UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS, LLC,
Petitioner,

v.

IKORONGO TECHNOLOGY LLC,
Patent Owner

Case: IPR2020-01379
U.S. Patent No. RE45,543

PETITION FOR *INTER PARTES* REVIEW OF CLAIMS 45, 47-57, 60-62, 64-68, 71-72, and 76 OF U.S. PATENT NO. RE45,543

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CLAIM LISTING

Claim 45:

[45P] A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:

[45A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[45B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[45C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[45D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[45E] wherein in order to enable the definition of the access rights for the one or more other users to access the visited geographic location data, the software further instructs the controller of the location-aware device to receive, via a user interface of the location-aware device, input that defines at least one user of the one or more other users from the one or more lists of other users that is to have access to the visited geographic location data.

Claim 47:

[47P] A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:

[47A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[47B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[47C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[47D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[47E] wherein the one or more lists of other users comprises an Instant Messaging buddy list of the user of the location-aware device.

Claim 48:

[48P] A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:

[48A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[48B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[48C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[48D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[48E] wherein the one or more lists of other users comprises a contact list maintained on the location-aware device.

Claim 49:

[49P] A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:

[49A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[49B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[49C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[49D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[49E] wherein the one or more lists of other users comprises an e-mail contact list of the user of the location-aware device.

Claim 50:

[50P] A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:

[50A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[50B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[50C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[50D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[50E] wherein the visited geographic location data further defines ratings assigned to one or more of the geographic locations visited by the location-aware device.

Claim 51:

[51P] A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:

[51A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[51B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[51C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[51D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[51E] wherein the visited geographic location data further defines comments on one or more of the geographic locations visited by the location-aware device.

Claim 52:

[52P] A non-transitory computer-readable medium storing software for instructing a controller of a location-

aware device that is capable of being registered with a registration server to:

[52A] enable access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared;

[52B] enable definition of access rights for the one or more other users to enable access to the visited geographic location data;

[52C] collect the visited geographic location data for geographic locations visited by the location-aware device using a client-side application; and

[52D] report information indicating at least a portion of the visited geographic location data to a tracking server;

[52E] wherein the visited geographic location data further defines emoticons assigned to one or more of the geographic locations visited by the location-aware device.

Claim 53:

[53P] A method of operation of a server to share computer usage experiences, comprising the following computer-implemented steps:

[53A] receiving, at the server, a registration for automatic client-side collection and sharing of visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the visited geographic locations using a satellite-based location-fixing protocol;

[53B] enabling access to one or more messaging buddy lists and selection of one or more buddies with whom the visited geographic location data may be shared from the one or more messaging buddy lists;

[53C] obtaining defined rights of the one or more buddies to access the visited geographic location data; and

[53D] reporting information indicating at least a portion of the visited geographic location data for the one or more buddies to access according to the rights defined for the one or more buddies.

Claim 54:

[54P] A method of operation of a client-side application including:

[54A] sending registration information to a registration server to collect and share visited geographic location data using the client-side application while visiting geographic locations with a location-aware device that records the visited geographic locations using a satellite-based location-fixing protocol;

[54B] enabling identification of one or more buddies with whom the visited geographic location data may be shared from one or more messaging buddy lists;

[54C] enabling definition of rights of the one or more buddies to access the visited geographic location data; and

[54D] reporting information indicating at least a portion of the visited geographic location data to a tracking server.

Claim 55:

[55P] A non-transitory computer-readable medium storing software for instructing a controller of a registration and tracking server to:

[55A] receive, at the registration and tracking server, a registration to collect and share visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the geographic locations using a satellite-based location-fixing protocol;

[55B] enable access to one or more lists of other users to identify one or more other users with whom the visited geographic location data may be shared;

[55C] obtain defined rights of the one or more other users to access the visited geographic location data; and

[55D] report information indicating at least a portion of the visited geographic location data for the one or more other users to access according to the rights defined for the one or more other users.

Claim 56:

[56P] A non-transitory computer-readable medium storing software for instructing a controller of a device to:

[56A] communicate with a registration server to register with the registration server to collect visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that

records the geographic locations using a satellite-based location-fixing protocol;

[56B] enable a user to select one or more other users with whom the visited geographic location data may be shared from one or more lists of other users;

[56C] enable the user to define rights of the one or more other users to access the visited geographic location data; and

[56D] report information indicating at least a portion of the visited geographic location data for the one or more other users to a tracking server.

Claim 57:

[57P] A method of operation of a server computer comprising:

[57A] receiving registration information from a location-aware device;

[57B] receiving information indicating visited geographic location data from the location-aware device, the visited geographic location data being data defining geographic locations collected at the location-aware device from a client-side application, wherein the location-aware device records the geographic locations using a satellite-based location-fixing protocol;

[57C] obtaining access rights for one or more other users to allow for access to the visited geographic location data, the one or more other users being one or more other users

from one or more lists of other users with whom the visited geographic location data is to be shared; and

[57D] sharing at least a portion of the visited geographic location data with the one or more other users according to the access rights defined for the one or more other users.

Claim 60:

The method of claim 57 wherein the one or more lists of other users comprises an Instant Messaging buddy list of the user of the location-aware device.

Claim 61:

The method of claim 57 wherein the one or more lists of other users comprises a contact list maintained on the location-aware device.

Claim 62:

The method of claim 57 wherein the one or more lists of other users comprises an e-mail contact list of the user of the location-aware device.

Claim 64:

The method of claim 57, further comprising:

offering up to the client-side application context sensitive information associated with the geographic locations visited by the location-aware device.

Claim 65:

The method of claim 64, wherein the context sensitive information may include ratings of the geographic locations visited by the location-aware device.

Claim 66:

The method of claim 57, further comprising:

presenting information to the client-side application based on information received regarding the geographic locations visited by the location-aware device.

Claim 67:

The method of claim 57, further comprising:

downloading client software to the location-aware device.

Claim 68:

The method of claim 57, further comprising:

aggregating information received from the location-aware device with information from the one or more other users.

Claim 71:

[71P] A non-transitory computer-readable medium storing software for instructing a controller of a server to:

[71A] receive a registration to collect and share visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the geographic locations using a satellite-based location-fixing protocol;

[71B] enable access to one or more lists of other users to identify one or more other users with whom the visited geographic location data may be shared;

[71C] obtain defined rights of the one or more other users to access the visited geographic location data; and

[71D] report information indicating at least a portion of the visited geographic location data for the one or more other users to access according to the rights defined for the one or more other users.

Claim 72:

[72P] A location-aware mobile device having a controller and memory, wherein the controller is configured to:

[72A] send location information to a server while visiting geographic locations, the location information comprising geographic data recorded by the location-aware mobile device using a satellite-based location-fixing protocol;

[72B] enable access to one or more lists of other users to identify one or more other users with whom the visited geographic location data may be shared;

[72C] enable definition of rights of the one or more other users to access the visited geographic location data; and

[72D] send information indicating at least a portion of the visited geographic location data to a server.

Claim 76:

[76P] A system for collecting and sharing visited geographic location data, comprising:

[76A] a location-aware device adapted to:

[76A1] record geographic location data while visiting geographic locations using a satellite-based location-fixing protocol;

[76A2] enable access to one or more lists of other users to identify one or more other users with whom the geographic location data may be shared;

[76A3] enable definition of rights of the one or more other users to access the geographic location data; and

[76A4] send at least a portion of the geographic location data to a tracking server; and

[76B] the tracking server adapted to:

[76B1] receive the at least a portion of the geographic location data from the location-aware device; and

[76B2] share the at least a portion of the geographic location data with the one or more other users in accordance with the rights of the one or more other users.

Unified Patents, LLC requests *inter partes* review of claims 45, 47-57, 60-62, 64-68, 71-72, and 76 of U.S. Patent RE45,543 ("RE'543").

I. THE RE'543 PATENT

A. LINEAGE

The RE'543 patent is, through several continuations, a reissue of U.S. 7,080,139, filed April 24, 2001. Ex. 1001, cover. The RE'543 patent issued from a second continuation of that initial reissue application.

B. THE RE'543 PATENT

The RE'543 patent explains that the Internet has led to "new channels of communication" including e-mail and instant messaging. Ex. 1001, 1:28-32. The patent purports to recognize an opportunity for "new way of sharing experiences" and study of "channels of communications and vectors of influence." *Id.*, 1:42-46.

"The present invention includes methods and devices for sharing communication device usage experiences, including computer usage experiences." *Id.*, 1:50-52. "Buddies" on instant messaging buddy lists "can share selected aspects of their computer-usage experiences." *Id.*, 2:47-49. The system includes several database types: a "visited URL database" ("VUD"), a "visited location database" ("VLD"), and a visited item database. *Id.*, 3:1-6, 3:27-30, 3:57-4:3. Access to a user's data is defined by an access control list ("ACL") which a user can establish "via buddy list and access control list administration functions." *Id.*, 4:7-13. The

buddy list may be tied into an instant messenger buddy list or an e-mail list. *Id.*, 4:51-56, 5:3-11, 8:8-28, 13:52-16:58.

Devices can be tracked with GPS "or any other location fixing protocol." *Id.*, 3:50-56. Devices report their location and the system provides information on "the proximity of buddies or buddies of buddies." *Id.*, 5:36-42. Location data can be provided from a mobile device to a server based on an interrupt, polling, or periodically. *Id.*, 16:62-66. Users can turn sharing off or on; when it is off, the user's activity will not be shared with buddies. *Id.*, 6:42-48, 18:46-47. Information about a device's location can be entered into a "location network directory," and can include "the devices' location address, location description, a timestamp, and user ID." *Id.*, 16:67-17:2. Users can comment on locations, associate emoticons with locations, or give locations a rating; this data can be recorded in a location database. *Id.*, 17:5-26, 18:61-65.

C. PROSECUTION HISTORY

1. Application No. 09/841,475 (The '139 Patent)

Most of the claims filed with the application leading to the now-reissued '139 patent were rejected for obviousness. Ex. 1004, 169-178, 230-235. The key references relied upon in rejecting the claims were U.S. Patent Application Publication No. 2002/0087496 to Stirpe (Ex. 1009) and U.S. Patent No. 6,480,885 to Olivier (Ex. 1011). *Id.*, 169, 171. Stirpe describes a "knowledge commerce

system" for e-learning. Ex. 1009, Abstract, ¶¶ [0003]-[0004]. Olivier describes a centralized interest matching service to enhance e-mail mailing lists. Ex. 1011, 3:8-16, 4:48-59, 5:54-61.

In response to the rejections, the applicants amended claim 1 to define the types of "computer usage experiences" that can be collected and shared (i.e., visiting URLs, visiting locations). Ex. 1004, 145. The applicants argued that Stirpe does not disclose registering users to collect and track "data corresponding to computer usage experiences, defin[ing] buddy list rights to access tracked data or track[ing] the user's computer usage experiences and report[ing] the experiences to a server." Ex. 1004, 152-153. They also contended Olivier did not track or share computer usage experiences. *Id.*, 155.

The examiner maintained the rejection based on Olivier. Ex. 1004, 122-132. In response, the applicants changed the claim term "computer" to "location-aware device." *Id.*, 96. The applicants then distinguished Olivier as teaching registration to an "e-mail group list management system," and not a system for "automatic tracking of" computer usage experiences. Olivier also does not access a buddy list, and instead "discloses sending e-mail to an e-mail group list management server, not a user's buddies." Ex. 1004, 104-105.

The applicants further amended the claims to require "automatic client-side collection of computer usage experiences for future sharing," automatic sharing of

collected usage experiences, defining categories of usage experiences, and publication of experiences to particular buddies. Ex. 1004, 86-91. These concepts had been discussed in an interview during which "the Examiner embraced automatic, client-side data collection."[1] *Id.*, 92. The examiner canceled certain claims and allowed the rest of them because they recited tracking user computer usage experiences "by a client-side application," automatically sending such data "to a server for subsequent posting/publication/distribution to the designated users," and selecting which users to authorize sharing information with. Ex. 1004, 59. This was distinguishable from "well-known electronic bulletin board[s]," chat groups, and community sharing. *Id.*, 60.

2. Application No. 12/172,518 (First Reissue)

The patentee filed this first reissue application adding claims 33-76 "to broaden what was claimed in the '139 Patent" by replacing a buddy list with a "list of other users," and to specify experiences like listening to songs, viewing videos, and purchasing items. Ex. 1005, 187-194. Based on a telephonic interview, additional amendments were made, new claims were added, and claims were deemed allowable. *Id.*, 102-111. The examiner explained that "client-side passive

[1] The absence of the added limitations from claims added during reissue raises recapture concerns; but those cannot be addressed in IPR.

tracking on [sic of] computer usages is well known in user profiling," the ability to choose who to share the data with "on individual level" was not in the prior art. Ex. 1005, 75. Additionally prior art systems for sharing photographs were distinguishable because the claims required sharing "geographic information." *Id.*, 76.

3. Application No. 12/820,579 (Second Reissue)

This reissue application amended certain original claims and added claims. The references relied upon in rejecting the claims included Stirpe, *e.g.*, Ex. 1006, 317-337, 614-619, U.S. Patent No. 6,606,657 to Zilberstein et al. (Ex. 1017), U.S. Patent No. 6,578,072 to Watanabe (Ex. 1008), and Olivier in various combinations. *Id.*, 317-337.

After several exchanges, the examiner allowed the claims in part because in the prior art information sharing "typically is NOT subjected to each information contributor's approval as to who could share the data." Ex. 1006, 79. The prior art did not disclose a system to allow a user to "control the sharing list on individual level [sic]." *Id.*, 79-80. A reference to Watanabe, which related to sharing of photographs, failed to disclose automatic/passive tracking of data at the user's computer, and "sharing photographs is very different from sharing computer usage experiences (i.e., the prior art of Watanabe and Olivier or Mintz are not of the same field of endeavor), ..." *Id.* Stirpe allowed information to be "made available to

whoever request for it [sic]." *Id.*, 80. Finally, Zilberstein "focused only on real-time online exchange of information," not collecting content and categorizing it for subsequent sharing. *Id.*

4. Application No. 13/894,009 (RE'543)

This reissue added computer-readable medium claims and more dependent claims. Ex. 1007, 458. The claims were rejected over U.S. Application Publication No. 2001/0036224 to Demello et al. (Ex. 1010), Watanabe, and Olivier. Ex. 1007, 223-237, 287-298. Claims 45-46, 58, 61-67, 76, and 80 were deemed allowable if rewritten in independent form. These claims recited defining categories of information to be shared, different types of lists of users, different types of location information like ratings, comments, and emoticons. *Id.*, 248-249.

The patentee argued Demello "teaches 'passive location positioning of wireless handsets for the purposes of delivering targeted data to users in a wireless communications network while protecting the privacy of users.'" Ex. 1007, 256 (quoting Ex. 1010, Abstract). The patentee argued Demello did not "enable[e] access to one or more lists of other users to identify one or more other users with whom visited geographic location data is capable of being shared." Ex. 1007, 257-258. And, in Demello location data was only shared between "the wireless network and the mediation server (19)," not "one user with one or more other users." *Id.*, 258. Demello also failed to teach "defining access rights for one or more other users

to enable access to the location data." *Id.*, 258-259.

The patentee argued Watanabe does not disclose sharing visited location data using a client-side application, and instead related to sharing photographs and that photographs of landmarks was not geographic location data. *Id.*, 262-263. Moreover, Watanabe failed to disclose enabling access to buddy lists to select who photographs are shared with or enabling access rights for buddies. *Id.*, 263-264. Additionally, Watanabe failed to disclose sending information indicating at least a portion of visited geographic location data to a tracking server to allow it to be shared with buddies. *Id.*, 264-265. The examiner made the rejection final, but also indicated dependent claims 91-95 were also allowable if incorporated into an independent claim. *Id.*, 234. These claims included specific types of location fixing protocols. *Id.*, 268. The claims were then amended to include the previously-indicated allowable subject matter. *Id.*, 199. The claims would later be allowed without further comment. *Id.*, 94.

5. The Grounds Presented Herein Raise New Issues Not Previously Considered by the Office

The grounds rely on references not identified during any stage of prosecution of the RE'543 patent. De Vries (Ex. 1012) teaches features that the examiner was unable to find in Stirpe's e-learning system, Watanabe's photograph sharing system, Olivier's e-mail group management system, Zilberstein's website usage tracking system, or Demello's system for pushing location-based data to users based on their

own location data. Unlike the prior art applied during examination, De Vries teaches using GPS-enabled mobile devices to track the location of the device, and selection of which users on a "buddy list" are to have access to location data by setting "visibility parameters" for each user individually or based on groups of users. Ex. 1012, 5:20-55, 7:33-43, 8:41-67, 9:32-10:11. Neither these teachings—or any like them—were considered when the decision to grant the RE'543 patent was made. This Petition thus presents new issues warranting an exercise of discretion to institute trial. 35 U.S.C. §325(d).

II. PERSON OF ORDINARY SKILL IN THE ART ("POSA")

A person of ordinary skill in the art ("POSA") at the time of the alleged invention in April 2001 would have had a Bachelor's degree in electronic engineering or computer science, and two years of work experience in location-based systems, user interfaces and databases, though additional education or work experience can make up for more or less formal education. Ex. 1002, ¶¶ 23-24.

III. CLAIM CONSTRUCTION

Claim terms are construed according to their ordinary and customary meaning as understood by a POSA in light of the intrinsic record. 37 C.F.R. §42.100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). Besides the issues raised below, Petitioner submits that the terms do not need an express construction.

A. "THAT IS CAPABLE OF BEING REGISTERED WITH A REGISTRATION SERVER" (PREAMBLE, CLAIMS 45, 47-52)

This phrase in the preambles of claims 45 and 47-52 is not a limitation. "Generally the preamble does not limit the claims." *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). Here, "all of the considerations that ordinarily inform the decision whether to treat preamble language as limiting support the conclusion that the preamble in this case does not limit the claims." *Aspex Eyewear, Inc. v. Marcon Eyewear, Inc.*, 672 F.3d 1335, 1347 (Fed. Cir. 2012). Claims 45 and 47-52 "recite structurally complete inventions without the preamble language." *Id.* Only the preambles refer to registration or a registration server, while other claims do so in their body (e.g., claim 57). The phrase "capable of" reflects intended use of the location-aware device, further suggesting non-limiting language. *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1350 (Fed. Cir. 1998) ("intended use or purpose of the invention" in a preamble "usually does not limit the scope of the claims" unless it provides an antecedent to other limitations).

B. "TO SHARE COMPUTER USAGE EXPERIENCES" (PREAMBLE, CLAIM 53)

This preamble term is not limiting because the concept of "computer usage experiences" is not mentioned again in claim 53, it is a statement of intended usage, and the body of the claim itself recites "receiving, . . . a registration for automatic client-side collection and sharing of *visited geographic location data*, as opposed to "computer usage experiences." Ex. 1001, 25:28-30. Thus, the body of the claim

recites a complete method without reference to this intended use phrase in the preamble.

If limiting, this phrase should be construed to include a method of operating a server to share "visited location data," and other data such as visited item or URL data, consistent with the specification of the RE'543 patent, which describes a variety of "computer usage experiences" including visiting a location, URL, or item. Ex. 1001, 2:51-54, 4:25-27, 17:42-46, 18:54-58. Indeed, original claim 1 indicates that "computer usage experiences including one or more of browsing URLs or visiting a location with a location-aware device that records the visited location . . . ." *Id.*, 20:23-26.

IV. PRIOR ART OVERVIEW

A. DE VRIES (EX. 1012)

De Vries was filed on July 27, 2000 and issued on November 22, 2005, thus making it prior art under at least §102(e).

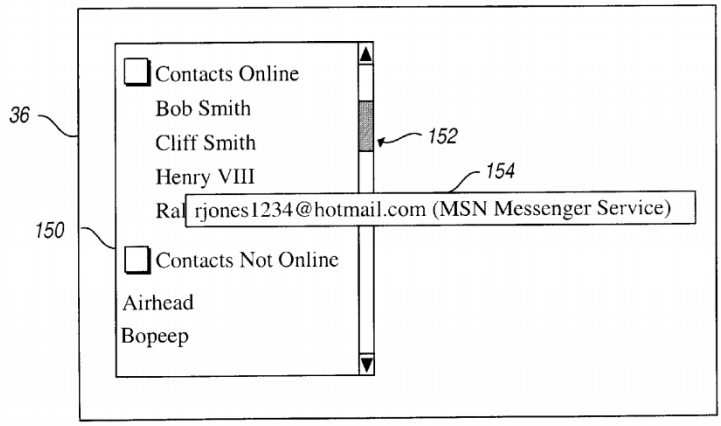
De Vries discloses an "information service" that can be configured to share location data between users of the system using personal mobile data communications devices equipped with GPS. Ex. 1012, Abst., 5:20-42. The "information service" supports various "service parameters," which can be "designated explicitly by the user," and can be stored either in a database by the service or on the user's personal mobile communications device. *Id.*, 8:41-67. One

such parameter is a "visibility parameter," which allow a user to tell the system whether their location is "either visible or not visible to a particular user or group of users." *Id.*, 9:32-45. Buddy lists may be defined to list people "about whom the user desires to be informed by the information service 100." *Id.*, 7:33-43.

B. AUERBACH (EX. 1016)

Auerbach was filed on July 21, 1999, thus making it prior art under at least 35 U.S.C. §102(e).

Auerbach discloses a "system for multi-protocol communication" using software to present a common instant messaging interface that allows messages to be sent between different messaging service providers. Ex. 1016, Abstract. Auerbach discloses techniques associated with contact lists, such as email and messaging lists. Ex. 1016, 5:10-16, Fig. 4B. For example, Auerbach explains that "[t]he system utilizes contact lists for each service provider and translates the contact lists to a standard display format to permit the client 102 to display a single contact list of the display 36 (see FIG. 1)." *Id.*, 5:49-52, 6:10-13. The contact list can be stored locally. *Id.*, 6:20-26.



C. JONES (EX. 1013)

1. Prior Art Status

Jones was filed on July 3, 2001 and claims the benefit of a provisional application filed July 10, 2000. Ex. 1013, cover. Under *Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1380 (Fed. Cir. 2017), the provisional application provides the correct § 102(e) date for Jones because at least one published claim is supported by the provisional application, as shown in the table below.

Jones Claim 6 (Ex. 1013)	**Provisional No. 60/217,089 (Ex. 1014)**
A method for receiving and providing spatial-temporal information via a distributed network, the method comprising:	"Spatial-temporal information can be entered into the system semi-automatically at the users discretion by a variety of mobile devices. During this semi-automated process the relevant user details, geographical coordinates and time are automatically stored or sent by the device to a geomemory system. In this way the user can easily add highly accurate and relevant spatial-temporal information into a personal information management system . . . ." Ex. 1014, 3, 14 (referring to "the Internet");[2] Ex. 1002, ¶¶ 67-68 (citing Ex. 1023, Ex. 1024 showing the Internet is a distributed network).
receiving a plurality of geographical bookmarks from one or more remote users;	"*Geomarks* can be received from a variety of electronic devices (primarily wireless) including mobile phones and personal digital assistants." Ex. 1014, 3; Ex. 1002, ¶ 69. "Geomarks" are "geographical bookmarks." Ex. 1014, 3.
compiling the plurality of geographical bookmarks in one or more databases	"Geomarks can be sent/stored on the geomemory system . . . ." Ex. 1014, 7. "The system consists primarily of a database driven website . . . ." *Id.*,

[2] Page numbers refer to numbering added to the exhibit.

Jones Claim 6 (Ex. 1013)	Provisional No. 60/217,089 (Ex. 1014)
accessible by the one or more remote users; and	3. "The information contained in the database supporting the web site is used to profile locations." *Id.*, 4. Locations are profiled "by merging user-generated content with data contained in existing geographical information systems (GIS) databases and over the Internet." *Id.; see also id.*, 10, 14 (referring to "geomark database-s" and using "the geomark database to retrieve recommendations regarding locations"), 18 (Fig. 2 showing Geomark database and multiple devices providing geomark data); Ex. 1002, ¶ 70.
providing user access to the plurality of geographical bookmarks,	"The web site allows people to find information about other users that have visited a specified geographical location, and their ratings and or comments about the place. Ex. 1014, 4. "[A] user who has stored a geomark about an area associated with a particular shop would typically when using a browser to retrieve information about that geomark receive not only geographical and temporal co-ordinates, but also attached material such as pictures, comments and ranks." *Id.*, 6. "A search engine allowing users to obtain information [sic] spatial-temporal information linked to individuals, groups or communities, or places by keywords and/or geographic features." *Id.*, 11; Ex. 1002, ¶ 72.
wherein each of the geographical bookmarks comprises a destination profile, the destination profile including an annotated description of the destination by the one or more remote users.	"[A] user who has stored a geomark about an area associated with a particular shop would typically when using a browser to retrieve information about that geomark receive not only geographical and temporal co-ordinates, but also attached material such as pictures, comments and ranks." *Id.*, 6. Comments and ranks are annotated information related to the location and are part of the information "the user can easily add" to the system. *Id.*, 3, 5. The location information constitutes a destination profile

Jones Claim 6 (Ex. 1013)	Provisional No. 60/217,089 (Ex. 1014)
	because users can obtain "geomarks and data about a place to be visited in the near future," such as "a profile or geomemory data related to Hawaii in two months time." *Id.*, 11; Ex. 1002, ¶ 73.

2. Jones Overview

Jones relates to a system for the "sharing of user annotated spatial-temporal based information." Ex. 1013, Abstract. Users provide "annotated spatial-temporal based information to" a system for storage and future reference using GPS-enabled mobile devices. *Id.*, ¶ [0016]. The information stored for a location can include "ratings and or comments." *Id.*, ¶ [0005]. The system can also include "[t]ools for individuals to share geomarks with friends/buddies."[3] Ex. 1014, p.10.

D. ZILLIACUS (EX. 1018)

Zilliacus was filed on December 22, 1999, thus making it prior art under at least §102(e). Ex. 1018, cover.

Zilliacus describes a system for registering for access to an application "with a selectable lifetime from an application database to a mobile terminal." Ex. 1018, Abstract. The system improves management of mobile device memory and makes

[3] The provisional application is incorporated by reference in Jones in its entirety. Ex. 1013, ¶ [0001].

installing and uninstalling applications on mobile devices simple. *Id.*, 3:16-28. Zillicaus explains that "[d]ownloading content to a mobile terminal is regularly performed." *Id.*, 1:54-55. And, it teaches a way to register a user's device to allow access to the software application by recording SIM and IMEI data in a database. Ex. 1018, 4:64-65, 5:20-37, 5:41-49, 7:16-26, 8:23-25.

V. OVERVIEW OF CHALLENGE AND RELIEF REQUESTED

Petitioner challenges claims 45, 47-57, 60-62, 64-68, 71-72, and 76 of the RE'543 patent as follows:

Ground	Claims	Reference(s)	Statute
1	45, 48, 72, 76	Anticipation by De Vries	§102(e)
2	45 and 48	Obviousness over De Vries	§103(a)
3	47, 49	Obviousness over De Vries and Auerbach	§103(a)
4	50-52	Obviousness over De Vries and Jones	§103(a)
5	53-57, 61, 64, 66, 67, 68, 71	Obviousness over De Vries and Zilliacus	§103(a)
6	65	Obviousness over De Vries in view of Zilliacus and further in view of Jones	§103(a)
7	60, 62	Obviousness over De Vries in view of Zilliacus and further in view of Auerbach	§103(a)

VI. DETAILED DISCUSSION OF UNPATENTABILITY

A. GROUND 1: CLAIMS 45, 48, 72, AND 76 ARE ANTICIPATED BY DE VRIES

1. Claims 45 and 48

a. [45P], [48P]: "A non-transitory computer-readable medium storing software for instructing a controller of a location-aware device that is capable of being registered with a registration server to:"

De Vries discloses the preambles. De Vries discloses a non-transitory computer-readable medium storing software. De Vries's "mobile networked computing or telecommunications devices 120-123," Ex. 1012, 4:60-65, "include at least some form of computer readable media," *id.*, 12:65-13:9, 12:40-51 (referring to "system memory"), Fig. 6; Ex. 1002, ¶¶ 76, 92-93. The media is for "storage of information such as computer readable instructions" or "program modules." *Id.*, 13:4-16. These instructions include "a client software application on the personal mobile communications device of the user." *Id.*, 6:20-23, 8:13-17, 8:60-67, 11:54-65. De Vries further teaches a controller by describing "a processing unit 602 (e.g., a microprocessor or micro-controller)," and thus disclose a controller. Ex. 1012, 12:40-48, 12:32-34 (invention described in "context of computer-executable instructions, such as program modules, executed by one or more computers or other devices."); Ex. 1002, ¶¶ 93-94.

De Vries's devices are location-aware because they "are equipped with location detecting capability," e.g., GPS technology, "to determine the locations of

the individual personal mobile devices . . . ." Ex. 1012, 5:20-30; Ex. 1002, ¶ 92.

The phrase "capable of being registered with a registration server" found in the preamble is not a limitation. *Supra* §III.A. Nevertheless, De Vries's location-aware devices are capable of being registered with a registration server because the "serial number" of the device can be registered in an "authoritative names registry" that "contains a database that represent a registry of names, which is used to define proximity of the devices 804 and services 805 to the client device 802 and its user." Ex. 1012, 13:56-59, 15:47-55, 16:7-11. Thus, De Vries's location-aware devices are capable of being registered with a registration server which then allows those devices to be identified by the information service. Ex. 1002, ¶¶ 95-96.

b. [45A], [48A]: "enable access to one or more lists of other users to identify one or more other users to identify one or more other users with whom visited geographic location data is capable of being shared;"

De Vries discloses this limitation. De Vries's mobile devices include software for accessing the information service through web pages or other interfaces. Ex. 1012, 6:20-23, 8:13-17, 8:60-67, 12:32-39, 12:59-64. De Vries teaches "one or more buddy lists 310, 311," which "enumerate a set of people (e.g., other users) about who the user desires to be informed by the information service 100." Ex. 1012, 7:25-39, 12:32-34. Buddy lists can be stored in a database within information service because: (1) database 112 stores "people/place state 300," (2) "people/place state 300" includes "user record 302," and (3) "user record 302" includes buddy lists. *Id.*,

7:13-21.

De Vries explains that access to the buddy lists may be provided to allow the user to identify one or more users with whom visited geographic location data is capable of being shared. De Vries allows a user to set "visibility parameters" so that the user can be "either visible or not visible to a particular user or group of users." Ex. 1012, 9:32-45. For example, person B could choose not to be visible to person A. *Id.*, 2:66-3:4, 9:32-45. A POSA would have understood from De Vries that the mobile device provided access to the buddy lists to permit, for example, user "B" to identify user "A" to share user B's location data with, i.e., setting the visibility parameter such that user B is "visible . . . to a particular user" (user A in this case). Ex. 1012, 9:32-45; Ex. 1002, ¶¶ 103-104.

c. [45B], [48B]: "enable definition of access rights for the one or more other users to enable access to the visited geographic location data;"

De Vries discloses this limitation. De Vries enables defining access rights by allowing "visibility parameters"—a "visible" or "invisible" value—for one or more buddies. Ex. 1012, 2:66-3:4, 9:32-45. The visibility parameters are values associated with other users that define which other users have access to a user's visited geographic location data. *Id.*, 9:32-45 (e.g., user "B" chooses not to be visible to user "A"). The visibility parameter can be stored either in the information service or on the client, such as in "settings for a client software application," thus showing

that the client-side software enables definition of the access rights by setting visibility parameters. Ex. 1012, 8:60-67; Ex. 1002, ¶ 105.

d. [45C], [48C]: "collect the visited location data for geographic locations visited by the location-aware device using a client-side application; and"

De Vries discloses this limitation. De Vries's mobile devices are "equipped with location detecting capability to determine the locations of the individual personal mobile devices . . . ." Ex. 1012, 5:20-24. For example, visited location data can be captured using a GPS receiver. *Id.*, 5:25-30. Visited location data is "reported to or polled by the information service" by the client in various ways (e.g., polling, on request, based on threshold levels of movement). Ex. 1012, 5:43-55. This functionality is performed by "computer-executable instructions" executed by the client-side application. *Id.*, 12:32-34, 3:31-34, 5:20-55, 6:20-23, 9:61-67, 10:9-11. Thus, the POSA would have understood that De Vries's client-side application software collected the location data and reported it to the information service. Ex. 1002, ¶¶ 106-108.

e. [45D], [48D]: "report information indicating at least a portion of the visited geographic location data to a tracking server;"

De Vries discloses this limitation because once the location information is collected, at least a portion of it is reported by the client application to the tracking server. Ex. 1012, 4:45-52 (information service "implemented in server application

software run on a server computer," and server "tracks users of the information service and their locations in a people/place database 112"), 5:43-55 ("locations can be reported to the information service at periodic intervals," when the location changes, or in response to polling); *see also id.*, 5:56-59 (information service "processes" information about users and locations), 6:8-15 (inference engine processes data including locations of people), 8:6-17 (tracking users as part of search function), 12:32-34 (invention implemented in computer-readable instructions); Ex. 1002, ¶ 109.

f. [45E]: "wherein in order to enable the definition of the access rights for the one or more other users to access the visited geographic location data, the software further instructs the controller of the location-aware device to receive, via a user interface of the location-aware device, input that defines at least one user of the one or more other users from the one or more lists of other users that is to have access to the visited geographic location data."

De Vries discloses this limitation. Ex. 1002, ¶ 110. De Vries's client software provides "a graphical user interface [GUI] to the user for accessing the information service." Ex. 1012, 8:60-67. A phone can also display a web page obtained from a server. *Id.*, 12:62-64, 16:34-44, Fig. 11. In addition to presenting a GUI, De Vries's location-aware devices include other user interfaces like a keyboard, or a "pointing device." *Id.*, 12:40-55; Ex. 1002, ¶ 110. Moreover, De Vries explains that "the user can set rules and/or parameters," such as these visibility parameters," which can take

on visible or invisible states on a per-user basis from the buddy list(s), such as lists of friends, co-workers, and clients. Ex. 1012, 2:66-3:4, 7:33-43, 9:32-45. Because users access the information service via interfaces on mobile devices to set visibility parameters for buddies on one or more lists, the client application instructs the controller to receive user input indicating the values for the visibility parameters via a user interface (e.g., De Vries's keyboard or pointing device). The values for visibility parameters are set for one or more other users using "computer-executable instructions" such as client application. Ex. 1012, 2:66-3:4, 6:20-23, 8:65-67, 9:32-40, 12:32-34.

g. [48E]: "wherein the one or more lists of other users comprises a contact list maintained on the location-aware device."

De Vries discloses this limitation because it describes buddy lists that are the user's "contacts." Ex. 1012, 7:33-43, 9:40-45. Thus, the buddy list is a contact list. Ex. 1002, ¶ 116. Buddy lists are maintained on the user's mobile device. "[P]eople/place state 300," includes "user record 302, one or more buddy lists 310, 311, and place context records 320-324 of listed individuals or groups." Ex. 1012, 7:17-21, Fig. 3. "[P]eople/place state" is "resident . . . on the user A's personal mobile communications device" in an embodiment. *Id.*, 7:61-66. Because the people/place state includes the buddy list, and the buddy list is a contact list, the contact list is maintained on the location-aware device. Ex. 1002, ¶ 117.

2. Claim 72

a. [72P]: "A location-aware mobile device having a controller and memory, wherein the controller is configured to:"

De Vries discloses this preamble for the reasons discussed in Section VI.A.1.a.

b. [72A]: "send location information to a server while visiting geographic locations, the location information comprising geographic data recorded by the location-aware mobile device using a satellite-based location-fixing protocol;"

De Vries discloses sending location information to a server while visiting geographic locations. Ex. 1012, 5:43-56 (device locations "are reported to or polled by the information service" under certain conditions); *supra* §§VI.A.1.d-VI.A.1.e. The location information is geographical data recorded by the device based on GPS while visiting a location; GPS is a satellite-based location fixing protocol. Ex. 1012, 5:20-30; Ex. 1002, ¶ 120 (citing Ex. 1019, 1:18-28).

c. [72B]: "enable access to one or more lists of other users to identify one or more other users with whom the visited geographic location data may be shared;"

De Vries discloses this limitation for the reasons discussed above in Section VI.A.1.b.

d. [72C]: "enable definition of rights of the one or more other users to access the visited geographic location data; and"

De Vries discloses this limitation for the reasons discussed above in Section

VI.A.1.c.

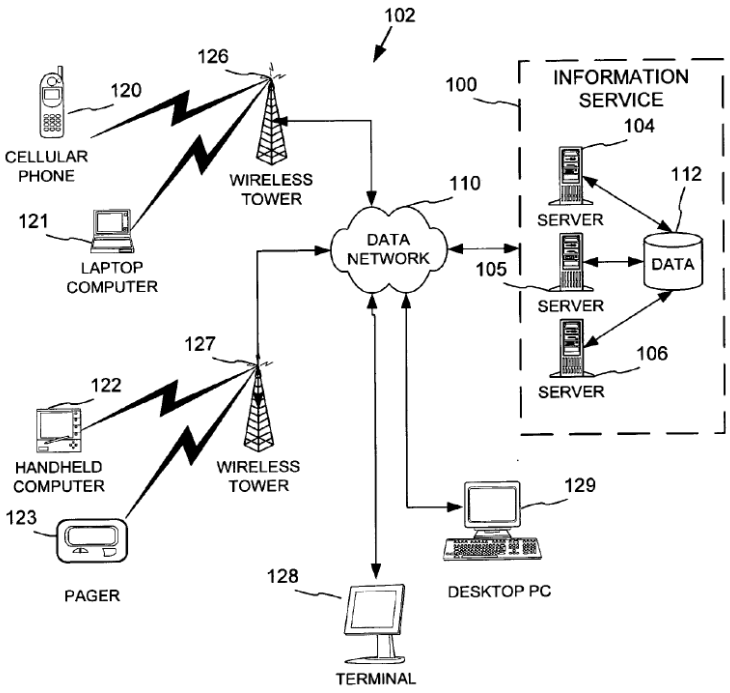
e. [72D] "send information indicating at least a portion of the visited geographic location data to a server."

De Vries discloses this limitation because it discloses mobile devices that send "[t]he locations of the personal mobile data communications devices 120-123" to "the information service 100." Ex. 1012, 5:43-47. "[T]he information service 100 updates the people's place context data whenever changes are reported, such as from positioning equipment on the people's personal mobile data communications devices," *id.*, 7:50-54, and the information service is implemented on a server, *id.*, 4:45-52. *See supra* §VI.A.1.e.

3. Claim 76

a. [76P] "A system for collecting and sharing visited geographic location data, comprising:"

De Vries discloses a system for collecting and sharing visited geographic location data for the reasons discussed in Sections IV.A, VI.A.1.a, and VI.A.1.d. As explained in those sections, De Vries's information service includes mobile devices that collect and share location data and servers that receive location data from mobile devices and, depending on visibility parameters, make that data available to other users. Ex. 1012, 4:45-52 (servers), 5:20-30 (GPS-enabled mobile devices), 5:43-47 (mobile devices report location), 9:32-45 (visibility parameters). The system is illustrated in De Vries's Figure 1:



Ex. 1012, Fig. 1.

b. [76A]: "a location-aware device adapted to:"

De Vries discloses this limitation for the reasons discussed above in Sections IV.A and VI.A.1.a.

c. [76A1]: "record geographic location data while visiting geographic locations using a satellite-based location-fixing protocol;"

De Vries discloses this limitation for the reasons discussed above in Sections VI.A.1.d and VI.A.2.b. This limitation is similar to limitation [45C], with the word "record" being substituted for "collect" and instead of requiring a client-side application to collect location data, requires the locations to be recorded "using a satellite-based location fixing protocol." This latter requirement is discussed with limitation [72A].

d. [76A2]: "enable access to one or more lists of other users to identify one or more other users with whom the geographic location data may be shared;"

De Vries discloses or renders obvious this limitation for the reasons discussed above in Section VI.A.1.b regarding limitation [45A]. The only difference between this limitation and limitation [45A] is that limitation [45A] includes a reference to "visited geographic location data," which is referred to in the preamble of claim 76.

e. [76A3]: "enable definition of rights of the one or more other users to access the geographic location data; and"

De Vries discloses or renders obvious this limitation for the reasons discussed above in Section VI.A.1.c. This limitation is substantively the same as limitation [45B], except for removing certain language (e.g., "access," "enable," and "visited").

f. [76A4]: "send at least a portion of the geographic location data to a tracking server; and"

De Vries discloses or renders obvious this limitation for the reasons discussed above in Sections VI.A.1.e and VI.A.2.e.

g. [76B]: "the tracking server adapted to:"

De Vries discloses or renders obvious a tracking server for the reasons discussed above in Section VI.A.1.e.

h. [76B1]: "receive the at least a portion of the geographic location data from the location-aware device; and"

De Vries discloses that the server of the information system 100 receives at least a portion of the geographic location data from the mobile devices because De Vries explains that "[t]he locations of the personal mobile communications devices 120-123 are reported to or polled by the information service 100, which uses this information to track the location of the devices' users in the people/place database 112." Ex. 1012, 5:43-47. "[T]he information service updates the user's place context data when new location information is reported for the user based on the position sensing equipment in the user's personal mobile data communications device, or in the communications network." *Id.*, 7:28-32; *see also id.*, 7:50-54, 8:6-11.

i. [76B2]: "share the at least a portion of the geographic location data with the one or more other users in accordance with the rights of the one or more other users."

De Vries discloses this limitation. As explained above, De Vries discloses defining access rights by setting values for "visibility parameters." Ex. 1012, 2:66-3:4, 9:32-40; *supra* §§VI.A.1.b-VI.A.1.c.

A user can search from a mobile device and based on tracked location data for "those on the user's buddy list(s)," information is returned reflecting "which of the people B-D on the user's buddy list(s) are within the selected proximity of the user

(e.g., people B and C in FIG. 4)." Ex. 1012, 8:20-25. The identification of other users within proximity of the user submitting the query is the sharing of "at least a portion of the visited geographic location data," based on access rights (i.e., visibility parameters) defined by those other users. *Id.*, 9:32-45. This process is performed by the information service implemented in server-side software. *Id.*, 4:50-52, 5:56-59, 8:20-26. The service further supports sending notifications based on movement of other users. *Id.*, 8:27-39. Thus, location data may be shared in search results and notifications in accordance with visibility parameters. Ex. 1002, ¶ 134.

B. GROUND 2: CLAIMS 45 AND 48 ARE OBVIOUS OVER DE VRIES

The application of De Vries to these claims is explained above. *Supra* §VI.A.1. De Vries teaches a "client software application" and "server application software run on a server computer" and explains that the techniques are implemented in "computer-executable instructions such as program modules, executed by one or more computers or other devices." Ex. 1012, 4:45-52, 8:13-17, 6:20-23, 8:60-67, 12:32-34.

If Patent Owner contends that De Vries does not disclose the functionality required by the instructions on a "computer-readable medium," it would have been obvious to implement each of the recited functions in software. De Vries's client software allows the user to interact with "the information service from a client device," Ex. 1012, 8:60-67, 5:59-62, Fig. 11 (exemplary GUI), and allows the

mobile device to receive information such as context-specific inferences from the server of the information service, *id.*, 6:20-23. De Vries explains that the various disclosed functionality is implemented in "computer-executable instructions," which are stored on a computer-readable medium. *Id.*, 12:32-39, 13:4-16. De Vries further explains that "the functionality of the program modules may be combined or distributed as desired in various embodiments." *Id.*, 12:37-39.

Based on these disclosures, the POSA would have found it obvious to implement De Vries's client-side functionality in a client-side software application on a computer-readable medium. Ex. 1002, ¶¶ 136-143. Even if implementing all client-side functionality in a client application was not disclosed by De Vries, implementing the client functionality in instructions stored on a computer-readable medium would have combined known prior art programming techniques according to known methods to allow De Vries's disclosed functionality to be performed based on software instructions. Ex. 1002, ¶¶ 140-141. The POSA would have been motivated to implement the techniques in software because software programming is precise, well-understood, and predictable. Ex. 1002, ¶ 141. Because software programming is predictable and precise, the POSA would have expected to succeed in developing code that performs the client-side functionality in a client-side application having instructions stored on a computer-readable medium. *Id*. Indeed, De Vries itself suggests that those skilled in the art would have understood how to

implement the techniques disclosed therein in software code and indicates that various combinations of functionality may be implemented in program modules in computer-implemented instructions and indicates that the POSA would have had a reasonable expectation in succeeding in implementing the client functionality in this manner. Ex. 1012, 12:32-39; Ex. 1002, ¶ 141.

Additionally, if Patent Owner contends that obtaining GPS data and reporting that data to the information service in De Vries does not disclose collecting the location data, it would have been obvious to collect information. Ex. 1002, ¶¶ 142-143. The POSA would have appreciated that after the GPS receiver determines location, it needed to be stored and then reported. *Id.*, ¶ 142. Software is needed for this purpose. *Id.* Moreover, De Vries encourages implementing the client application to collect the data because it teaches that the manner of reporting location data varies "depending on the design criteria of the application." Ex. 1012, 5:51-53; Ex. 1002, ¶ 142. Collecting the location data on the mobile device would have combined prior art elements (e.g., application software for reporting location information) according to known methods (e.g., known software programming techniques to acquire values from a GPS receiver for reporting) to yield predictable results (i.e., a mobile device that is configured with an application that collects location data for reporting it to De Vries's information server). Ex. 1002, ¶ 143. The POSA would have understood that having users move about the system and

have their mobile devices collect and report their locations is explicitly suggested by De Vries. Ex. 1012, 2:46-49, 3:5-11, 6:38-50 (describing user movements), which anticipates that its users will move from place to place, and as they do so, their devices gather location data and report it to the information service. Implementing De Vries in its expected manner would have led the device to collect visited location data as claimed. Ex. 1002, ¶ 143.

C. GROUND 3: CLAIMS 47 AND 49 ARE OBVIOUS OVER DE VRIES IN VIEW OF AUERBACH

1. Overview and Motivation to Combine

Claims 47 and 49 are identical to claims 45 and 48, with the exception of the last limitation of the claims. Therefore, a discussion of how [47P], [47A]-[47D], [49P], and [49A]-[49D] are disclsoed by De Vries is found above in connection with the discussion of [45P], [48P], [45A]-[45D], and [48A]-[48D]. *Supra* §§VI.A.1.a-VI.A.1.e. Moreover, a discussion of how a POSA would have found this subject matter obvious is found in connection with Ground 2, above. That discussion is also applicable to this Ground. *Supra* §VI.B.

Limitations [47E] and [49E] recite types of lists of other users. Ex. 1001, cls. 47, 49. Claim 47 requires that the list is an "Instant Messaging buddy list," and claim 49 requires it to be an "e-mail contact list." *Id.* These features would have been obvious over Auerbach which discloses that such lists may be used in connection with a software application for "hand-held devices," which can aggregate

contact lists across platforms to produce a standardized "contact list" that may be used for instant messaging and e-mail. Ex. 1016, 3:32-36, 5:11-24, 5:54-62, 6:1-13, 12:9-19.

De Vries explains how the people on the buddy list agree to share location information by exchanging text messages and indicates that various instant messaging platforms are used to send text messages. Ex. 1012, 1:46-55, 9:35-43. The POSA would have appreciated that a buddy from an AOL IM list might not be on an ICQ buddy list, as recognized by Auerbach. Ex. 1002, ¶¶ 144-145 (citing Ex. 1016, 1:62-2:8). It would have been obvious use Auerbach's single buddy list including instant messaging (IM) buddies and e-mail contacts from e-mail providers, Ex. 1016, 5:11-24, 5:54-62, because Auerbach's standard contact list allowed for all buddies to be presented to the user in a single interface, thus simplifying selection of buddies for sharing location data and sending messages to those users to agree to location-sharing. Ex. 1002, ¶¶ 145-146. The POSA would have found it obvious to use the standardized contact list including instant messaging ("IM") buddy lists and e-mail contact lists from a variety of service providers, such as AOL, MSN Messenger, and ICQ mentioned by De Vries (Ex. 1012, 1:46-50), for identifying other users to share location data with because this would have allowed for the user to select buddies to share location data from a pre-existing buddy list already available on hand-held devices as shown by Auerbach. Ex. 1016, 3:32-36; Ex. 1002,

¶¶ 145, 147-148. Using an aggregated buddy list (per Auerbach's teachings) as the buddy list of De Vries would have been the substitution of one known list (Auerbach's buddy list) for another known list used on hand-held devices (De Vries's buddy list). Ex. 1002, ¶ 147. The POSA would have benefitted form Auerbach's simplified the presentation of different buddy lists in a single integrated form to allow the selection of buddies with whom location data may be shared, thus providing a simplified way to invite buddies across multiple messaging services. *Id.*, ¶¶ 145-146.

Using Auerbach's list as the buddy list of De Vries would have applied a known technique (a contact list aggregation technique as disclosed by Auerbach) with the known buddy-list specific information service techniques disclosed by De Vries to obtain predictable results (i.e., a mobile device having a unified contact list including IM lists and e-mail contact lists that can be used to identify buddies for the sharing of location data using De Vries's service). Ex. 1002, ¶¶ 147-148.

2. Claim 47

a. [47E]: "wherein the one or more lists of other users comprises an Instant Messaging buddy list of the user of the location-aware device."

De Vries in view of Auerbach renders this limitation obvious. De Vries teaches a "buddy list," Ex. 1012, 7:32-43, De Vries and suggests that "buddy lists" include an Instant Messaging buddy list, *id.*, 1:46-55. Auerbach discloses that

computers, including "hand-held devices" can store various instant messaging buddy lists for a variety of instant messaging services. Ex. 1016, 3:32-36, 6:21-26 ("Each service provider may have a locally stored contact list, ..."); Ex. 1002, ¶ 153.

It would have been obvious to select buddies in De Vries's system from an instant messaging buddy list included as part of the standardized contact list of Auerbach for the reasons explained above. *Supra* §VI.C.1.

3. Claim 49

a. [49E]: "wherein the one or more lists of other users comprises an e-mail contact list of the user of the location-aware device."

De Vries in view of Auerbach renders this limitation obvious. Ex. 1002, ¶ 159. Specifically, De Vries describes a buddy list, Ex. 1012, 7:32-43, but does not say that the list comprises an e-mail contact list of the location-aware device. Auerbach discloses that computers, including "hand-held devices" can store various contact lists including lists from "e-mail providers" and then displaying them in a standard presentation for access to all contacts through a single interface. Ex. 1016, 3:32-36, 5:11-24, 5:49-62, 6:1-13, 12:5-19. The buddy lists can include a listing of buddies by email address associated with the primary service provider. *Id.*, 12:5-15. This list constitutes an "e-mail contact list" because it provides a list of users' emails that the user can contact through the system. *Id.* ("[T]he contact list may contain the

individuals name under the user name or email-alias of the users primary service provider."). This claim therefore would have bene obvious over De Vries in view of Auerbach for the reasons explained above. *Supra* §VI.C.1.

D. GROUND 4: CLAIMS 50-52 ARE OBVIOUS OVER DE VRIES IN VIEW OF JONES

1. Overview and Motivation to Combine

The preamble and first four limitations of claims 50-52 are identical to the preamble and first four limitations of claims 45 and 48. Therefore, the discussion of [50P], [50A]-[50D], [51P], [51A]-[51D], [52P], and [52A]-[52D] are disclosed for the reasons discussed above with respect to [45P], [48P], [45A]-[45D], and [48A]-[48D]. *Supra* §§VI.A.1.a-VI.A.1.e. A discussion of why a POSA would have found this subject matter obvious is found in connection with Ground 2, which also applies here. *Supra* §VI.B.

Limitations [50E], [51E], and [52E] relate to content in visited geographic location data like ratings (claim 50), comments (claim 51), and emoticons (claim 52). These aspects of claims 50-52 are not expressly disclosed by De Vries. They would have been obvious over Jones.

Jones describes a "spatial-temporal based information system for the storage, management and sharing of user annotated spatial-temporal based information . . . ." Ex. 1013, Abstract; Ex. 1014, p.3. "[G]eomarks" including "a user identification component, a location component, and a date/time component and some descriptive

annotated information provided by the user." Ex. 1013, ¶ [0005]; Ex. 1014, 4, 6, 12. Geomarks are received from "a variety of user remote electronic devices . . . ." Ex. 1013, ¶ [0014]. Descriptive material in a geomark includes "ratings" and "comments." *Id.*, ¶¶ [0005], [0023]; Ex. 1014, 4, 6, 12.

It would have been obvious to modify De Vries to allow the user to provide location ratings, comments, and emoticons (the latter of which are characters and/or symbols entered like a comment to reflect emotion) tied to locations based on De Vries in view of Jones. Ex. 1002, ¶¶ 161-163 (citing Ex. 1015, Fig. 14 (showing comments and emoticons about a noodle shop)); Ex. 1020, ¶ [0004], Appendix). De Vries explains that messages, text, audio, and image or video, can be linked to locations and be provided to other users when they visit those locations. Ex. 1012, 6:42-47. De Vries does not explain how such files are generated and retained by the system for other users. Ex. 1002, ¶ 160. The POSA would have looked to Jones for a mechanism that allowed a user to provide text or messages such as ratings, comments, or emoticons, and other content (e.g., pictures) for other users who visit a location, thus defining files like file 212. *Id.*, ¶¶ 161-162.

The POSA would have found it obvious to allow users to provide geographic location information such as Jones's geomarks with ratings, comments, and other messages like emoticons associated with a location in the context of De Vries's information service because geomarks permitted users to upload geographically-

relevant information thus providing a mechanism in Jones to create contextually-relevant files for other users. Ex. 1002, ¶ 162. Adding geomarks to De Vries would have combined prior art elements (Jones's geomarks and De Vries's information system) according to known methods (using computer and wireless technologies to communicate data to an information service) to yield predictable results (being able to provide data including ratings to users when they visit specific places or perform context-specific searches). *Id.* Using Jones's geomarks with ratings, comments and emoticons would merely have used a known technique (i.e., the provision of geomarks tied to a specific location) to improve De Vries's system by providing a robust set of data in a file for access by a user visiting the location. Ex. 1002, ¶ 163. Using Jones's geomarks in De Vries's information service would have improved De Vries in the same way that it improved Jones, i.e., by providing user-created location-specific records for sharing with others. *Id.*, ¶ 163. Because systems for aggregating geographic information and tying them to locations were known and predictable, and because De Vries teaches including features that Jones also discloses and provides details for how to implement them, the POSA would have reasonably expected to succeed in combining Jones's geomarks in De Vries's system as files. Ex. 1012, 6:42-47; Ex. 1013, ¶¶ [0005], [0023]; Ex. 1014, 4, 6, 12; Ex. 1002, ¶ 163.

2. [50E]: "wherein the visited geographic location data further defines ratings assigned to one or more of the geographic locations visited by the location-aware device."

De Vries in view of Jones renders this limitation obvious. De Vries explains that as the user moves into a particular location the "inference engine may also identify other resources relevant to the user in the particular place context, such as place-specific data file 212 (which may be a text, audio, image or video, such as of a message left for the user upon arrival at the place), ..." Ex. 1012, 6:42-47. But, De Vries does not describe a system in which the user may provide location data that further defines ratings assigned to one or more of the geographic locations visited by the location-aware device. Jones does, as explained above. It would have been obvious to include visited geographic location data that defines ratings, like Jones's geomarks, for the reasons explained above. *Supra* §VI.D.1.

3. [51E] "wherein the visited geographic location data further defines comments on one or more of the geographic locations visited by the location-aware device."

De Vries does not disclose visited geographic location data that defines comments, but Jones does. *Supra* § VI.D.1. It would have been obvious to include Jones's geomarks including comments about a location in De Vries's information services for the same reasons discussed above. *Id.*

4. [52E] "wherein the visited geographic location data further defines emoticons assigned to one or more of the geographic locations visited by the location-aware device."

De Vries does not disclose visited geographic location data that defines

emoticons. While Jones does not disclose emoticons expressly, Jones does disclose providing text and pictures in a geomark. *Supra* § VI.D.1. An emoticon is textual and may be entered be the user using certain alphanumeric characters and/or symbols on the keyboard, and is a form of comment. Ex. 1002, ¶¶ 181-182 (citing Ex. 1020, ¶ [0004] & Appendix (explaining how emoticons have "widespread us[e]"); Ex. 1015, Fig. 14.) It would have been obvious to include Jones's geomarks including emoticons assigned to a location in De Vries's information services for the same reasons discussed above. *Supra* §VI.D.1.

E. GROUND 5: CLAIMS 53-57, 61, 64, 66-68, AND 71 ARE OBVIOUS OVER DE VRIES IN VIEW OF ZILLIACUS

1. Overview and Motivation to Combine

Claims 53-57 and 71 recite steps or software functionality including sending or receiving "registration information" or "registration." Ex. 1001, cls. 53 (receiving), 54 (sending), 55 (receive), 56 (communicate with server), 57 (receiving), and 71 (receive). It would have been obvious to implement De Vries to send registration information from a location-aware device and receive registration information from a location-aware device based on the teachings of De Vries in view of Zilliacus.

De Vries's "information service can be operated as a business" such as "a subscription or usage-based service, in which the user pays for use of the service." Ex. 1012, 11:40-43, 3:48-55. Moreover, mobile devices have serial numbers

registered in names registry, which allows them to be mapped to IP addresses to be used by the information service. *Id.*, 7:9-12, 13:56-62, 16:1-11. While De Vries describes this functionality, De Vries does not explain in detail how a user initially subscribes to the system or how the names registry obtains the serial number of a device. Ex. 1002, ¶ 183.

The POSA would have looked to Zilliacus to provide a mechanism to perform these functions. Zilliacus provides a system for allowing mobile devices to download software applications, to register and pay for those applications, and to manage rights of users to access those applications. Ex. 1018, 3:35-61. Zilliacus describes a "mobile terminal 110" and a "downloading server 118." *Id.*, 4:47-54. The downloading server is connected to an application database—which provides software applications for download by the user—and an application-license database which provides an indication of registered users and aspects of their rights to use software applications. *Id.*, 4:60-64, 6:1-52, 8:64-9:1. The downloading server is accessible through a website. *Id.*, 6:7-9. The user contacts the downloading server using their mobile device, and registration information such as SIM and IMEI data is provided. Ex. 1018, 5:38-40, 5:20-37, 5:56-59, 6:1-9, 7:16-26. The user chooses an application to download. *Id.*, 6:18-21. The user chooses a lifetime for the application and pays for it. *Id.*, 6:30-39. The user's information (IMEI and SIM data) and application license (lifetime) information is stored in the license-database.

Id., 8:30-33, 8:64-9:1. Thus, Zilliacus teaches a mobile phone that sends registration requests to a registration server and obtains an application from the registration server to use on their mobile device. Ex. 1002, ¶¶ 185-186.

Based on these teachings, the POSA would have found it obvious to have a client send a registration request including registration information to De Vries's server associated with its information service and have the server receive that data. Ex. 1002, ¶¶ 187-188. Such a configuration would have permitted the user to register for use of De Vries's information service—and thus the client-side collection and sharing of location data—and would have served De Vries's goal of allowing for a subscription or usage model to monetize the system using Zilliacus's registration and client application downloading techniques. Ex. 1002, ¶¶ 187-189.

The POSA would have seen that adding Zilliacus's download server functionality to De Vries would have allowed the information service server to: provide De Vries's client-side application to the mobile device, permit registration for the service by recording information associated with the user and mobile device for use by the names registry (e.g., IMEI and SIM data, which uniquely identify the mobile device and user), and ensure payment and monitor rights to use the service. Ex. 1002, ¶¶ 189-190. A POSA would have relied upon the information service's server to perform the function of the download server of Zilliacus because those servers were already deployed and available in De Vries's service. Ex. 1002, ¶ 189.

The POSA would have been further encouraged to follow this path because both De Vries and Zilliacus disclose mobile devices that access servers through webpages and GUIs, and both references describe revenue generation based on software. Ex. 1012, 11:40-65, 12:62-64; Ex. 1018, 6:5-6, 6:31-42; Ex. 1002, ¶¶ 189, 192. Thus the goals and server access techniques of Zilliacus are mentioned by De Vries, but implementation details are lacking. The POSA would have further appreciated that obtaining data from the mobile device as part of registration for a software application—e.g., IMEI and SIM of Zilliacus—would have served the additional purpose of allowing the device to be registered with the names registry, thus allowing the device to be uniquely identified for use by the information service. Ex. 1002, ¶¶ 190-191. Thus, the references themselves provide motivation to combine features resulting in the claimed subject matter. *Id.*, 190, 194.

The POSA would have been motivated to send and receive the claimed registration and registration information in De Vries's system based on the combined teachings of the references. *Id.*. Moreover, the POSA would have recognized that all of the components were in place in De Vries's system to allow the user to access a registration function executed on the server via a web interface since the mobile devices were configured to access the information service and display web pages. Ex. 1002, ¶¶ 189, 192. By disclosing operating the information service as a subscription-based service and disclosing that the client application provides a user

interface allowing the user to interact with the information service's server, *id.*, De Vries suggests engaging in a registration to allow service through the information service's server and the need to provide device identifications such as a serial number to a names registry. Ex. 1002, ¶ 191. The POSA, therefore, would have found it obvious to use the techniques disclosed in Zilliacus for managing access rights to the client-side software application and registering to use that application—including the collection and sharing of data offered by De Vries's information service. *Id.*, ¶ 192.

Implementing the functionality of the download server and databases as taught by Zilliacus (and the Zilliacus rights-management scheme) in De Vries's servers would have combined known functionality (application downloading and registration for tracking usage rights for mobile device software applications as in Zilliacus) according to known methods (i.e., Zilliacus's processes for registration and management of access rights), to yield predictable results (i.e., a server-side functionality that allows for monetization of the functionality described in De Vries). Ex. 1002, ¶ 193. Moreover, implementing Zilliacus's application management techniques including the functionality of its downloading server in De Vries's information service servers would have applied a known technique for software rights management for mobile applications to De Vries's known information sharing system. Ex. 1002, ¶ 194. The techniques disclosed in De Vries and Zilliacus were

known to be implemented in hardware and software as explained above and in further detail below. *Id.* The POSA would have understood that hardware and software were predictable in their operation, and the combination of functionality would have also been predictable. *Id.* The POSA therefore would have had a reasonable expectation of succeeding in combining Zilliacus's techniques with De Vries's information service such that the De Vries servers received registration information for obtaining the client-side application and permitting collecting and sharing of location data associated with the mobile device. Ex. 1002, ¶ 194.

2. Claims 53, 55, and 71

a. [53P]: "A method of operation of a server to share computer usage experiences, comprising the following computer-implemented steps:"
[55P]: "A non-transitory computer-readable medium storing software for instructing a controller of a registration and tracking server to:"
[71P]: "A non-transitory computer-readable medium storing software for instructing a controller of a server to:"

With respect to preamble [53P], De Vries discloses a method of operating a server within the information service 100. Ex. 1012, 4:45-50 ("[A]n illustrated embodiment of the invention is implemented in a server application software run on a server computer or a group of servers 104-106 . . . ."). The server of the information service shares computer usage experiences (to the extent limiting, and as construed above (*supra* §III.B)), including the location of the mobile devices. *Id.*,

4:60-65, 5:20-30 (describing using "locations of the individual personal mobile devices, so as to thereby infer the position of their users"), 6:8-23, 8:6-25, 10:64-11:3.

With respect to preamble [55P], De Vries's server is a tracking server because it allows for tracking locations of the mobile devices. Ex. 1012, 4:45-52, 5:43-47. It would have been obvious to add the registration function of Zilliacus's download server (i.e., a registration server) to the tracking server of information service 100 for the reasons discussed above thus yielding registration and tracking servers. *Supra* §VI.E.1.

With respect to preamble [71P], De Vries discloses a non-transitory computer-readable medium storing software for instructing a controller of a server. Specifically, De Vries discloses (1) the information service is implemented in "server application software" run by a server, Ex. 1012, 4:45-52, (2) the servers include "a processing unit 602 (e.g., a microprocessor or micro-controller) and system memory," *id.*, 12:40-44, (3) the memory stores "computer readable instructions" and "program modules," *id.*, 13:4-16, and (4) the invention is described "in the general context of computer-executable instructions, such as program modules, executed by one or more computers or other devices," *id.*, 12:32-34.

b. [53A]: "receiving, at the server, a registration for automatic client-side collection and sharing of visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the visited geographic locations using a satellite-based location-fixing protocol;"
[55A]: "receive, at the registration and tracking server, a registration to collect and share visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the geographic locations using a satellite-based location-fixing protocol;"
[71A]: "receive a registration to collect and share visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the geographic locations using a satellite-based location-fixing protocol;"

De Vries in view of Zilliacus renders these limitations obvious. De Vries does not expressly teach that the server receives a registration for automatic client-side collection and sharing of location data or that the server is a registration and tracking server.

Zilliacus teaches receiving at a downloading server, a registration—including a user's identity information, such as SIM information and IMEI, and selections regarding access rights for the application. Ex. 1018, 6:30-44, 7:16-26. De Vries explains that "information service can be operated as a business" such as "a subscription or usage-based service, in which the user pays for use of the service." Ex. 1012, 11:40-43, 3:48-55. It would have been obvious to combine Zilliacus's

registration, download, and rights management functionality with De Vries's information service's servers for the reasons explained above. *Supra* §VI.E.1. For the same reasons, it would have been obvious to receive, at the server, registration for access to the client application to access information service and thus collect and share visited geographic location data. Ex. 1002, ¶¶ 199-201.

As explained above in connection with limitations [45C] and [72A], De Vries teaches and renders obvious client-side application collecting visited geographic location data. *Supra* §§VI.A.1.d, VI.A.2.b. Collecting location data in De Vries is "automatic" because the mobile device collects the data using GPS and reports it, as opposed to an embodiment where it is entered manually. Ex. 1012, 5:21-55. Location data is collected while visiting geographic locations with the device since it is based on the position of the device as determined by GPS. Ex. 1012, 5:20-30; Ex. 1002, ¶ 198. GPS is a satellite-based location-fixing protocol. Ex. 1002, ¶ 120 (citing Ex. 1019, 1:18-28); *see also supra* §VI.A.3.c.

c. [53B]: "enabling access to one or more messaging buddy lists and selection of one or more buddies with whom the visited geographic location data may be shared from the one or more messaging buddy lists;" [55B]: "enable access to one or more lists of other users to identify one or more other users with whom the visited geographic location data may be shared;" [71B]: "enable access to one or more lists of other users to identify one or more other users with whom the visited geographic location data may be shared;"

These limitations recite similar features to limitations [45A] and [45B]. The

discussion of those limitations is applicable here. *Supra* §§VI.A.1.b-VI.A.1.c. De Vries's buddy lists are "messaging buddy lists" because De Vries explains that initial permission to share location data is obtained using "an exchange of ***text messages between the user and each person of the buddy list***, in which the people consent to the information service providing their place-specific information to the user." Ex. 1012, 7:35-39. De Vries refers to text messages as being sent using instant messaging. *Id.*, 1:46-55. The are also "lists of other users," as explained in connection with limitation [45B]. Defining access rights, discussed above with respect to limitation [45B], involves the selection of one or more buddies (other users) with whom the visited geographic location data may be shared because values are set to define visibility parameters for other users. Ex. 1012, 2:66-3:4, 9:32-45.

d. [53C]: "obtaining defined rights of the one or more buddies to access the visited geographic location data; and"; [55C]: "obtain defined rights of the one or more other users to access the visited geographic location data;" and [71C]: "obtain defined rights of the one or more other users to access the visited geographic location data; and"

De Vries discloses or at least renders obvious these limitations for the same reasons discussed above regarding limitation [45B]. *Supra* §VI.A.1.c. Notably, De Vries' rights are obtained by a server when parameters are stored in the information service because the server obtains the rights—i.e., values representing visibility parameters and stores them. Ex. 1012, 8:60-61 ("the parameter settings for a user

can be stored by the information service 100 in the database 112, ..."); *see also id.*, 2:66-3:4, 9:32-45 (discussing visibility parameters).

e. [53D]: "reporting information indicating at least a portion of the visited geographic location data for the one or more buddies to access according to the rights defined for the one or more buddies."
[55D]: "report information indicating at least a portion of the visited geographic location data for the one or more other users to access according to the rights defined for the one or more other users."
[71D]: "report information indicating at least a portion of the visited geographic location data for the one or more other users to access according to the rights defined for the one or more other users."

De Vries discloses or at least renders obvious these limitations for the same reasons discussed above regarding [76B2]. *Supra* §VI.A.3.i.

Sharing geographic location data, as recited in limitation [76B2], is a form of reporting visited geographical location data as recited in limitations [53D], [55D], and [71D]. Ex. 1002, ¶ 205. The claimed "buddies" in limitation [53D] are examples of "other users" (limitations [55D], [71D] and [76B2]) and are disclosed by De Vries. *Supra* §§VI.A.3.i, VI.E.2.e. As explained above, De Vries teaches that a user's visited geographic location data are shared in accordance with values defined for visibility parameters. Ex. 1012, 2:66-3:4, 9:32-45.

3. Claims 54 and 56

a. [54P]: "A method of operation of a client-side application including:";
[56P]: "A non-transitory computer-readable medium storing software for instructing a controller of a device to:"

De Vries discloses or renders obvious these preambles for the same reasons discussed above regarding [45P]. *Supra* §VI.A.1.a. Executing the instructions of claim 45 results in performing a method of operating the client-side device.

b. [54A]: "sending registration information to a registration server to collect and share visited geographic location data using the client-side application while visiting geographic locations with a location-aware device that records the visited geographic locations using a satellite-based location-fixing protocol;"
[56A]: "communicate with a registration server to register with the registration server to collect visited geographic location data from a client-side application while visiting geographic locations with a location-aware device that records the geographic locations using a satellite-based location-fixing protocol;"

Both of these limitations require use of a client-side application that collects geographic location data while visiting locations with a location-aware device that uses a satellite-based location fixing protocol. In this respect, these limitations are similar to limitation [53A]. Therefore, the discussion of limitation [53A] is relevant here. *Supra* §VI.E.2.b.

These limitations refer to "sending registration information to a registration

server" [54A] and "communicate with a registration server." Sending registration information constitutes communicating with a registration server to register. According to limitation [54A], the registration information is sent "to collect and share visited geographic location data using the client-side application." This requirement is the mobile-side functionality of server-side limitation [53A]; the discussion of limitation [53A] is relevant here. *Supra* § VI.E.2.b. Limitation [56A] requires communication "to register with the registration server to collect visited geographic location data," but omits a requirement of sharing that data. As explained in connection with limitation [53A], it would have been obvious to register with a registration server for access to De Vries's information service based on the combined teachings of De Vries and Zilliacus. The reasons why it would have been obvious to communicate and send requests for registration to a registration server to be able to use De Vries's client-side application for automatic collection and sharing of location data is discussed in detail above. *Supra* §VI.E.1.

c. [54B]: "enabling identification of one or more buddies with whom the visited geographic location data may be shared from one or more messaging buddy lists;"
[56B]: "enable a user to select one or more other users with whom the visited geographic location data may be shared from one or more lists of other users;"

These limitations are similar in that enabling identification of one or more buddies from one or more messaging buddy lists is a specific example of enabling a

user to select one or more other users from one or more lists of other users. These limitations are similar to limitation [45A], which requires instructions to enable access to one or more lists of other users to identify one or more other users with whom to share visited geographic location data. Therefore, the discussion of limitation [45A] is applicable to these limitations. *Supra* §VI.A.1.b. As De Vries explains, the user selects and identifies other users from their buddy list and sets visibility parameters for those other users. Ex. 1012, 2:66-3:4, 9:32-45.

d. [54C]: "enabling definition of rights of the one or more buddies to access the visited geographic location data; and"
[56C]: "enable the user to define rights of the one or more other users to access the visited geographic location data; and"

These limitations are similar, with "buddies" being an example of "other users." These limitations are similar to limitation [45B]. By teaching the definition of access rights as required by limitation [45B], De Vries also teaches the definition of "rights" as recited in these claims. The discussion of limitation [45B] is thus applicable to these limitations. *Supra* §VI.A.1.c.

e. [54D]: "reporting information indicating at least a portion of the visited geographic location data to a tracking server."
[56D]: "report information indicating at least a portion of the visited geographic location data for the one or more other users to a tracking server."

These limitations are similar to limitation [45D]; as such, De Vries De Vries

applies equally to these limitations for the reasons discussed above regarding [45D]. *Supra* §VI.A.1.e.

A difference between limitation [54D] and limitation [45D] is a change from "report" to "reporting" (due to the fact that claim 54 is a method claim). Limitation [56D] indicates that the reported information is "for the one or more other users." This is taught by De Vries which explains that the user can set the visibility parameter for specific users so that their location data is "visible." Ex. 1012, 2:66-3:4. When the user sets their visibility parameter to be visible to certain users, their location data gathered by the information service is "for the one or more other users" that they choose to be visible to because those other users can then receive notifications about the user's location or run searches for the user. *Id.*, 6:4-23, 8:6-39, 10:64-11:3.

4. Claim 57

a. [57P]: "A method of operation of a server computer comprising:"

This preamble is similar to the preamble [53P]; thus, De Vries applies equally to this preamble for the same reasons discussed above in Section VI.E.2.a.

b. [57A]: "receiving registration information from a location-aware device;"

This limitation is similar to limitation [53A]; thus De Vries in view of Zilliacus disclose or render obvious this limitation for the same reasons discussed above in Sections VI.E.2.b and VI.E.1. Receiving registration information from a

location-aware device would have allowed a user/subscriber to subscribe to and register for De Vries's information service through their mobile device as explained above.

c. [57B]: "receiving information indicating visited geographic location data from the location-aware device, the visited geographic location data being data defining geographic locations collected at the location-aware device from a client-side application, wherein the location-aware device records the geographic locations using a satellite-based location-fixing protocol;"

De Vries discloses or renders obvious this limitation. De Vries explains that mobile devices send location indicating visited geographic locations to allow the server to "track the location of the devices' users in the people/place database." Ex. 1012, 5:20-30, 5:43-55. The received location data defines locations collected by the mobile devices by a client-side application, as explained in further detail in connection with limitations [45C], [76A1], and [76B1]. *Supra* §§VI.A.1.d, VI.A.3.c, VI.A.3.h. De Vries's mobile devices are "equipped with location detecting capability to determine the locations of the individual personal mobile devices," such as GPS. Ex. 1012, 5:20-30. GPS relies on a "satellite-based location-fixing protocol." Ex. 1002, ¶¶ 120, 220 (citing Ex. 1019, 1:18-28).

Collected location data is "reported to or polled by the information service." Ex. 1012, 5:43-55. De Vries explains that certain parameter settings may "be stored as settings for a client software application (such as may provide a graphical user

interface to the user for accessing the information service from a client device)." *Id.*, 8:60-67. The POSA would have understood that De Vries's client-side application was executed to implement information service functionality on the mobile device, including the collection and reporting of location data for the reasons explained in connection with limitations [45C] and [45D], above. *Supra* §§VI.A.1.d, VI.A.1.e; Ex. 1012, 6:20-23, 8:60-67, 12:32-34. De Vries explains that the invention is described "in the general context of computer-executable instructions, such as program modules," and describes a client-side application for accessing information service. *See* Ex. 1012, 6:20-23, 8:13-17, 8:60-67, 12:32-34. De Vries also renders the claimed client-side application collecting location data obvious for the reasons explained above. *Supra* §VI.B.

d. [57C] "obtaining access rights for one or more other users to allow for access to the visited geographic location data, the one or more other users being one or more other users from one or more lists of other users with whom the visited geographic location data is to be shared; and"

Obtaining access rights in this limitation is similar to obtaining defined rights as recited in limitation [53C]; De Vries thus applies to this limitation for the same reasons discussed above in Section VI.E.2.d. De Vries's users are users that from lists of other users (i.e., buddy list(s)) with whom visited geographic location data may be shared, as explained in connection with limitation [45A], above. *Supra* §VI.A.1.b.

e. [57D] "sharing at least a portion of the visited geographic location data with the one or more other users according to the access rights defined for the one or more other users."

This limitation is similar to limitations [71D] and [76B2]. In limitation [71D] the phrase "report information indicating" is replaced with "sharing," in limitation [57D]. Reporting information indicating at least a portion of the visited geographic location information is a form of sharing that information. Therefore, De Vries discloses or render obvious these limitations for the same reasons as discussed above in Sections VI.A.3.i and VI.E.2.e.

5. Claim 61: "The method of claim 57 wherein the one or more lists of other users comprises a contact list maintained on the location-aware device."

This claim is similar to limitation [48E]; thus De Vries discloses or renders obvious this claim for the reasons discussed above in Section VI.A.1.g.

6. Claim 64: "The method of claim 57, further comprising: offering up to the client-side application context sensitive information associated with the geographic locations visited by the location-aware device."

De Vries discloses or at least renders obvious this claim. De Vries explains that "[t]he present invention is directed to providing user-contextual information services based on place and people via mobile communications devices . . . ." Ex. 1012, 2:13-18, 3:39-42, 6:4-15. Context-sensitive information includes "locale-specific data," *id.*, 6:8-15, or messages left for the user upon arrival at a specific place, *id.*, 6:42-47. And, this information is provided to a client-side application on

a mobile device. *Id.*, 6:20-23, 8:25-26, 8:31-39. De Vries thus discloses offering up to the client-side application context sensitive information associated with the geographic locations visited by the location-aware device. Ex. 1002, ¶ 226.

7. Claim 66: "The method of claim 57, further comprising: presenting information to the client-side application based on information received regarding the geographic locations visited by the location-aware device."

This claim is similar to claim 64, with the phrase "offering up" being replaced with "presenting," and "context sensitive information" being replaced with the more generic "information." The discussion of claim 64 shows how De Vries teaches this claim and is applicable here. *Supra* §VI.E.6. Additionally, this claim requires that the presentation of information be based on information received regarding the geographic locations visited by the location-aware device. De Vries teaches this limitation because the information received is dependent on location-based context, such as devices, people, and services that are nearby the user. Ex. 1012, 6:4-23, 8:6-26; Ex. 1002, ¶¶ 228-229.

8. Claim 67: "The method of claim 57, further comprising: downloading client software to the location-aware device."

De Vries in view of Zilliacus renders this claim obvious. De Vries teaches a client-side application on a mobile device, but does not explain how the application arrived on the mobile device. Ex. 1012, 6:20-23, 8:60-67. Zilliacus explains that "[d]ownloading content to a mobile terminal is regularly performed," Ex. 1018,

1:54-55, and describes a system for managing application downloads to mobile devices, *id.*, 6:1-52, 7:16-49. It would have been obvious to perform a step of downloading client software to the location-aware devices of De Vries because such activity was "regularly performed," Ex. 1018, 1:54-55, and downloading such content to a mobile device would have been the use of a known technique to get the client application on De Vries's mobile devices, Ex. 1002, ¶¶ 193-194, 197, 199, 231. The POSA would have found it obvious to have looked to Zilliacus as a way to improve upon De Vries, and would have found it obvious to perform a step of downloading the client software described by De Vries onto a mobile device as taught by Zilliacus for the reasons explained above. *Supra* §VI.E.1.

9. Claim 68: "The method of claim 57, further comprising: aggregating information received from the location-aware device with information from the one or more other users."

De Vries discloses or at least renders obvious this claim. De Vries explains that location information is tracked "in a people/place database 112." Ex. 1012, 4:50-52. "The information service 100 processes the information as to the users and their locations stored in the people/place database 112 . . . ." *Id.*, 5:56-59, 8:6-12 (discussing tracking of people A, B, C, D) with "people/place state data 300 in the database 112 of the information service"). Database 112 aggregates information received from the location-aware device (e.g., device of user "A") with information form the one or more other users (e.g., device of users "B," "C," and "D"). Ex. 1012,

8:8-12.

F. GROUND 6: CLAIM 65 IS OBVIOUS OVER DE VRIES IN VIEW OF ZILLIACUS AND FURTHER IN VIEW OF JONES

1. Claim 65: "The method of claim 64, wherein the context sensitive information may include ratings of the geographic locations visited by the location-aware device."

Claim 65 depends from claim 64, which is dependent on claim 57. Ex. 1001, cl.65. The analysis of those claims as set forth in Ground 5 is therefore incorporated by reference into this analysis. *Supra* §§VI.E.4, IV.E.6. It would have been obvious to offer up ratings information to the client-side application based on the teachings of Jones for the reasons discussed with respect to claim 50. *Supra* §§VI.D.1, VI.D.4,. Indeed, De Vries explains that information may be left for a user to receive when they enter a specific location. Ex. 1012, 6:42-47. Jones explains that geomarks including ratings information may be retrieved. Ex. 1013, ¶¶ [0025], [0027]-[0029]; Ex. 1014, 7, 10-12 (describing searching for geomark data). The POSA would have found this additional requirement obvious for the same reasons that reporting ratings to De Vries's information service would have been obvious—i.e., permitting the sharing of various information related to location-context in De Vries including various messages left for other users. *Supra* §VI.D.1.

G. GROUND 7: CLAIMS 60 AND 62 ARE OBVIOUS OVER DE VRIES IN VIEW OF ZILLIACUS AND FURTHER IN VIEW OF AUERBACH

1. Claim 60: "The method of claim 57 wherein the one or more lists of other users comprises an Instant Messaging buddy list of the user of the location-aware device."

Claim 60 depends from claim 57 and requires that the lists of other users comprise an Instant Messaging buddy list. While such a list is not disclosed by De Vries, it would have been obvious over De Vries in view of Auerbach for the reasons discussed above wit respect to limitation [47E]. *Supra* §VI.C.2.a (limitation [47E]). Auerbach further teaches that the instant messaging buddy list can be stored on a server. Ex. 1016, 6:24-26 (referring to a "server-based contact list"). It would have been obvious to obtain access rights associated with buddies on an instant messaging buddy list, such as the server-side buddy list of Auerbach for the reasons explained above. *Supra* §VI.C.1.

2. Claim 62: "The method of claim 57 wherein the one or more lists of other users comprises an e-mail contact list of the user of the location-aware device."

Claim 62 requires the "lists of other users" referred to in claim 57 to be an "email contact list of the user of the location aware device." This requirement would have been obvious over De Vries in view of Auerbach for the reasons explained above. *Supra* §§VI.c.1.

VII. MANDATORY NOTICES

A. REAL PARTY-IN-INTEREST

Pursuant to 37 C.F.R. §42.8(b)(1), Petitioner certifies that Unified Patents LLC, f/k/a Unified Patents Inc. is the sole real party-in-interest, and further certifies that no other party exercised control or could have exercised control over Unified's participation in this proceeding, the filing of this petition, or the conduct of any ensuing trial. In view of *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242-44 (Fed. Cir. 2018), Unified has submitted a declaration in support of its certification. Ex. 1022 ("Declaration of Kevin Jakel").

B. RELATED MATTERS

The RE'543 patent is being asserted in the following civil actions:

- *Ikorongo Texas LLC v. Bumble Trading Inc.*, No. 6:20-cv-00256 (W.D. Tex.)
- *Ikorongo Texas LLC v. LG Electronics, Inc.*, No. 6:20-cv-00257 (W.D. Tex.)
- *Ikorongo Texas LLC v. Lyft, Inc.*, No. 6:20-cv-00258 (W.D. Tex.)
- *Ikorongo Texas LLC v. Samsung Electronics Co., Ltd.*, No. 6:20-cv-00259 (W.D. Tex.)

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D. SERVICE

Petitioner consents to service by email on the following email addresses: sommera@gtlaw.com; roshan@unifiedpatents.com; jung@unifiedpatents.com.

VIII. FEES

The fee is being paid electronically through PTAB E2E.

IX. CONCLUSION

For the foregoing reasons, trial should be instituted and claims 45, 47-57, 60-62, 64-68, 71-72, and 76 of the RE'543 patent should be canceled.

Dated: August 6, 2020

Respectfully Submitted,

/Andrew R. Sommer/

Andrew R. Sommer
Reg. No. 53,932

CERTIFICATE OF COMPLIANCE

This petition complies with the word count limits set forth in 37 C.F.R. § 42.24(a)(i), effective May 2, 2016, because this Petition contains 13,650 words, excluding the parts of the petition exempted by 37 C.F.R. § 42.24(a), as determined using the word count provided by Microsoft Word, which was used to prepare this Petition.

Dated: August 6, 2020

Respectfully Submitted,

/Andrew R. Sommer/

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(a), the undersigned certifies that on August 6, 2020, I caused a true and correct copy of **PETITION FOR *INTER PARTES* REVIEW OF CLAIMS 45, 47-57, 60-62, 64-68, 71-72, and 76 OF U.S. PATENT NO. RE45,543** and **Exhibits 1001-1024** by EXPRESS MAIL on the Patent Owner at the correspondence address of record for U.S. Patent No. RE45,543 as follows:

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