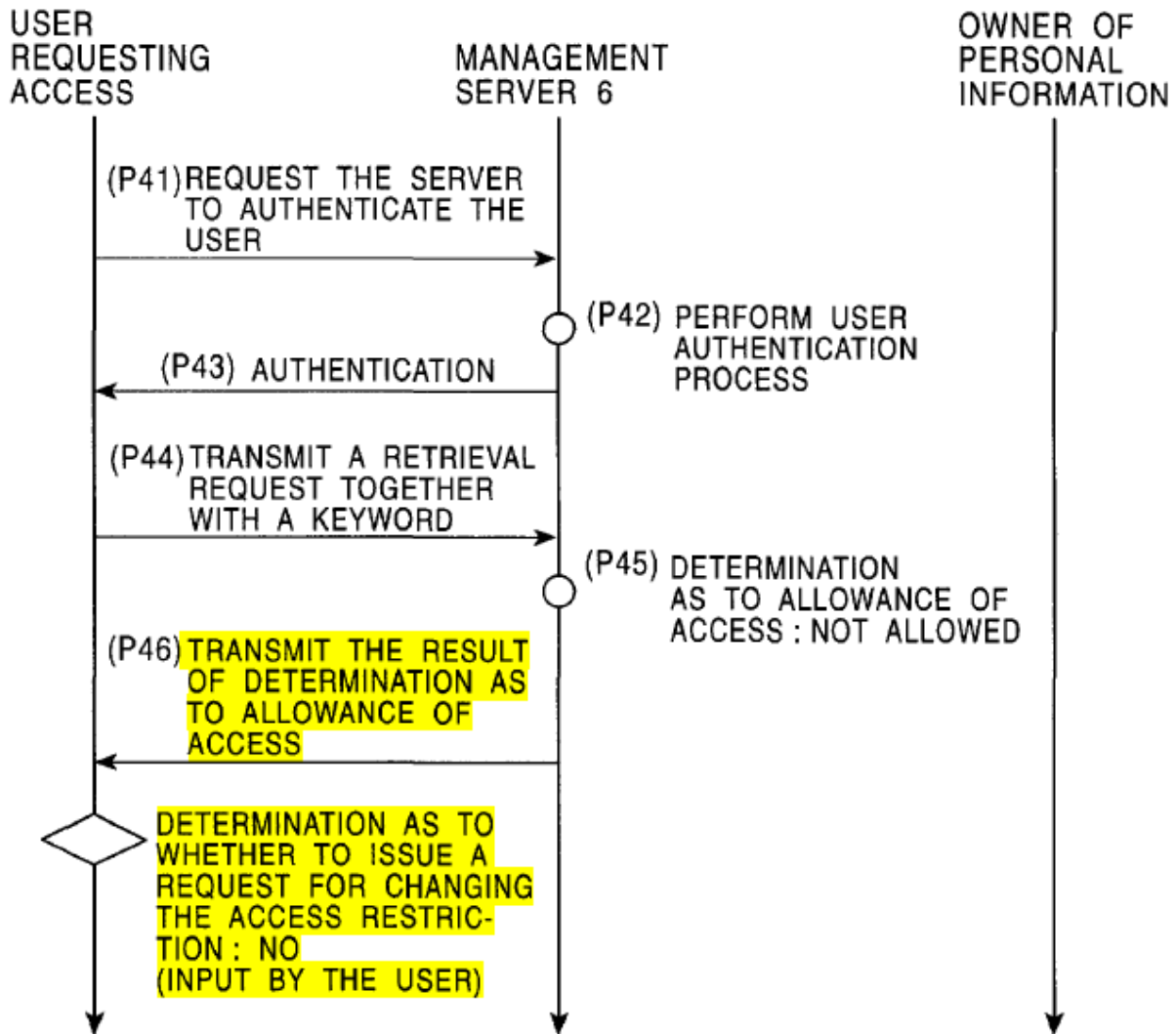
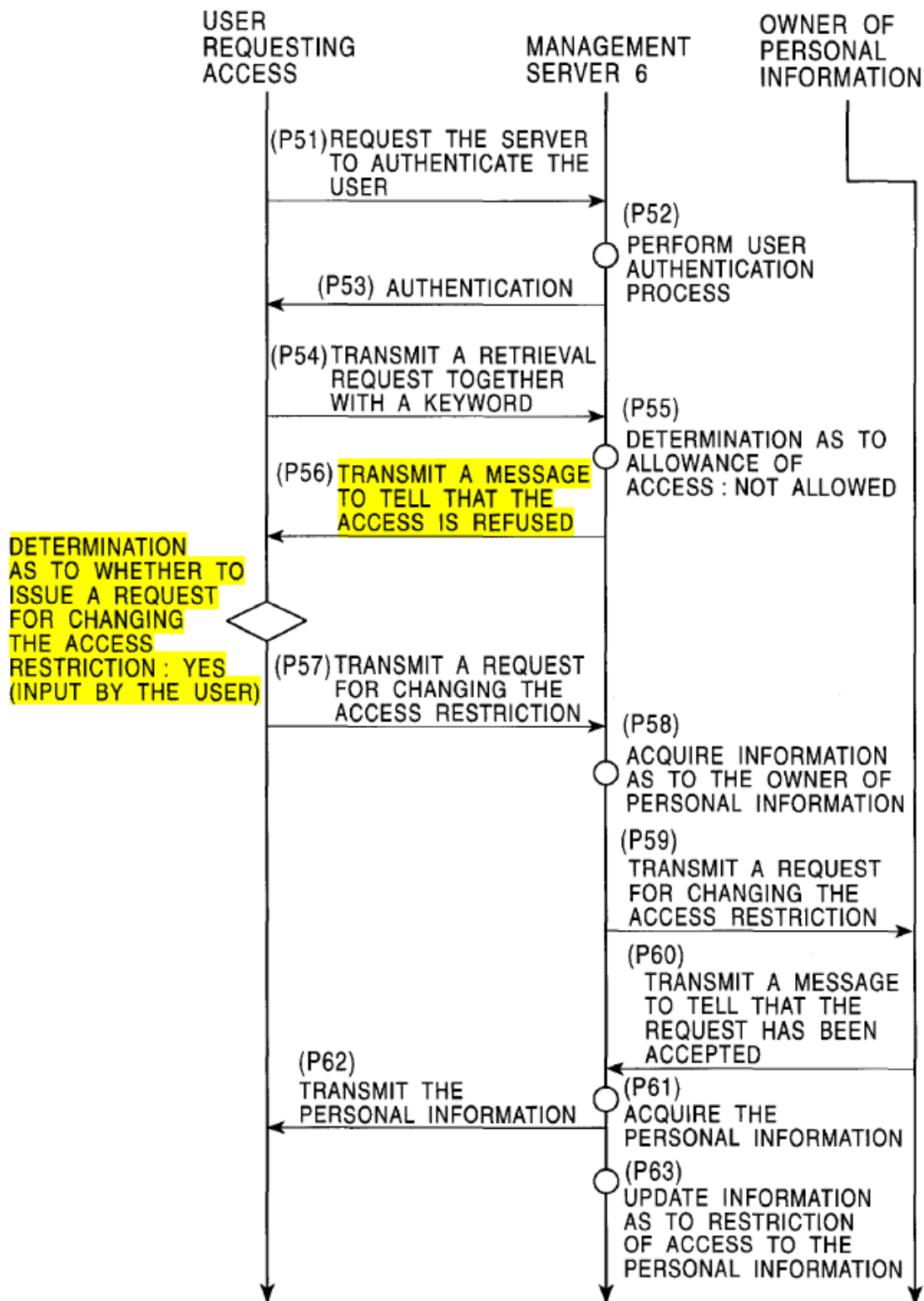


FIG. 20

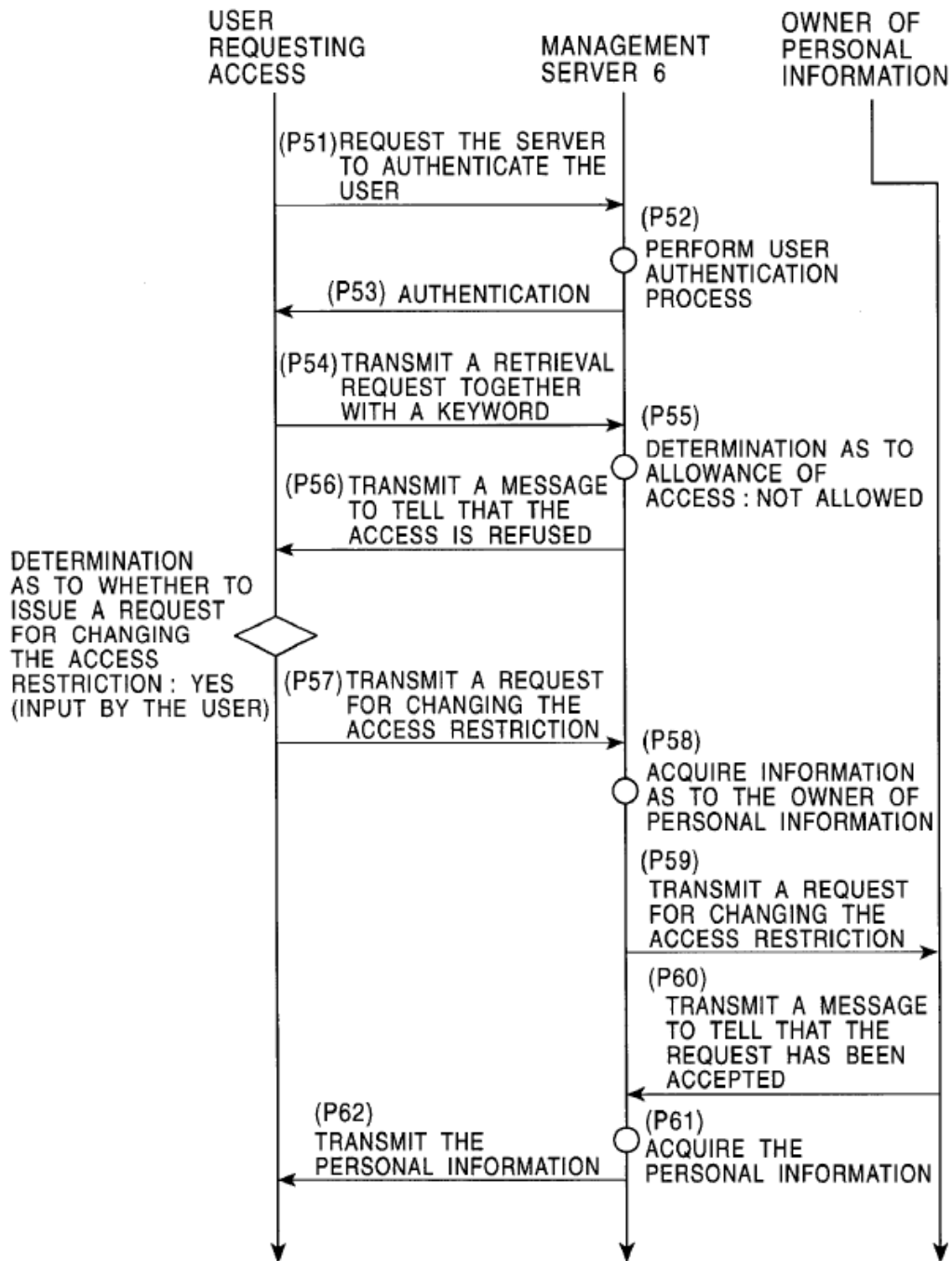


19. Claim 34

After the *first wireless device* has approved a “restriction removal request” as discussed *supra* §VI.E.1 (claim 1), Futagami teaches two alternatives: simply transmitting the requested information to the requester (FIG. 21), or additionally updating access restriction information for the requester’s future access (FIG. 20).

In the FIG. 21 process (below), “the access restriction information is not changed, although the personal information...is transmitted to the access requester” that one time. Futagami, 20:26-30. “Thus, when the access requester again issues a request for retrieval of the personal information,” it is once again “restricted.” Futagami, 20:29-38. POSAs would have understood this to teach and suggest that *said first wireless device is requested to manually allow said location access rights for said second wireless device again, every time said second wireless device requests said location.* Williams-Decl., [0221]-[0223].

FIG. 21



20. Claim 35

As discussed *supra* §VI.E.1.b ([1B]), *one of said location access rights* that Alice can apply to Bob *is the ability to not allow Bob's second wireless device to access her location*. Randall, [0047] (“Alice can therefore give Bob rights to read only certain fields in her database.”); Williams-Decl., [0224]-[0225].

VII. GROUND 2: RANDALL+DARLING+FUTAGAMI+RYDEN

A. Ryden (EX1009)

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

Ryden describes obtaining locations of mobile devices that each may have a conventional telephone number, but may be contacted using a separate geographical number (“G#”) based on the target device’s location. Ryden, 3:61-5:24. Each device “determine[s] its own earth location i.e. G#...using current GPS technology.” Ryden, 8:41-43. A device being “monitored” can respond with its “location G#” even when the device “is turned OFF.” Ryden, 16:53-62. Further, Ryden describes determining movement-based information about wireless devices, such as direction or speed, which can be used to prevent collisions or provide routing or driving directions. Ryden, 18:41-50, 19:34-47, 19:49-20:14. Williams-Decl., [0228]-[0229].

B. Randall-Darling-Futagami-Ryden Combination

POSAs would have been motivated to incorporate Ryden's speed determination capabilities, and location monitoring for a device that is turned OFF, into Randall-Darling-Futagami's system (*supra* §VI.D) to provide such functionality and standard navigation information using Randall's mapping functionality. Williams-Decl., [0230]. Randall teaches that its wireless device can show its own "position on digital maps" and "also show the position of" another wireless device user. Randall, [0021]. Randall further teaches that this functionality can be used by a "group of friends [who] are trying to locate each other in town." Randall, [0143]. POSAs would have known that a person meeting another person who is using a mobile device and may be moving would want to know about the other person's movement, such as where they are heading and how fast, to help the users more efficiently meet. Williams-Decl., [0230]. Because Ryden operates in a similar environment as Randall using similar location information, POSAs would have reasonably expected success integrating Ryden's functionality. Williams-Decl., [0230].

C. Mapping to Challenged Claims

1. Claim 3

In Randall's system, *said location access rights include the ability to obtain said location*, as discussed *supra* §VI.E.1 (claim 1).

As discussed *supra* §VII.A, Ryden teaches to program a wireless device's location reporting feature "to bypass the unit's ON-OFF switch" so the device "respond[s] with its...location G#" even "when the unit 10 is turned OFF," such as to "allow[] a stolen telephone unit" to be located. Ryden, 16:53-62; Ryden-Prov, 31:4-8. POSAs would have been motivated to incorporate such a feature in Randall's system to allow a friend or family member who has been given *said location access rights* to locate a lost or stolen *first wireless device* or its user, and would have reasonably expected success in view of Ryden's teachings. Williams-Decl., [0231]-[0235] (citing EX1018 ("Meadows"), 7:20-33, corroborating POSAs' knowledge that making "the device continue[] to transmit" "even when the wireless device operator turns off the wireless device" is "useful for monitoring other individuals" and "useful for tracking devices such as misplaced cellular telephones"). In Randall's system, the *first wireless device* reports this location to the i-server, which provides it to the *second wireless device* (as discussed *supra* §VI.E.1.a).

2. Claim 8

Randall teaches that "as Alice changes her data, Bob's view of it can readily remain up-to-date as...Bob can pull the new data into his device." Randall, [0053], [0015] ("pull[ing]" information from server is "*request[ing]*" it), p. 24 ("People tracking": Bob can "track" Alice's "location" as it is "up-dated" at the "I-

server”). Thus, Randall teaches *requesting a second location of said first wireless device*. Williams-Decl., [0236].

Ryden teaches to *determine* a mobile device’s travel speed based on changes in received position information as a function of time. Ryden, 18:33-50, 19:34-47; Ryden-Prov., 16:3-15, 34:3-35:11; Williams-Decl., [0237]. POSAs would have incorporated this teaching as discussed *supra* §VII.B. Williams-Decl., [0238]-[0239].

VIII. GROUND 3: RANDALL+DARLING+FUTAGAMI+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. “This applies both the degree to which a user discloses their location to others, and the relevance of another’s location relative to the user.” De-Vries, 9:19-22. “[T]he user can segregate” their contacts “into separate subsets, such as

subsets of family, friends, business contacts, co-workers, etc.” and “set the rules and/or parameters that control notifications to also be based on the subset of the other user who moved.” De-Vries, 3:5-14. Williams-Decl., [0242].

B. Randall-Darling-Futagami-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 (Table 4). To the extent that Randall does not specify that the user receiving these location alerts (e.g., Bob) or the user whose location is the subject of an alert (e.g., Alice) can set the rules/parameters for receiving them and choose among various ways of defining what level of location specificity is disclosed to particular other device users, POSAs would have been motivated to implement Randall’s service in the Randall-Darling-Futagami system (*supra* §VI.D) that way based on De-Vries’s teachings. For example, De-Vries’s techniques provide the user with control over what alerts they receive and what location information they share, about/to whom, and in what circumstances. De-Vries, 2:52-3:15, 8:41-10:43; Williams-Decl., [0243]. POSAs would have reasonably expected success based on De-Vries’s teachings of successfully implementing such functionality in a system like

Randall's where wireless device users are accessing each other's locations.

Williams-Decl., [0243].

C. Mapping to Challenged Claims

1. Claims 4, 9-10, 17

Randall teaches that Alice “allow[s] others to track...her location...using the location attribute of [Alice's] data object.” Randall, [0021]. The location attribute can be “at different levels of granularity—for example, location might be defined in very approximate terms...no better than a given city,” or as “enriched location information” that is exact “to within a few meters.” Randall, [0024]. “[S]ince the objects can be sent between users,...*access control*” is “invoked to ensure that access to enriched data is only provided to those entitled.” Randall, [0023].

Randall thus teaches that the *location access rights* to Alice's location can *comprise a plurality of access levels*—e.g., one level accessing her location in “approximate terms” (e.g., just the city) and another level accessing her exact location. Williams-Decl., [0244].

Additionally, De-Vries teaches to allow the *first wireless device* user (e.g., Alice) to control the granularity at which the “user discloses their location to others” (i.e., to *filter* the disclosed *information* about their *location*) such that the “user may provide very accurate information to trusted individuals (e.g. location to 10 meter resolution to family members) and less accurate data to others (e.g.

simply the *city* where one is located to a co-worker).” De-Vries, 9:19-26; Williams-Decl., [0245].

Thus, POSAs would have been motivated and reasonably expected success to implement the Randall-Darling-Futagami-De-Vries combination such that *said location access rights comprise a plurality of access levels* (meeting claim 4)—e.g., an access level that provides the *exact location* and an access level that *filters* the location information to provide *only a portion* of it (e.g., an *approximate location* such as only the *city*) (meeting claims 9-10 and 17)—in view of both Randall’s and De-Vries’s teachings of successfully doing so. Williams-Decl., [0246]-[0253].

2. Claim 18

Randall provides an “Old buddy finder” service wherein Bob’s “[w]ireless information device *alerts* Bob when a contact happens to be *within a defined proximity*.” Randall, p. 24. Thus, Randall discloses *alerting* Bob’s *second wireless device when Alice’s first wireless device is within a distance of* Bob’s device. Williams-Decl., [0254].

De-Vries concerns the same type of proximity-based *alerting* as Randall. De-Vries, Abstract (“notifications to inform when certain people...are nearby” as “tracked by positioning equipment based on personal communications/computing devices carried by the people”), 2:18-35 (“mobile personal information devices

such as cell phone”), 4:39-44, 4:60-65, 5:20-62 (wireless device GPS locations are “stored in the people/place database” on the server to “provide *alerts*” to other users’ devices); Williams-Decl., [0255]. In that context, De-Vries similarly teaches to *alert said second wireless device when said first wireless device is within a distance of second wireless device*. De-Vries, 9:1-8 (A “parameter sets a proximity threshold within which people...are to be considered proximate to the user...for purposes of...providing notifications” as “a geographic *distance* threshold, e.g., a radius in miles or kilometers, within which the people...must be located to be considered in proximity to the user.”); Williams-Decl., [0255]-[0256].

3. Claim 28

As discussed *supra* §VIII.C.2 (claim 18), Randall, like De-Vries, provides *location alerts* on Bob’s *second wireless device* when Alice’s *first wireless device* is nearby, including via Randall’s “Old buddy finder” service. To the extent that Randall does not specify that Bob can set the rules/parameters for receiving these location alerts on his *second wireless device*, POSAs would have been motivated to implement Randall’s service that way based on De-Vries’s teachings, to provide the user with control over what alerts they receive and about whom. De-Vries, 2:52-59 (device “user can set rules and/or parameters to control when notifications are generated”—“[f]or example, a user may set a proximity parameter”), 3:5-14

(“[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.”); Williams-Decl., [0257]. POSAs would have reasonably expected success based on De-Vries’s teachings of successfully implementing such functionality in a system similar to Randall’s where wireless device users are accessing each other’s locations. Williams-Decl., [0257]-[0258].

4. Claim 30

As discussed *supra* §VIII.C.2 (claim 18), Randall’s “Old buddy finder” *alerts Bob’s second wireless device when Alice’s first wireless device enters a geographic area* (e.g., city). Randall, p. 24; Williams-Decl., [0259]. De-Vries also teaches to *alert said second wireless device when said first wireless device enters a geographic area*, as determined by “proximity parameters, such as same city/town/neighborhood.” De-Vries, 9:8-13; Williams-Decl., [0259]-[0260].

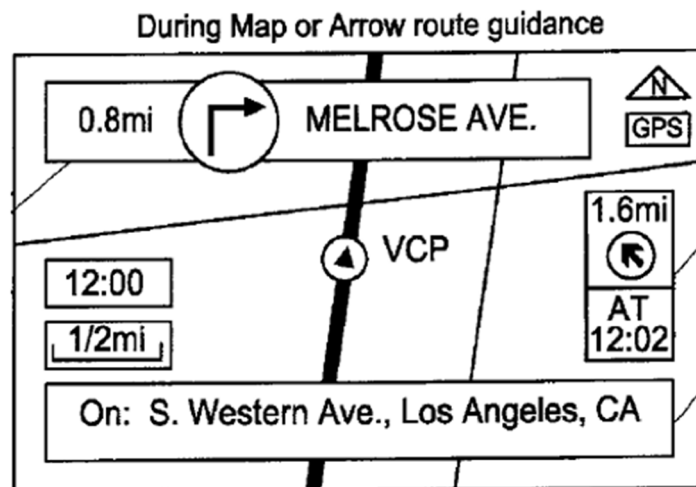
IX. GROUND 4: RANDALL+DARLING+FUTAGAMI+WAKO

A. Wako (EX1025)

Wako discusses “[a] display method...for [a] navigation system for displaying information necessary for guiding a driver of a vehicle.” Wako, Abstract. The vehicle’s position can be determined by GPS. Wako, 1:22-27, 6:43. Wako discusses that it was “Background” knowledge to “superpos[e] a mark representing the current location of the vehicle on a...map image,” with

“information regarding the remaining distance to the final destination and an estimated time to reach the final destination” and “[o]ther information such as a north pointer NP...illustrated on the display screen.” Wako, 1:11-22, 2:30-34, 2:1-8, FIG. 1B. The “route guidance display” is “accompanied by spoken instructions...such as ‘turn left at the next intersection[.]’” Wako, 2:12-34.

The following excerpt from Wako’s FIG. 7 shows an example route guidance screen:



Wako, 8:64-9:22; Williams-Decl., [0263]-[0264].

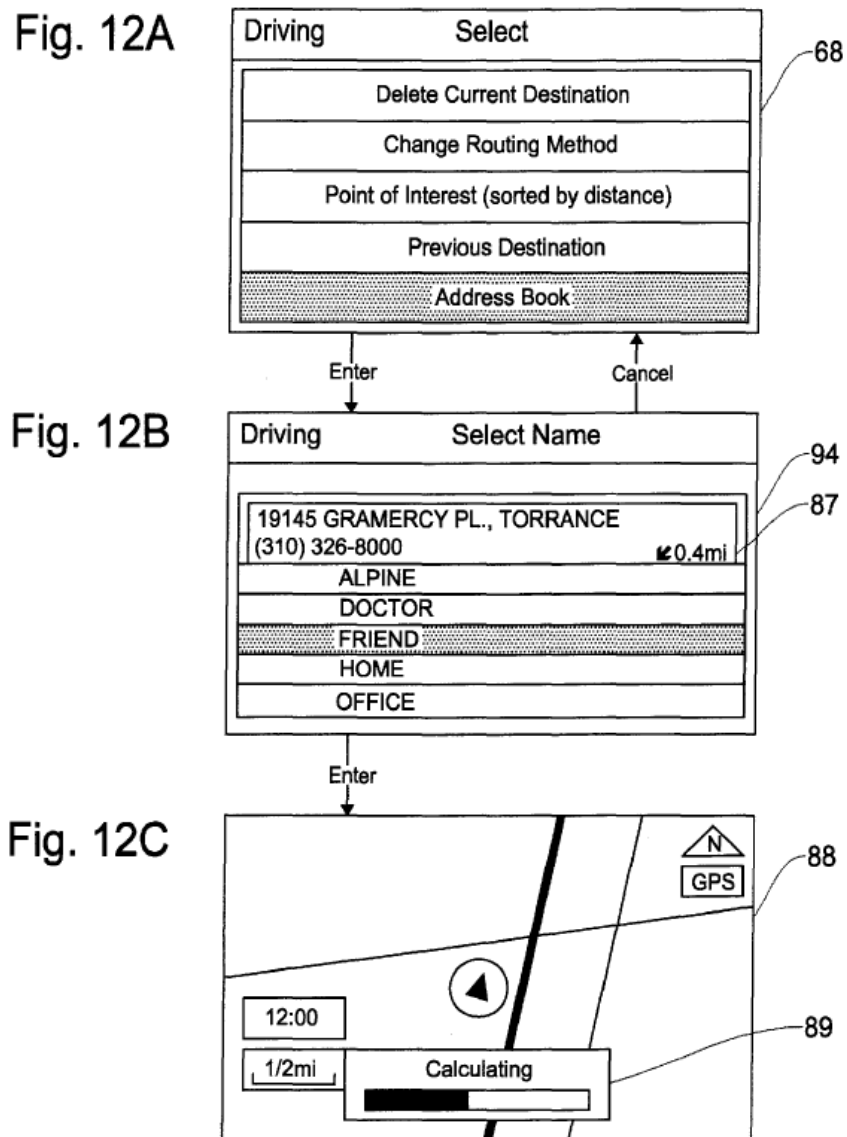
B. Randall-Darling-Futagami-Wako Combination

Randall provides a “Route finder” service, “similar to GPS tracking in cars, but for mobile phones. You identify where you want to go, the phone knows where you are already. It can therefore give you step by step instructions on how to get there (eg. Turn left at the next lights. Carry on 100 metres. Go straight over the roundabout).” Randall, p. 29.

POSAs would have recognized Wako's navigation techniques as the type of "GPS tracking in cars" techniques that Randall's "Route finder" is "similar to" (Randall, p. 29). Williams-Decl., [0265]-[0266]. POSAs would therefore have been motivated and reasonably expected success to use Wako's display techniques when implementing Randall's "Route finder" in Randall-Darling Futagami (*supra* §VI.D). Williams-Decl., [0266]. For example, POSAs would have been motivated by Wako's teachings to display any of the information Wako discloses (e.g., north pointer, directional arrows, travel time) on Randall's wireless device to provide useful information to the user. Williams-Decl., [0266].

Further, Randall 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 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 a destination "where you want to go" in Randall's "Route finder," which can "give you step by step instructions on how to get there" (Randall, p. 29). Williams-Decl., [0267]. Wako reinforces this, teaching that a selected destination can be "friend[']s]"

location in the user's "address book." Wako, FIGs. 12A-12C; Williams-Decl., [0267].



POSAs would therefore have been motivated and reasonably expected success to implement Wako's techniques in Randall's system to provide a useful informative display for navigating to another user's location. Williams-Decl., [0268].

C. Mapping to Challenged Claims

1. Claim 6

As discussed *supra* §IX.B, it would have been apparent to POSAs from Randall's disclosures that another user's (e.g., Alice's) *location*, which is displayed on a map, may be a place "where you want to go" that Randall's "Route finder" provides directions to (e.g., *providing directions on Bob's second wireless device* to navigate from Bob's device's location to Alice's location). Randall, [0021], p. 29; Williams-Decl., [0269]. Additionally, as also discussed *supra* §IX.B, Wako teaches that a selected destination for "route guidance" (*directions*) can be the location of a "friend" in the user's "address book" (e.g., Alice's location). Wako, 9:8-22, FIGs. 12A-12C, 12:35-13:14; Williams-Decl., [0269].

Thus, Randall alone or with Wako meets claim 6's recitations. Williams-Decl., [0270].

2. Claim 7

Claim 7's language repeated from claim 6 is met as discussed *supra* §IX.C.1.

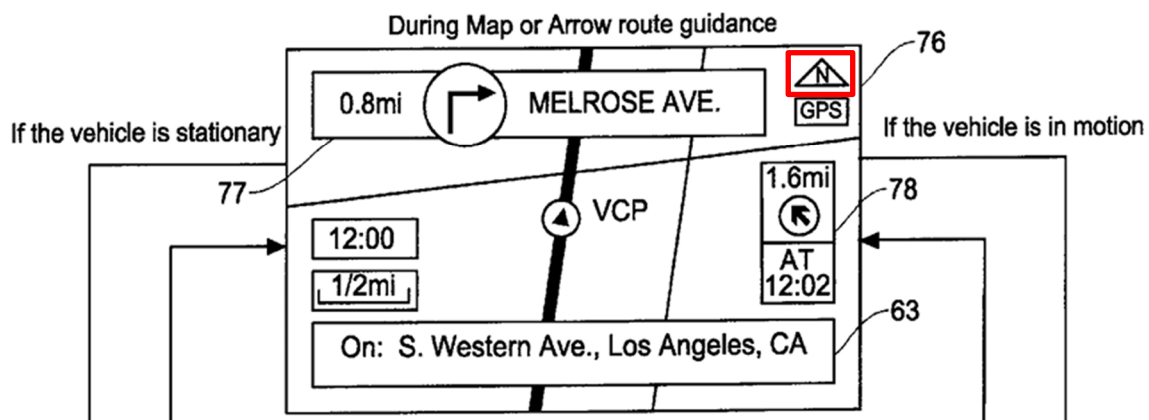
As to *travel time*, Wako teaches it was "Background" knowledge to display in the "route guidance screen" the "anticipated time to reach the final destination." Wako, 9:18-22, 2:30-34 ("Background" section). Accordingly, it would have been obvious to use Alice's *location to provide a travel time on Bob's second wireless*

device for reaching Alice's location. Williams-Decl., [0271]-[0273]; *see supra* §IX.B.

3. Claim 25

Wako teaches it was "Background" knowledge in GPS route guidance to display a "north pointer N." Wako, 7:31-34, 2:6-8 ("Background" section), FIG. 7 (excerpt annotated below).

Fig. 7



It would have been obvious from background knowledge to implement this by *providing a compass* in Randall's displaying wireless device. Williams-Decl., [0274]-[0277] (citing corroborating EX1072 ("Johnson"), Abstract, FIGs. 2A-2D, 1:41-65, 3:56-5:20, 6:6-31).

4. Claim 26

Wako teaches to display “*a direction by an arrow*” to the selected location when the user (e.g., Bob) selects a “friend” (e.g., Alice) as the navigation destination. Wako, 12:60-63, FIG. 12B (annotated below).

Fig. 12A

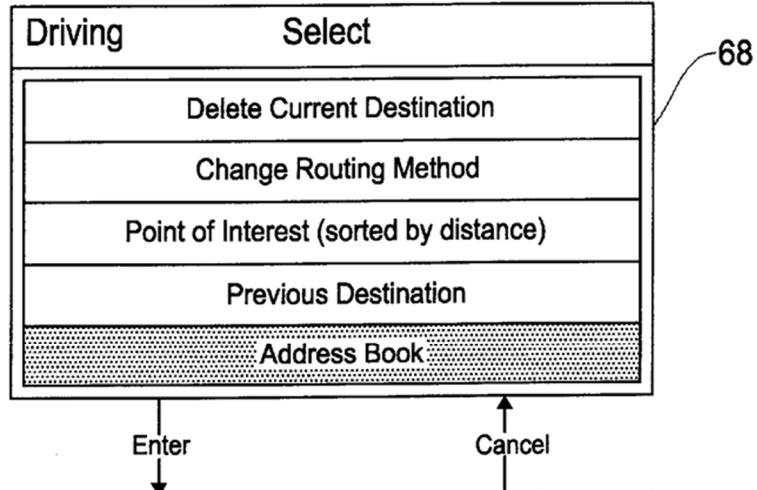


Fig. 12B

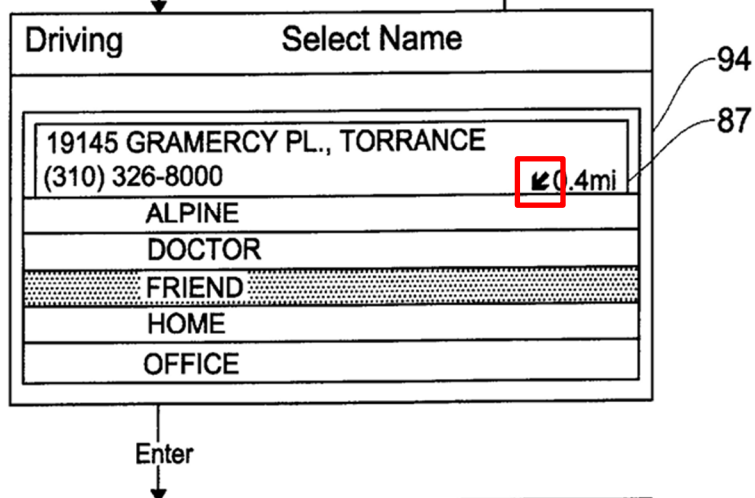
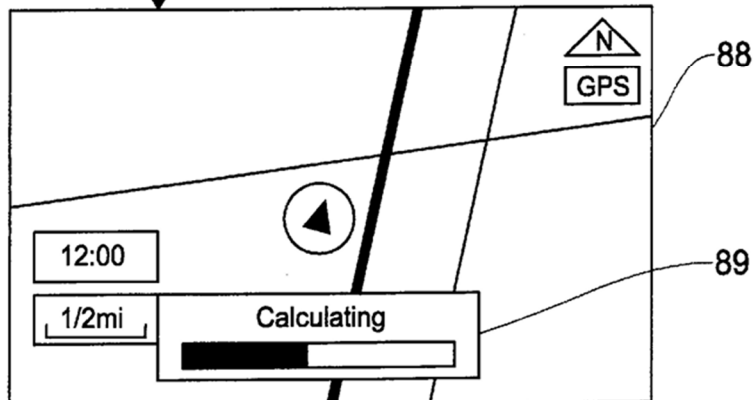


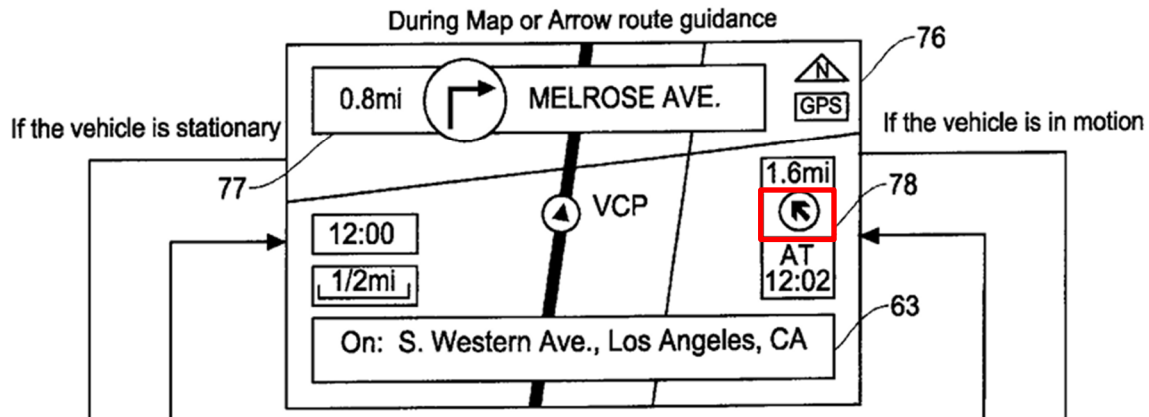
Fig. 12C



The *directional arrow* is also displayed in the “route guidance screen.”

Wako, 9:18-21, FIG. 7 (excerpt annotated below).

Fig. 7



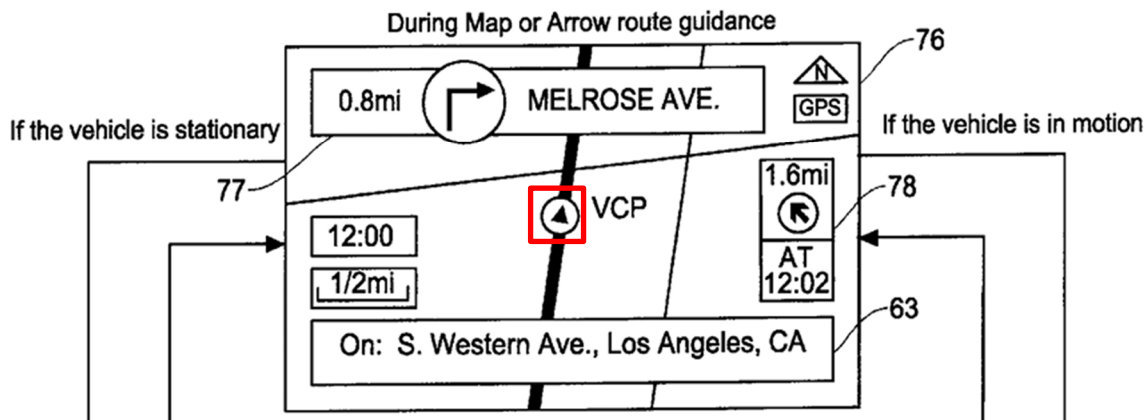
Accordingly, it would have been obvious to apply this teaching to *utilize a directional arrow to display the location of Alice’s first wireless device relative to said location of Bob’s second wireless device on Bob’s second wireless device.*

Williams-Decl., [0278]-[0280]; *see supra* §IX.B.

5. Claim 27

Wako teaches to *display* a “vehicle current position mark VCP” pointing in *the direction* that the displaying device is traveling in. Wako, 9:8-11, FIGs. 1A-1B (“Prior Art”), FIGs. 5-12.

Fig. 7



Wako, FIG. 7 (excerpt, annotated)

As shown in Wako's figures, comparing orientations of the VCP triangle and north pointer "N" indicates *the direction that the device is traveling in*. Thus, POSAs would have understood Wako to teach *utilizing said compass (supra §IX.C.3 (claim 25)) to display the direction that the device is traveling in*.

Williams-Decl., [0281]-[0284].

X. GROUND 5: RANDALL+DARLING+FUTAGAMI+WOLLRAB

A. Wollrab (EX1014)

Wollrab relates to "members of an identified family, work, or other group" tracking each other's wireless-device GPS locations "as coordinates on a graphic map." Wollrab, 5:50-61, 6:28-31, 4:40-58, FIG. 4B. Wollrab describes storing and displaying "a historical tracking record of movement for" a tracked device.

Wollrab, 3:21-27, 4:54-58. Williams-Decl., [0287].

B. Randall-Darling-Futagami-Wollrab Combination

POSAs would have been motivated to enhance Randall-Darling-Futagami (*supra* §VI.D) to incorporate Wollrab’s teachings to store historical location-tracking records to help trace where a device has been and locate a device whose tracking has been lost. Wollrab, 3:21-27, 4:40-58; Williams-Decl., [0288].

POSAs would have known from these Wollrab teachings and from background knowledge that a most-recent position based on a historical record can be useful, such as for a parent locating a child. Williams-Decl., [0288]-[0289] (citing corroborating EX1012 (“Ganesh”), 7:3-20, 1:43-55). POSAs would have reasonably expected success given that Randall’s i-server already receives, stores, and provides updates of a target wireless device’s location as discussed *supra* §VI.A, §VI.E.1. Williams-Decl., [0290].

C. Mapping to Challenged Claims

1. Claim 31

Randall-Darling-Futagami-Wollrab implements Wollrab’s teaching that “multiple sequential sets of remote sensing location coordinates are ***stored***...to create a ***historical tracking record*** of movement” that “can be retrieved later...for such purposes as tracking member movements or locating a lost member.”

Wollrab, 3:20-27, 4:54-58, FIG. 4C; Williams-Decl., [0291]. Wollrab’s wireless devices share their locations with each other via a remote system (“[s]atellite device 12”). Wollrab, 4:1-23. In Randall’s system, this functionality is performed

by the i-server (discussed *supra* §VI.A, §VI.E.1). Williams-Decl., [0292]. Storing a *history of locations* server-side was also a well-known design option. Williams-Decl., [0292]-[0294] (citing corroborating EX1019 (“Thomas”), 7:34-49, 5:58-6:37; EX1012 (“Ganesh”), 7:3-65, FIG. 1, 4:8-28). POSAs would have reasonably expected success because Randall’s i-server already receives, stores, and provides updates of a device’s location, as discussed *supra* §VI.A, §VI.E.1. Williams-Decl., [0295]-[0296].

2. Claim 32

Wollrab teaches to *utilize* the stored *history of locations* “to determine where [the *first wireless device*] has been physically located over time for such purposes as tracking member movements or locating a lost member.” Wollrab, 3:21-27, 4:54-58, FIG. 4C:

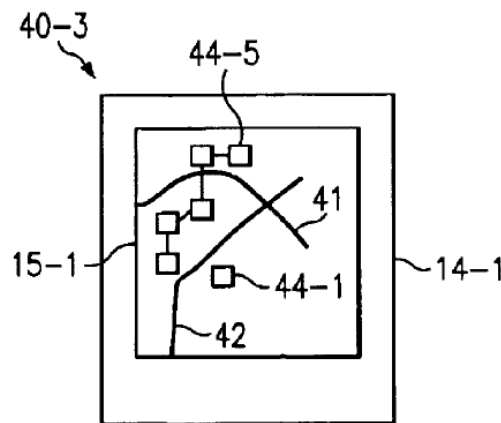


FIG. 4C

From this teaching and background knowledge, POSAs would have understood that the most recent historical location 44-5 and/or extrapolating the

device's trajectory based on the history *is utilized to provide an approximate location of said first wireless device*, and that Wollrab's scenario where the device's tracking was "lost" may often be because the *first wireless device is turned OFF*. Williams-Decl., [0297]-[0300] (citing corroborating EX1012 ("Ganesh")), 7:3-20, 6:55-56).

XI. GROUND 6: SHEHA+DARLING+FUTAGAMI

Grounds 6-10 together challenge claims 1-35 based on Sheha combined with Darling and Futagami. Futagami teaches the feature of element [1C] that the Board preliminarily found missing from Sheha in IPR2023-00098 (Paper 8 at 13-14).

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]-[0079].

Sheha allows 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. Mobile devices may determine their positions (e.g., using GPS) and report them to an online database and application server ("ODAS"). Sheha, 10:5-16, 10:66-11:54, 7:19-23. The mobile devices may

specify groups of users authorized to obtain their location information. Sheha, 11:51-12:7.

A mobile device may request a target 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, including displaying a map. Sheha, 9:23-39.

FIG. 3 (below) illustrates an example system.

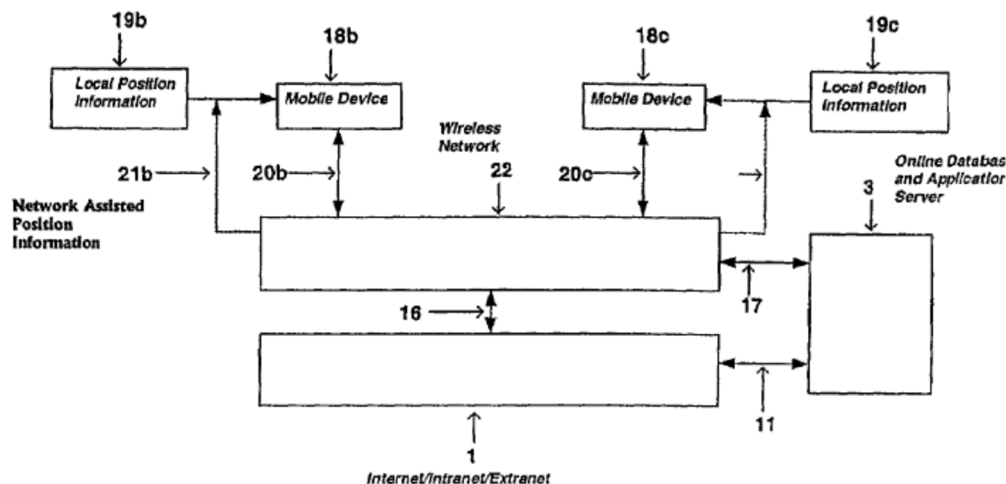


FIG. 3

Williams-Decl., [0303]-[0308].

B. Sheha-Darling-Futagami Combination

Sheha, Darling, and Futagami all describe systems where a server stores potentially sensitive, private, personal information of client users of wireless

devices; in both Sheha and Darling, this includes location information. Sheha, 11:3-8; Darling, 3:1-8, 21:19-22:17, 32:39-34:3; Futagami, 4:7-12; Williams-Decl., [0309].

All three references describe access control where each user specifies which other users have access rights to specific items of the user's personal information, and the server only transmits the information if the receiving user has such access rights. Sheha, 11:55-12:7; Darling, 3:1-8, 22:37-23:13, 33:16-34:3; Futagami, 13:33-67, 14:1-15:53, 18:26-19:27, FIGs. 15-16; Williams-Decl., [0310]-[0312].

Therefore, POSAs implementing Sheha's system would have been motivated and reasonably expected success to incorporate teachings from Darling and Futagami, including supplementing Sheha's location access control techniques with aspects of Darling's and Futagami's access control techniques. Williams-Decl., [0313], [0065]-[0073]. Darling teaches that such personal information as Futagami's can include location information and that it was known to "request permission" for a "second user" who does not already have permission to access a "first user's...location information." Darling, 3:1-19, 21:19-23:13, 32:39-34:3; Williams-Decl., [0313].

POSAs would have been motivated and reasonably expected success to apply, to location requests in Sheha's system, Futagami's teachings for how to proceed when the requesting user does not already have access rights, including

providing the option to have the server request access from the target user (or not). Futagami, 15:40-16:32, 18:62-20:67, FIGs. 19-20; Williams-Decl., [0314]. POSAs would have understood Futagami's technique to be desirable, e.g., because it allows the requesting user to choose whether it makes sense to disturb the other user at that particular time with a location request. Williams-Decl., [0314].

C. Mapping to Challenged Claims

1. Claim 1: [1PRE]

Sheha describes a “*method* for providing real-time position information of one party to another party by utilizing...a mobile telecommunications network.” Sheha, Abstract, 10:66-11:9; Williams-Decl., [0315]-[0317].

a. [1A]

Sheha discloses mobile devices 18b-18c wirelessly communicating (20b-20c) with “online database and application *server* (ODAS) 3” via “*wireless network*” 22. Sheha, 7:21-23, 10:67-11:35, FIG. 3. Mobile devices can be “cellular telephone[s] or wireless voice-enabled PDA[s].” Sheha, 10:66-11:3. As FIG. 3 shows, ODAS 3 is *located remotely* from the mobile devices. Williams-Decl., [0318].

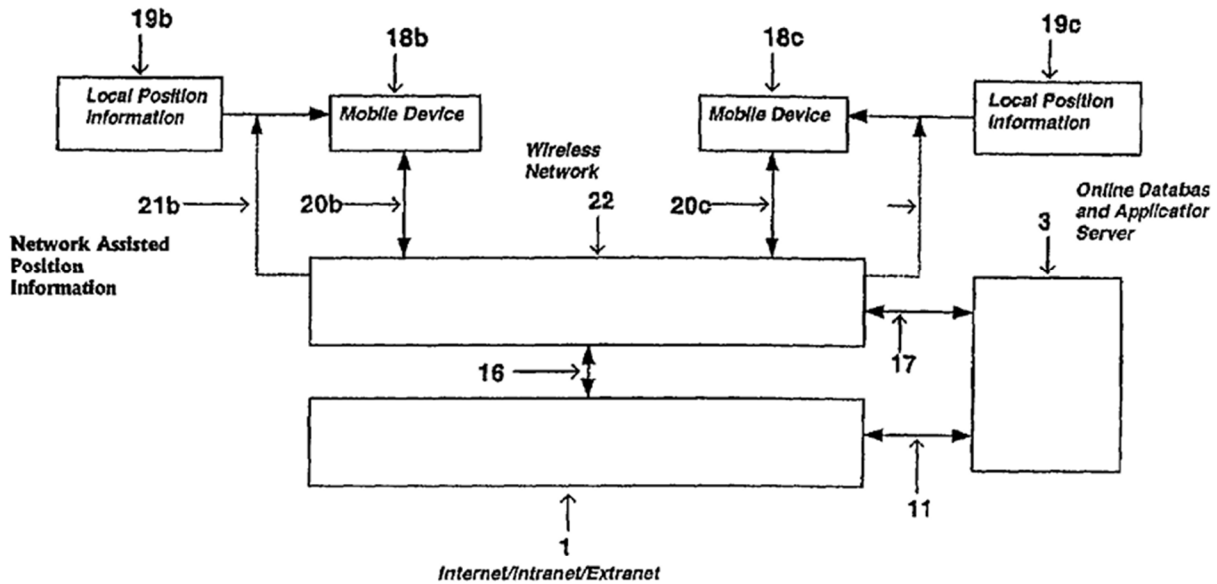


FIG. 3

Each mobile device supplies its position to the ODAS, from which another device can request it. Sheha, 10:5-16, 11:3-8, 11:15-20, 11:44-51; Williams-Decl., [0319]. “A mobile...device can...*request position information of another mobile...device* by...specifying a telephone number,” with or without placing a telephone call. Sheha, 11:55-12:7, 10:66-11:54; Williams-Decl., [0319]. For example, “[w]hen a mobile device 18b [*second wireless device*] dials a telephone number,” the “ODAS 3 requests position information from the destination mobile device 18c [*first wireless device*]” and “periodically updates each mobile device with the other’s position information.” Sheha, 11:10-54; Williams-Decl., [0319]-[0320].

b. [1B]

Sheha teaches that when “a mobile device user specifies a telephone number of another position-enabled mobile device, the system would query the remote mobile device and verify its privacy setting”—also called “permission settings”—by which the remote device can specify “allowance of position information transfers...*only* with the device owner’s permission.” Sheha, 4:59-5:46; Williams-Decl., [0321]. Because the system shares the *first wireless device*’s location “only” with permission, Sheha teaches that there are scenarios where the system *determines that said second wireless device does not have permission to receive the location (i.e., location access rights) for said first wireless device.* Williams-Decl., [0321]; *see also* Sheha, 5:37-41 (device may “*prevent or limit* other calling devices from obtaining position information”).

The target mobile device’s privacy/permissions settings information can include “a group database and authorization and authentication protocols” by which the user “can define a group of specific users that have access to” the target device’s location information. Sheha, 11:55-12:7, 4:59-5:20; *see also id.*, 13:65-14:2, 14:54-61, 19:9-13; Williams-Decl., [0322]. The ODAS uses this privacy information to determine whether the target device has given the requesting device *location access rights* to obtain its location information. Sheha, 3:22-28, 5:21-46, 8:42-53; *see also id.*, 3:4-14, 4:8-18, 9:59-10:4; Williams-Decl., [0322].

In IPR2023-00098 (Paper 7 at 25), Mullen argued that Sheha’s system querying a target device’s “privacy settings” (Sheha, 4:59-5:46) “does not teach determining that a different, third-party device (‘second wireless device’) lacks access rights.” Mullen was incorrect. Claim element [1B] does not require the *location access rights* to be exclusive to the *second wireless device*. [1B]’s language encompasses *determining that said second wireless device does not have location access rights for said first wireless device* for any reason—including, e.g., if the *first wireless device* is not giving *location access rights* to anybody. Williams-Decl., [0323].

Element [1B] also encompasses determining whether *location access rights* were provided to, e.g., a group of devices including the *second wireless device*. Williams-Decl., [0324]; see EX1001, 13:9-12, 3:23-25 (’540 patent discussing assigning access rights to “groups”). Additionally, providing *location access rights* to an individual device would have been obvious because “defin[ing] a group” of authorized users (Sheha, 11:63-65) can include defining a group having only one member. Darling, 41:20-42:2 (“A user defined group can be a single person.”); Williams-Decl., [0324]. Alternatively, allowing permissions specific to individuals in addition to groups would have been obvious as a well-known beneficial option with reasonable expectation of success. Darling, 3:3-5 (“Each user may specify that location information is available only to *specified users or*

groups”); Williams-Decl., [0324]-[0326] (citing corroborating EX1007 (“Randall”), [0052], [0070], [0136], [0144]-[0146]; EX1015 (“Friedman”), 12:60-13:21).

Sheha describes device-local privacy filters and the requester-specific group database of permissions as complementary privacy/permission specification options that POSAs would have understood can all coexist within an embodiment, and that are interchangeably referred to as “privacy settings,” “permission settings,” “privacy configuration,” “position transfer permissions,” etc. Sheha, 4:35-42, 4:59-5:46, 10:17-26, 10:44-11:9, 11:55-12:7, 18:65-19:46 (*see* 19:9-15, 19:44-45); Williams-Decl., [0327]. Sheha thus discloses that mobile-to-mobile call and no-call 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 (mobile-to-mobile embodiments can use the same “privacy settings” and “authorization and authentication protocols...similarly to” landline embodiments), 8:42-53 (“ODAS 3 us[es] authentication and authorization protocols” to “verify the level of authority each user is granted”); Williams-Decl., [0328].

Alternatively, using mobile-to-mobile group permissions would have been obvious because allowing a mobile user to specify a group of mobile users who have permission to access the user’s location (or to provide access permission on

an individual-user basis) was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's, as Darling teaches and other prior art corroborates. Darling, 2:1-15, 2:47-3:5, 32:39-33:32; Williams-Decl., [0329]-[0331] (citing corroborating EX1054 ("Sandhu"), 5:35-50; EX1007 ("Randall"), [0052], [0070], [0136], [0144]-[0148]).

Darling and Futagami further render obvious implementing Sheha's system to perform [1B]'s *determining*, in the manner discussed *supra* §VI.E.1.b. Darling, 3:1-9, 35:24-28; Futagami, 15:40-53, FIG. 17 (arrow "N" from S62), FIG. 19 (P45), FIG. 20 (P55); Williams-Decl., [0332]-[0333].

c. [1C]

As discussed *supra* §VI.E.1.c, Futagami teaches *asking said second wireless device if the access rights to sensitive personal information are to be requested from said first wireless device after determining that said second wireless device does not have the access rights for said first wireless device*. Williams-Decl., [0334]. In Sheha-Darling-Futagami (*supra* §XI.B), the requested personal information is the *first wireless device's* location, and the access rights are *location access rights*, meeting [1C]. Williams-Decl., [0334]. As discussed *supra* §XI.B, POSAs would have been motivated to implement this asking, to allow for obtaining location access rights while controlling whether to disturb the target user with an access request. Williams-Decl., [0334]. POSAs would have reasonably

expected success based on Futagami's teachings. Williams-Decl., [0334]-[0335]; *supra* §XI.B..

d. [1D]

As discussed *supra* §VI.E.1.d, Futagami teaches *requesting that the access rights be assigned for said second wireless device by said first wireless device*. Williams-Decl., [0336]. Darling reinforces this, as discussed *supra* §VI.E.1.d. Darling, 3:1-19; Williams-Decl., [0336]. Sheha, too, teaches to “quer[y] the remote party...for permission on whether the position request can be granted.” Sheha, 5:21-46; Williams-Decl., [0336]-[0337].

e. [1E]

As discussed *supra* §VI.E.1.e, Futagami teaches to prompt the *first wireless device* user to *assign the access rights on said server to said second wireless device* in response to a request as in [1D] (*supra* §XI.C.1.d). Futagami, 16:25-32, 17:8-13, 19:60-65, FIG. 20; Williams-Decl., [0338]. Darling reinforces this, as discussed *supra* §VI.E.1.e. Darling, 3:18-19; Williams-Decl., [0338]. As discussed *supra* §XI.C.1.b ([1B]), Sheha's *first wireless device* may *assign said location access rights to said second wireless device* by granting one-time permission, changing privacy settings, and/or making the *second wireless device* user a member of a group defined as having access to the *first wireless device's* location. Sheha, 5:29-34, 11:55-12:7; Williams-Decl., [0338]-[0339].

f. [1F]

Sheha teaches embodiments where the ODAS (*server*) implements the “authorization and authentication protocols” and the “group database” described in 11:63-12:7 for storing *location access rights* for specific users. *See* Sheha, 3:4-13, 4:8-18, 7:22-23, 8:42-53, 9:61-10:4; Williams-Decl., [0340]. Alternatively, storing the group permissions at the server would have been obvious, as Darling teaches and other prior art corroborates. Darling, 3:1-5 (“[T]he ***server stores permission information***”); Williams-Decl., [0340]-[0343] (citing corroborating EX1054 (“Sandhu”), 5:8-6:22; EX1007 (“Randall”), [0511]-[0514]; EX1015 (“Friedman”), 12:60-13:21).

Also, for any privacy settings set locally at the target device, it would have been obvious to store those settings at the server after verifying them by querying the device (Sheha, 4:64-66), so the server can then apply them to determine whether to release the device’s location to a requesting user. Williams-Decl., [0344].

Further, as discussed *supra* §VI.E.1.f, Futagami teaches to *store the access rights on said server* when the *first wireless device* user provides them in response to a request as in [1D]-[1E] (*supra* §§XI.C.1.d-XI.C.1.e). Futagami, 16:49-58, 19:66-20:7, 20:60-67, FIGs. 17, 20; Williams-Decl., [0345]-[0346].

g. [1G]

As discussed *supra* §XI.C.1.f ([1F]), Sheha discloses the server storing and utilizing *said access rights assigned by said first wireless device to said second wireless device*. Because Sheha’s target device may revoke access rights at any time, the server *determines* the requesting device’s access rights each time it provides updated location information. Sheha, 5:9-20, 5:34-46, 10:66-11:9, 11:44-51; Williams-Decl., [0347].

Additionally, Futagami teaches that the server “*determine[s]*” that “the restriction removal approval message has been received” from the *first wireless device*, such that *said access rights are assigned*. Futagami, 16:49-58; Williams-Decl., [0348]; *supra* §VI.E.1.g. Because the requesting device previously did not have *access rights* (*supra* §XI.C.1.b ([1B])), POSAs would have understood that Sheha-Darling-Futagami will *determine* that it now has been *assigned access rights* before giving it the requested information. Williams-Decl., [0348]-[0349].

h. [1H]

Sheha’s *server* provides the target device’s *location* to the requesting device if it has been granted *location access rights*. Sheha, 5:2-7, 5:32-34, 10:66-11:9, 11:44-51; Williams-Decl., [0350]. Further, Futagami teaches providing the requested information once the *first wireless device* has provided *said access rights*, as discussed *supra* §VI.E.1.h. Futagami, 16:49-61, 17:8-11, 19:66-20:7,

FIGs. 17, 20; Williams-Decl., [0350]; *see supra* §VI.E.1.h (discussing that claim 1 does not limit the order of performing elements [1F]-[1H], Futagami teaches either order, and any order would have been an obvious design choice). Because the requesting device previously did not have *access rights* (*supra* §XI.C.1.b ([1B])), POSAs would have understood that Sheha-Darling-Futagami only gives the requesting device the requested information dependent upon on a *determination* (*supra* §XI.C.1.g ([1G])) that it now has *access rights*. Williams-Decl., [0350]-[0351].

2. Claim 2

Sheha's requesting and target devices can be *cellular phones*. Sheha, 10:66-11:3; Williams-Decl., [0352]-[0353].

3. Claim 3

As discussed *supra* §XI.C.1 (claim 1), Sheha's *location access rights* include the ability to obtain said location. Because the *second wireless device* obtains the *first wireless device*'s location from the ODAS where it is stored, POSAs would have understood that the ODAS can *provide said location to said second wireless device even when said first wireless device is OFF*. Williams-Decl., [0354]. Darling confirms this understanding. Darling, 2:1-12; Williams-Decl., [0354]-[0355].

4. Claim 5

In FIG. 5 (annotated below), Sheha discloses displaying a “Map Caller-ID” on the requesting wireless device, with *location markers* 33-34 representing both devices’ locations. Sheha, 4:52-58, 9:23-28, 11:37-42; Williams-Decl., [0356].

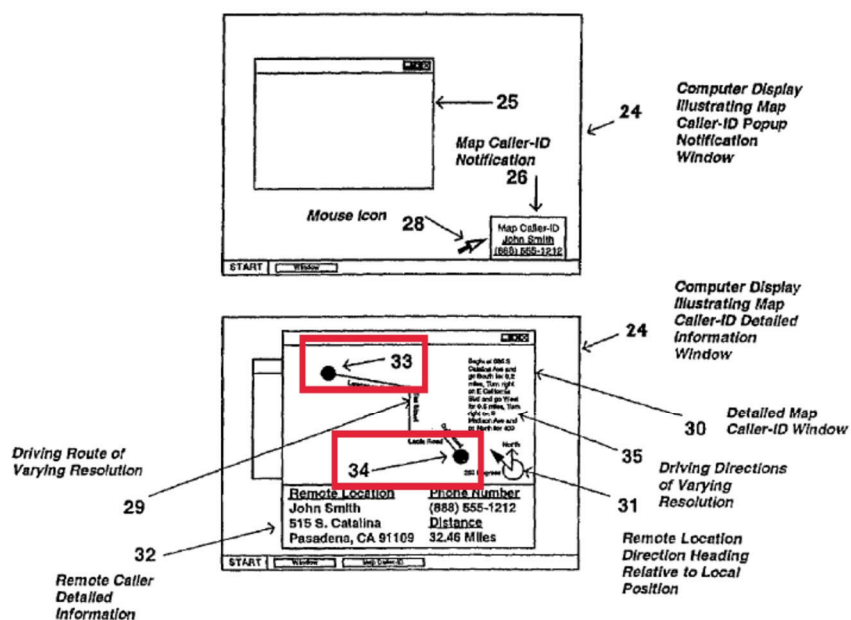


FIG. 5

Sheha discloses that such “a *map*...can be displayed on the mobile telephone.” Sheha, 4:43-58. While Figure 5 and 4:43-58 are presented in the context of examples involving a landline, they equally apply in the mobile-to-mobile context, which is “similar to a landline-to-mobile application.” Sheha, 4:59-5:11, 4:13-18; *see also id.*, 4:52-58, 11:36-12:7; Williams-Decl., [0357].

“[B]oth the originating and destination mobile device receive the Map Caller-ID.” Sheha, 11:42-44, 4:52-58, 11:10-51; Williams-Decl., [0357].

Alternatively, implementing Sheha to display the map, with the target device’s location, on either/both requesting and target wireless devices would have been obvious in view of POSAs’ background knowledge of the convenient option and reasonable expectation of success in doing so. Williams-Decl., [0358]-[0365] (citing corroborating EX1007 (“Randall”), [0021], p. 29; EX1054 (“Sandhu”), 6:22-50; EX1014 (“Wollrab”), FIGs. 1-4C; EX1017 (“Grube”), FIG. 2, 4:38-57, 5:13-17, 6:14-27, 6:59-7:6); EX1018 (“Meadows”), 2:2-7, 3:59-67, 5:48-57, FIG. 4b).

5. Claim 6

Sheha discloses using a target mobile device’s location “to obtain driving *directions* to that device” on a requesting device. Sheha, 5:21-34, 11:44-51, FIG. 5 (directions 35 along route 29 annotated below); Williams-Decl., [0366]-[0367].

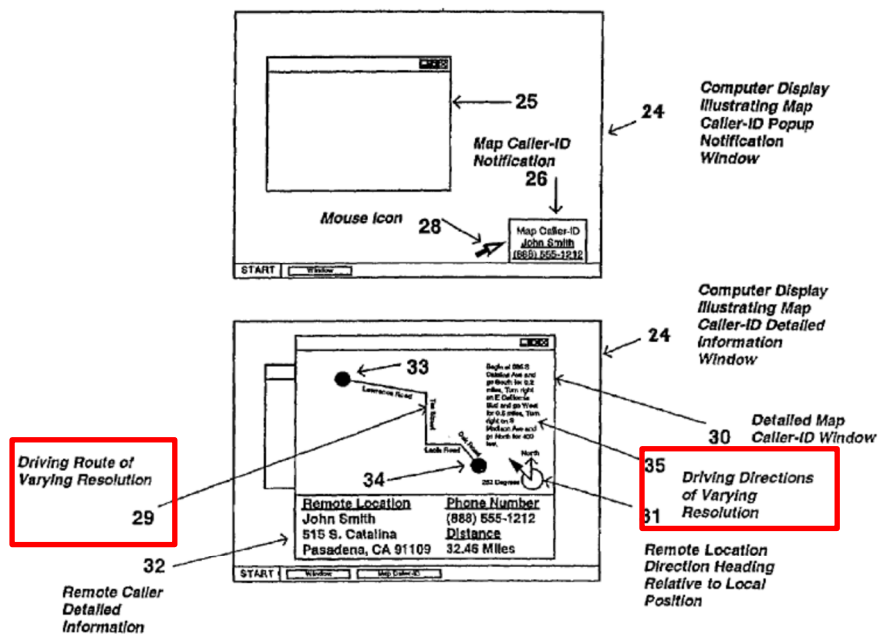


FIG. 5

6. Claim 11

Sheha discloses that a *non-wireless* “landline” device can *request* a mobile device’s location. Sheha, 9:50-10:4, FIG. 2; Williams-Decl., [0368]-[0369].

7. Claim 12

Sheha discloses *obtaining a second location* from a *non-wireless* landline device. Sheha, 7:51-55, 9:40-47, 10:52-60; Williams-Decl., [0370]-[0371].

8. Claim 13

Sheha discloses that “every...user has a username [i.e., *login*] and *password*” as “user *identification* information,” which the requesting device provides for “authentication and authorization procedures,” whereby the ODAS

determines “that a particular user is signed-on to the system on a *particular device*” and whether the “user is genuine.” Sheha, 8:38-53, 3:4-10, 5:26-29; Williams-Decl., [0372].

Darling and Futagami reinforce this teaching to meet claim 13, as discussed *supra* §VI.E.7. Darling, 11:12-20, 19:11-14; Futagami, 8:62-67; Williams-Decl., [0373]-[0374].

9. Claim 14

Sheha discloses requesting the target device’s location by *receiving a telephone number* of the target device as *input* on the requesting device. Sheha, Abstract, 10:66-11:23, 11:55-58; Williams-Decl., [0375]. Darling teaches allowing a user to “Find People” by inputting the target user’s “Mobile Number” as a “search field.” Darling, 34:22-35:33; Williams-Decl., [0375]-[0376].

10. Claim 15

As discussed *supra* §XI.C.1 (claim 1), Sheha’s user can define a list of authorized users and change their privacy settings at any time using the target device, *modifying location access rights*. Sheha, 5:9-20; 11:61-12:7; Williams-Decl., [0377]. Darling teaches allowing the user to “Add”/“Remove” contacts from the *location access* “List.” Darling, 33:16-34:3; Williams-Decl., [0377]-[0378].

11. Claim 16

Sheha's functionality discussed *supra* §XI.C.10 (claim 15) includes terminating another user's access "at anytime," thereby *deleting* that user's *location access rights*. Sheha, 5:12-14; Williams-Decl., [0379]. Darling teaches allowing the user to "Remove" contacts from the *location access* "List." Darling, 33:16-34:3; Williams-Decl., [0379]-[0380].

12. Claim 22

Sheha discloses requesting a mobile device's location *from a non-wireless* landline device (*supra* §XI.C.6 (claim 11)), which *does not comprise a positioning system*, as its location is obtained by reverse telephone-number lookup instead of GPS. Sheha, 10:47-52, 7:51-54, 9:43-47; Williams-Decl., [0381]-[0382].

13. Claim 23

Sheha's mobile device's *location is provided by a positioning system* (e.g., GPS). Sheha, 10:5-16; Williams-Decl., [0383]-[0384].

14. Claim 24

As discussed *supra* §VI.E.16, Darling teaches allowing each *wireless device* to provide a *dating matching profile*. Darling, 57:12-60:1. Darling teaches to obtain the devices' locations, "check[] for matches at the current location," and "send[]...a message" notifying of any matches, thus *utilizing the locations* and the *dating matching profiles to provide an alert*. Darling, 58:40-59:24; Williams-Decl., [0385]-[0386].

15. Claim 25

Sheha's map displays "North" arrow 31. Sheha, 9:30-34, FIG. 5 (excerpt annotated below); Williams-Decl., [0387].

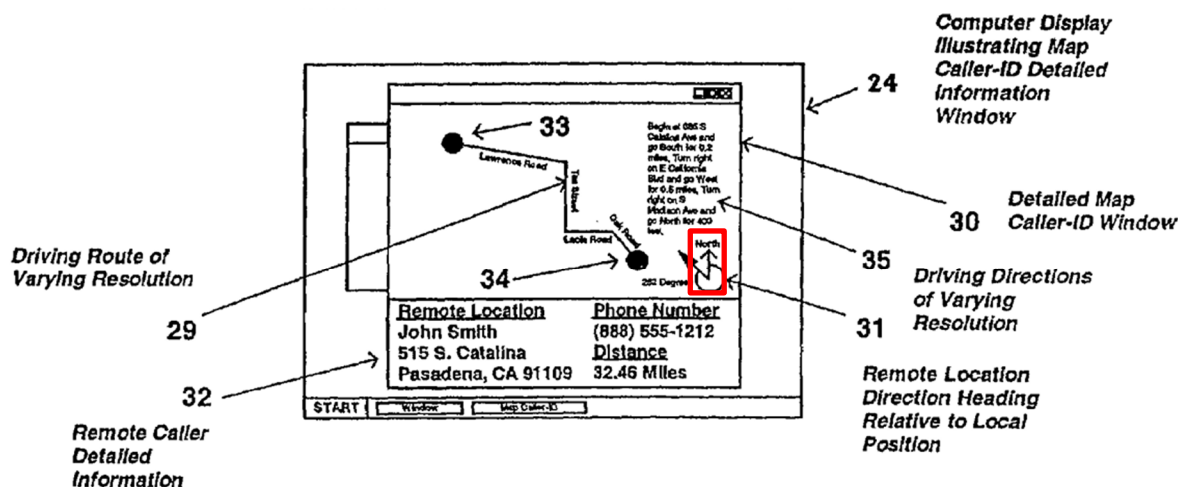


FIG. 5

It would have been obvious from background knowledge to implement this by *providing a compass* in Sheha's displaying wireless device. Williams-Decl., [0388]-[0389] (citing corroborating EX1072 ("Johnson"), Abstract, FIGs. 2A-2D, 1:41-65, 3:56-5:20, 6:6-31).

16. Claim 26

Sheha discloses *a directional arrow displaying the target device's location relative to the requesting device's location*. Sheha, 9:30-34, FIG. 5 (excerpt annotated below); Williams-Decl., [0390]-[0391].

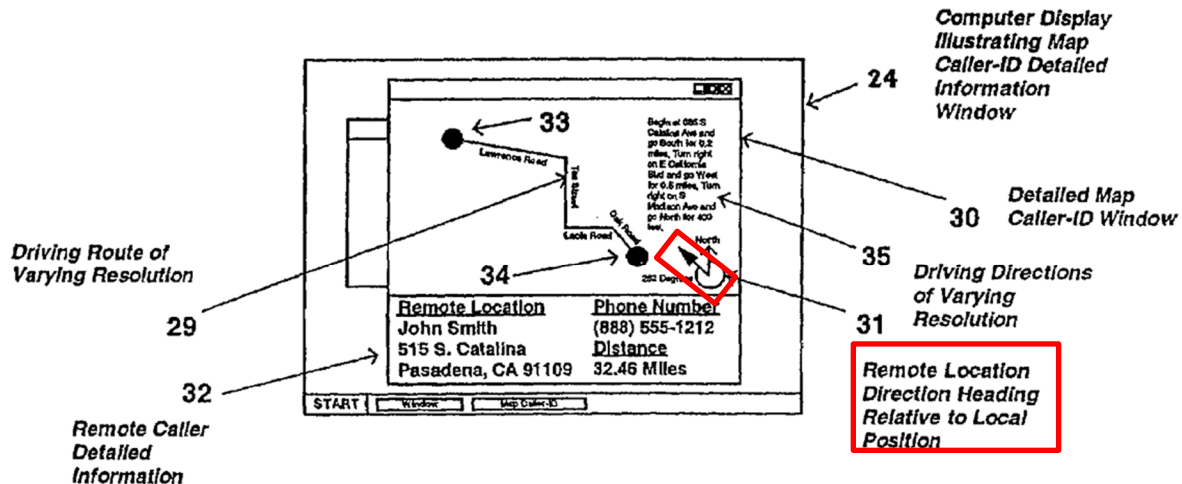


FIG. 5

17. Claim 29

Sheha discloses assigning *location access rights* for limited *periods of time*.

Sheha, 3:10-13; Williams-Decl., [0392]-[0393].

18. Claim 33

Claim 33 is met by Futagami's teachings discussed *supra* §VI.E.18, §XI.C.1.c ([1C]). Futagami, 15:40-62; Williams-Decl., [0394]-[0395].

19. Claim 34

Claim 34 is met by Futagami's teachings discussed *supra* §VI.E.19, and alternatively by Sheha's teaching of allowing access "only for an instance."

Sheha, 10:17-26; Futagami, 20:29-38, FIG. 21; Williams-Decl., [0396]-[0397].

20. Claim 35

Sheha's mobile devices may choose to *not allow* a requesting wireless device location access. Sheha, 5:37-46; 10:20-26; Williams-Decl., [0398]-[0399].

XII. GROUND 7: SHEHA+DARLING+FUTAGAMI+RYDEN

A. Sheha-Darling-Futagami-Ryden Combination

POSAs would have been motivated to incorporate Ryden's teachings (*supra* §§VII.A-VII.B) into Sheha-Darling-Futagami (*supra* §XI.B), to provide well-known navigation aids, and to allow locating a person/device when it is turned off. Williams-Decl., [0400]-[0402]. Because Sheha "provide[s] typical navigational functionality" and device locations, POSAs would have reasonably expected success incorporating Ryden's functionality. Sheha, 11:37-51, 12:8-31; Williams-Decl., [0402].

B. Mapping to Challenged Claims

1. Claims 3, 8

Sheha's *location access rights include the ability to obtain said location* (claim 3), as discussed *supra* §XI.C.1 (claim 1).

Ryden's teachings in Sheha-Darling-Futagami-Ryden meet the further limitations in claims 3 and 8 for the same reasons the same teachings meet the same claims in Randall-Darling-Futagami-Ryden *supra* §VII.C. Williams-Decl., [0403]-[0406], [0410]-[0412].

2. Claim 7

Sheha discloses *providing directions* as discussed *supra* §XI.C.5 (claim 6).

Ryden teaches to use *location* information to provide *a travel time* to help determine a “best meeting point” when two parties wishing to meet are moving, as in Sheha’s mobile-to-mobile scenario. Ryden, 19:49-61, 18:47-48, FIG. 17; Ryden-Prov., 35:12-16; Williams-Decl., [0407]-[0409].

3. Claim 27

Sheha *provides a compass* (*supra* §XI.C.15 (claim 25)). It would have been obvious from Ryden and background knowledge to *utilize the compass* to ascertain and *display the direction* the displaying device *is traveling in*. Ryden, 15:29-56; Ryden-Prov., 28:5-29:3; EX1025 (“Wako”), 9:8-11, FIGs. 1A-1B, FIGs. 5-12; EX1072 (“Johnson”), 5:28-6:39. Williams-Decl., [0413]-[0414].

XIII. GROUND 8: SHEHA+DARLING+FUTAGAMI+DE-VRIES

POSAs would have been motivated by De-Vries’s teachings (*supra* §§VIII.A-VIII.B) to provide notifications via Sheha’s wireless devices in Sheha-Darling-Futagami (*supra* §XI.B) when other users of interest are nearby, and to allow users to set rules/parameters for receiving notifications and to define what granularity of their location is disclosed to particular other device users, to better enable compatible mobile-device users to identify and navigate to each other. Williams-Decl., [0415]-[0418]. POSAs would have reasonably expected success based on De-Vries’s teachings of successfully implementing such functionality in a

system like Sheha's, where wireless device users access each other's locations.

Williams-Decl., [0418].

De-Vries's teachings in Sheha-Darling-Futagami-De-Vries meet claims 4, 9-10, 17-18, 28, and 30 for the same reasons the same teachings meet the same claims in Randall-Darling-Futagami-De-Vries *supra* §VIII.C. Williams-Decl., [0419]-[0434].

XIV. GROUND 9: SHEHA+DARLING+FUTAGAMI+SMITH

A. Smith (EX1023)

Smith describes displaying a contact list on a cellphone for selecting a contact of interest, including viewing contact location information. Smith, 5:15-18, 6:53-7:3, 7:41-49, 10:29-11:4, FIG. 15B (below), FIG. 16; Williams-Decl., [0435]-[0437].

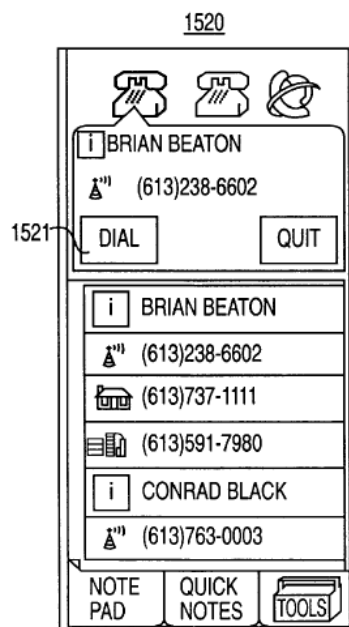


FIG. 15B

B. Sheha-Darling-Futagami-Smith Combination

As Smith demonstrates, contact-list functionality for selecting and viewing information about contacts was typical in wireless devices like Sheha's. POSAs would therefore have been motivated and reasonably expected success incorporating such functionality into Sheha-Darling-Futagami (*supra* §XI.B). Williams-Decl., [0438].

C. Mapping to Challenged Claims

1. Claim 19

Smith teaches well-known use of a contacts list (*identifier list*). Smith, 9:43-47, FIG. 15A (below); *supra* §XIV.A.

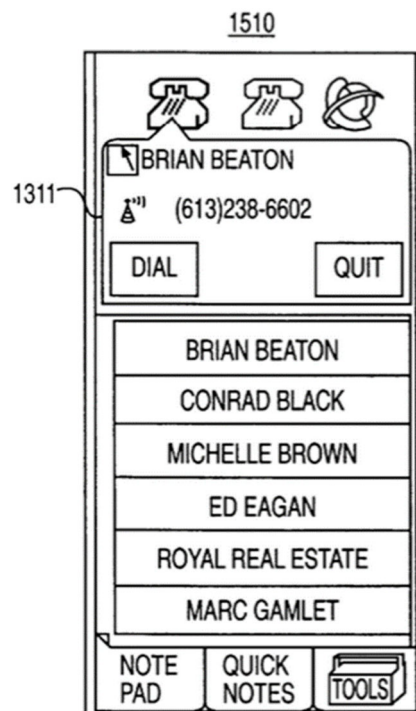


FIG. 15A

Sheha-Darling-Futagami-Smith's (*supra* §XIV.B) requesting-device user can *select* the target device from this *identifier list* as a convenient alternative to manual dialing (Sheha, 11:12-15). Williams-Decl., [0349]-[0441].

2. Claim 20

Smith teaches that the *identifier list*, from which *said first wireless device* is *selected*, *comprises* each contact's *telephone number*. Smith, 9:19-24, 9:50-57, FIGs. 15A-15B (below); Williams-Decl., [0442]-[0443].

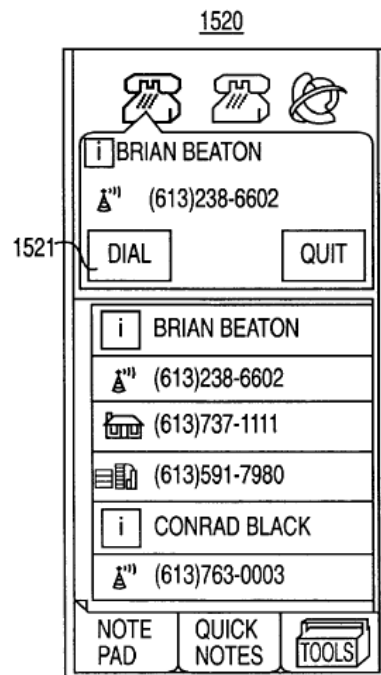


FIG. 15B

3. Claim 21

Smith discloses that each entry in the *identifier list*, from which *said first wireless device* is *selected*, represents a *user profile* including various information

for that user. Smith, 6:65-7:3, 8:18-19, 9:43-55, FIGs. 15A-15B (below); Williams-Decl., [0444]-[0445].

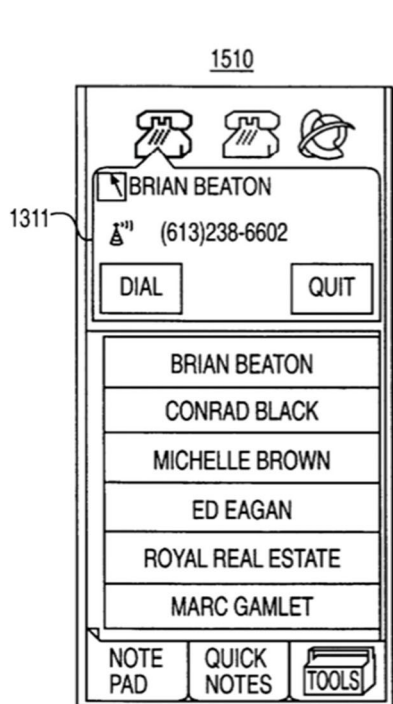


FIG. 15A

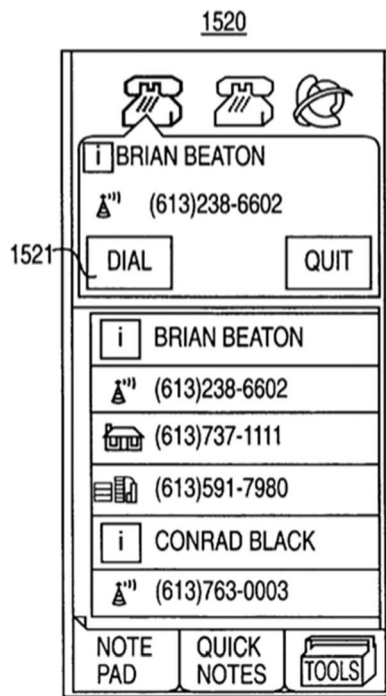


FIG. 15B

XV. GROUND 10: SHEHA+DARLING+FUTAGAMI+WOLLRAB

POSAs would have been motivated to incorporate into Sheha-Darling-Futagami (*supra* §XI.B) the Wollrab teachings discussed *supra* §§X.A-X.B, including storing a mobile device's location history, allowing the device to be located when it is turned off, for example, to locate a lost person/device. Williams-Decl., [0446]-[0448]. POSAs would have reasonably expected success because Wollrab's functionality would have required only straightforward modifications to integrate into Sheha. Williams-Decl., [0448].

Wollrab’s teachings in Sheha-Darling-Futagami-Wollrab meet claims 31-32 for the same reasons the same teachings meet the same claims in Randall-Darling-Futagami-Wollrab *supra* §X.C. Williams-Decl., [0449].

XVI. NO BASIS EXISTS FOR DISCRETIONARY DENIAL

A. Section 314(a)

1. *Fintiv*

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

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

a. Stay Potential

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

b. Trial Timing

A motion is pending to transfer the district-court proceeding to the Northern District of California (EX1036 at 8), where the median time-to-trial is 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 nearly six months away (EX1038 at 3), and “a significant portion of work remains to be done” including “fact and expert discovery and dispositive motions.” *Protect Animals With Satellites LLC v. OnPoint Sys., LLC*, IPR2021-01483, Paper 11 at 14-15 (Mar. 4, 2022).

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

d. Issue Overlap

This Petition challenges all 35 claims of the ’540 patent; only 25 are currently asserted (EX1039 at 2) and Mullen must ultimately elect “no more than 5” (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.

f. Other Circumstances

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

2. *General Plastic*

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

This “Petition is the first filed by Petitioner[s] against the” ’540 patent. *Id.* Petitioners have “different allegedly infringing products and in different district court proceedings” than Apple (petitioner in prior IPR2023-00098), have not coordinated with Apple regarding the ’540 patent, and thus have no “significant relationship” with Apple. *Ford Motor Co. v. Neo Wireless LLC*, IPR2023-00763, Paper 28 at 7, 10 (Mar. 22, 2024) (director review).

Moreover, this Petition presents new Randall-based Grounds 1-5 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, Wollrab and De-Vries were of record during prosecution of the '540 patent, but were not applied in any rejection, and were not considered in combination with Randall or Sheha. Ganesh, Friedman, Grube, and Meadows were also of record, but are used herein only as corroborating background references, different from any application in prosecution.

The Board considered Sheha, Ryden, and Smith in IPR2023-00098, but not in combination with Darling or Futagami, which teach the features the Board found missing. *See BMW of North America, LLC v. Michigan Motor Techs. LLC*, IPR2023-01031, Paper 12 at 13-14 (Jan. 23, 2024) (granting institution).

Furthermore, Grounds 1-5 based on Randall, which was not of record in prosecution or IPR2023-00098, warrant institution regardless of the status of Sheha-based Grounds 6-10. *Current Lighting Sols., LLC v. Jiaxing Super Lighting Electric Appliance Co., Ltd.*, IPR2023-00270, Paper 18 at 51 (Aug. 16, 2023).

XVII. CONCLUSION

The Board should institute review and cancel claims 1-35.

Dated: 2024-11-22

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 13,981 words excluding a table of contents, a table of authorities, Mandatory Notices under §42.8, a certificate of service or word count, or appendix of exhibits or claim listing. Petitioner has relied on the word count feature of the word processing system used to create this paper in making this certification.

Date: November 22, 2024

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

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

I certify that on November 22, 2024, I will cause a copy of the foregoing document, including any exhibits or appendices filed therewith, to be served via Overnight FedEx at the following correspondence address of record for the patent:

Jeffrey D. Mullen
2212 Hassinger Lane
Glenshaw, PA 15116

Date: November 22, 2024

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

XVIII. CLAIM LISTING

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

Claim 1
[1PRE] A method of mobile-to-mobile locating, said method comprising:
[1A] requesting a location of a first wireless device by a second wireless device from a server located remotely from said first and second wireless devices;
[1B] determining that said second wireless device does not have location access rights for said first wireless device;
[1C] asking said second wireless device if said location access rights are to be requested from said first wireless device after determining that said second wireless device does not have said location access rights for said first wireless device;
[1D] requesting that said location access rights be assigned for said second wireless device by said first wireless device;
[1E] assigning said location access rights on said server to said second wireless device by said first wireless device;
[1F] storing said location access rights on said server;
[1G] determining said access rights assigned by said first wireless device to said second wireless device on said server; and
[1H] providing said location from said server to said second wireless device dependent upon said access rights.
Claim 2
The method of claim 1, wherein said first and second wireless devices are cellular phones.
Claim 3
The method of claim 1, wherein said location access rights include the ability to obtain said location, wherein said location is provided to said second wireless device from said server even when said first wireless device is OFF.

Claim 4

The method of claim 1, wherein said location access rights comprise a plurality of access levels.

Claim 5

The method of claim 1, wherein said location is used to provide a location marker on a map on said second wireless device.

Claim 6

The method of claim 1, wherein said location is used to provide directions from said second wireless device to said location on said second wireless device.

Claim 7

The method of claim 1, wherein said location is used to provide directions from said second wireless device to said location and a travel time on said second wireless device.

Claim 8

The method of claim 1, further comprising requesting a second location of said first wireless device and using said location and said second location to determine how fast said first wireless device is traveling.

Claim 9

The method of claim 1, wherein said location access rights comprise a plurality of levels of access rights, at least one of said plurality of levels of access rights comprise the exact location of said first wireless device, and another one of said plurality of levels of access rights comprise an approximate location of said first wireless device.

Claim 10

The method of claim 1, wherein said access rights comprise a plurality of levels of access rights, at least one of said plurality of levels of access rights comprise an approximate location of said first wireless device, and said approximate location comprises a city or state.

Claim 11

The method of claim 1, further comprising requesting said location of said first wireless device by a non-wireless device.

Claim 12

The method of claim 1, further comprising obtaining a second location from a non-wireless device.

Claim 13

The method of claim 1, further comprising receiving a login and password from said second wireless device to identify said second wireless device.

Claim 14

The method of claim 1, wherein said location of said first wireless device is requested by receiving input, in the form of a telephone number of said first wireless device, on said second wireless device.

Claim 15

The method of claim 1, further comprising using said first wireless device to modify said location access rights for said second wireless device.

Claim 16

The method of claim 1, further comprising the ability to use said first wireless device to delete said location access rights for said second wireless device.

Claim 17

The method of claim 1, further comprising filtering information about said location such that only a portion of the information is passed to said second wireless device.

Claim 18

The method of claim 1, further comprising alerting said second wireless device when said first wireless device is within a distance of second wireless device.

Claim 19

The method of claim 1, further comprising selecting said first wireless device from an identifier list.

Claim 20

The method of claim 1, further comprising selecting said first wireless device from an identifier list wherein said identifier list comprises a list of telephone numbers.

Claim 21

The method of claim 1, further comprising selecting said first wireless device from an identifier list wherein said identifier list comprises a list of user profiles.

Claim 22

The method of claim 1, further comprising requesting a second location from said first wireless device from a non-wireless device, wherein said non-wireless device does not comprise a positioning system.

Claim 23

The method of claim 1, wherein said location is provided by a positioning system.

Claim 24

[24PRE] The method of claim 1, further comprising:

[24A] providing a first dating matching profile by said first wireless device;

[24B] providing a second dating matching profile by said second wireless device;

[24C] obtaining a second location, wherein said second location is the location of said second wireless device; and

[24D] utilizing said location, said second location, said first dating matching profile, and said second dating matching profile to provide an alert.

Claim 25

The method of claim 1, further comprising providing a compass in said second wireless device.

Claim 26

The method of claim 1, wherein a directional arrow is utilized to display the location of said first wireless device relative to said location of said second wireless device on said second wireless device.

Claim 27

The method of claim 1, further comprising providing a compass in said second wireless device, wherein said compass is utilized to display the direction that said second wireless device is traveling in.

Claim 28

The method of claim 1, further comprising setting location alerts associated with said first wireless device on said second wireless device.

Claim 29

The method of claim 1, wherein said location access rights are only assigned for a period of time.

Claim 30

The method of claim 1, further comprising alerting said second wireless device when said first wireless device enters a geographic area.

Claim 31

The method of claim 1, wherein said server stores a history of locations for said first wireless device.

Claim 32

The method of claim 1, wherein said server stores a history of locations for said first wireless device and said history is utilized to provide an approximate location of said first wireless device when said first wireless device is turned OFF.

Claim 33

The method of claim 1, further comprising displaying on said second wireless device the opportunity to request said location access rights from said first wireless device.

Claim 34

The method of claim 1, wherein said first wireless device is requested to manually allow said location access rights for said second wireless device every time said second wireless device requests said location.

Claim 35

The method of claim 1, wherein one of said location access rights is the ability to not allow said second wireless device to access said location.