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Paper No. 41
October 12, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBER TECHNOLOGIES, INC.,
Petitioner,

v.

X ONE, INC.,
Patent Owner.

IPR2017-01255
Patent 8,798,593 B2

Before JAMESON LEE, STACEY G. WHITE,
and SHEILA F. McSHANE, *Administrative Patent Judges.*

McSHANE, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, we determine that Petitioner has not shown, by a preponderance of the evidence, that claims 1, 2, 5, 6, 9, and 19 ("the challenged claims") of U.S. Patent No. 8,798,593 B2 (Ex. 1001, "the '593 patent") are unpatentable.

A. Procedural Background

Uber Technologies, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1, 2, 5, 6, 9, and 19 of the '593 patent pursuant to 35 U.S.C. §§ 311–319. Paper 1 ("Pet."). The Declaration of Dr. Chris G. Bartone ("Bartone Declaration") in support of the Petition was filed. Ex. 1002. X One, Inc. ("Patent Owner") filed a Preliminary Response to the Petition. Paper 6 ("Prelim. Resp."). Pursuant to 35 U.S.C. § 314(a), on October 16, 2017, we instituted *inter partes* review on the following grounds:

> whether claims 1, 2, 5, 9, and 19 would have been obvious under 35 U.S.C. § 103(a) in view of Okubo[1] and Konishi[2];
>
> whether claims 1, 2, 5, 9, and 19 would have been obvious under 35 U.S.C. § 103 in view of Makoto[3];

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[1] Japanese Unexamined Patent Application Publication No. 2002-10321 (published January 11, 2002). Ex. 1005. We refer to the English translation (Ex. 1006) of the original reference herein. Petitioner provides an affidavit attesting to the accuracy of the translation. Ex. 1007.

[2] Japanese Unexamined Patent Application Publication No. 2002-352388 (published December 6, 2002). Ex. 1011. We refer to the English translation (Ex. 1012) of the original reference herein. Petitioner provides an affidavit attesting to the accuracy of the translation. Ex. 1013.

whether claims 1, 2, 5, 6, and 9 would have been obvious under 35 U.S.C. § 103 in view of Okubo, Konishi, and Hartz[4]; and

whether claim 6 would have been obvious under 35 U.S.C. § 103 in view of Makoto and Hartz.

See Paper 8 ("Inst. Dec." or "Dec."). Subsequent to institution, Patent Owner filed a Patent Owner Response. Paper 23 ("PO Resp."). The Declaration of Mark A. Sturza ("Sturza Declaration") in support of Patent Owner's Response was filed. Ex. 2004. Petitioner filed a Reply to the Patent Owner Response and Dr. Bartone filed a supporting declaration. Paper 28 ("Pet. Reply"); Ex. 1031. Patent Owner filed a Motion to Exclude Evidence, Petitioner filed an Opposition to the Motion to Exclude, and Patent Owner filed a Reply to Petitioner's Motion to Exclude. Paper 34 ("Mot. Ex."); Paper 36 ("Mot. Ex. Opp."); Paper 37 ("Mot. Ex. Reply").

An oral hearing was held on August 13, 2018. A transcript of the hearing is included in the record. Paper 41 ("Tr.").

B. Related Proceedings

The parties indicate that a related matter is: *X One, Inc. v. Uber Technologies, Inc.*, Civ. No. 5:1-cv-6050-LHK (N.D. Cal.). Pet. 64, Paper 4, 2. The parties also indicate that a Petition has been filed in IPR2017-01264, seeking *inter partes* review of U.S. Patent No. 8,798,647 B1, which is related to the '593 patent. Pet. 65; Paper 4, 2.

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[3] Japanese Unexamined Patent Application Publication No. 2002-199433 (published July 12, 2002). Ex. 1008. We refer to the English translation (Ex. 1009) of the original reference herein. Petitioner provides an affidavit attesting to the accuracy of the translation. Ex. 1010.

[4] U.S. Patent No. 6,636,803 B1 (issued October 21, 2003). Ex. 1020.

C. The '593 Patent

The '593 patent is entitled "Location Sharing and Tracking Using Mobile Phones or Other Wireless Devices," and issued on August 5, 2014, from an application filed on May 7, 2013. Ex. 1001, [22], [45], [54]. The '593 patent claims priority to U.S. Patent Application No. 12/075,408, filed on March 11, 2008, that issued as U.S. Patent No. 8,538,458, and U.S. Patent Application No. 11/099,362, filed on April 4, 2005, that issued as U.S. Patent No. 7,353,034. *Id*. at [63].

The '593 patent is directed to the use of mobile devices and associated infrastructure for location tracking. Ex. 1001, Abs., 2:20–50. The '593 patent discloses the use of software installed on cell phones and other wireless devices to permit tracking and position mapping of members of groups. *Id*. at 2:33–39. Users can set up "buddy lists" of others to form a group that could receive positional updates. *Id*. at 2:57–61, 8:12–24, 11:20–49, 15:26–38. An embodiment of the invention includes a "Buddy Watch" that would allow receiving position data from "Instant Buddy's" wireless devices, provides an appropriate map from a server for the respective devices, and send maps and the GPS positions of the wireless devices to another "Instant Buddy's" wireless device. *Id*. at 14:7–20. The receiving wireless device can then display the other Instant Buddy device position on the map provided by the Buddy Watch server. *Id*. at 14:20–22. A map displaying the location of a user's "buddy" is reproduced below in Figure 5.

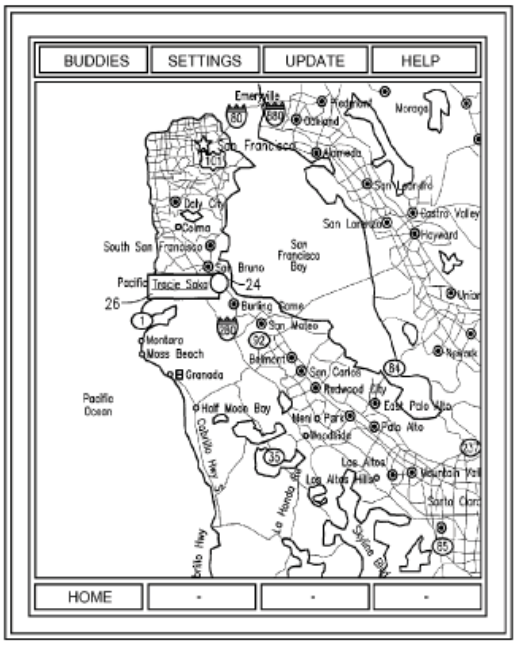


FIG. 5

Figure 5, above, is a user interface display showing a map and the position of the identified "buddy." Ex. 1001, 4:12–14, 15:61–65.

Claim 1, reproduced below, is illustrative of the challenged claims of the '593 patent.

1. An apparatus, comprising:

a server;

a database representing an account for a first individual, the account having an associated buddy list that identifies multiple users; and

software responsive to a request from the first individual to obtain a map, to obtain a last known position for multiple users identified by the buddy list, and to plot the last known location of at least two of the multiple users on the map, and to transmit the map with plotted locations to the first individual;

where the software is to request and store position information associated with cell phones of plural ones of the multiple users and

> where the software is to permit the first individual to change geography represented by the map and to transmit to the first individual a map representing the changed geography with plotted position of at least one of the multiple users, each in a manner not requiring concurrent voice communications; and
>
> wherein the software to obtain the map is to obtain the map in a manner having a default geographic resolution.

Ex. 1001, 28:51–29:4.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R § 42.100(b) (Aug. 14, 2012). Under that standard, and absent any special definitions, we normally give claim terms their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Although the parties dispute the construction of the claim terms "account" and "default geographic resolution" (*see* Pet. 14–18; PO Resp. 6–11, Pet. Reply 3–5), we determine that construction of these terms is not necessary for our analysis in this Final Written Decision. All claim terms will be given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention.

B. Level of Ordinary Skill in the Art

Petitioner's expert, Dr. Bartone, testifies that a person of ordinary skill at the time of the '593 patent filing would have had at least a four-year

degree in electrical engineering, computer science, or a related field of study, or equivalent experience, and at least two years of experience in or with mobile wireless communications and navigation systems. Ex. 1003 ¶ 40; *see also* Pet. 14. Patent Owner alleges that the proposed qualifications of "experience in or with mobile wireless communications and navigation systems" is ambiguous and that Dr. Bartone clarified this to mean that the person of ordinary skill would be involved "with mobile wireless communication systems . . . , not just one little aspect of it." PO Resp. 5 (citing Ex. 2007, 47:1–9). Patent Owner alleges that Dr. Bartone further explained his view that someone of ordinary skill in the art would have a "good grasp" of the technology at the "system level," which includes the user-facing front-end application through the signal-receiving elements. *Id*. at 5–6 (citing Ex. 2007, 48:10–49:6). Patent Owner agrees to adopt Petitioner's definition with the stated clarifications. *Id*. at 6.

We have reviewed Dr. Bartone's testimony, and his references to the front end and signal-receiving elements were intended to denote that a person of ordinary skill's understanding should include an understanding of the element's use at a system level in mobile wireless communications and navigation systems, but that "I'm not saying they have to have detailed understandings of every single aspect and every single system." *See* Ex. 2007, 48:17–19; *see also id.* at 46:15–49:6. Under Dr. Bartone's testimony, a person of ordinary skill in the art would not be required to have an understanding of, for instance, the details of the design of user applications or antenna except as required for an understanding of how these elements work within the mobile wireless communications and navigation systems. *See id.* Additionally, under our review of Petitioner's proposed

qualifications, we delete the use of qualifier "at least," because the use of this qualifier introduces vagueness. Accordingly, on this record, we adopt the qualifications that a person of ordinary skill would have a four-year degree in electrical engineering, computer science, or a related field of study, or equivalent experience, and two years of experience in or with mobile wireless communications and navigation systems, and the level of skill would include an understanding of how system elements work within mobile wireless communications and navigation systems. In addition, we note that the art of record in this proceeding—namely, Okubo, Konishi, Hartz, and Makoto—is indicative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Alleged Obviousness of Claims 1, 2, 5, 9, and 19 over Okubo and Konishi and Claims 1, 2, 5, 6, and 9 over Okubo, Konishi, and Hartz

Petitioner contends that claims 1, 2, 5, 9, and 19 would have been obvious over Okubo and Konishi and claims 1, 2, 5, 6, and 9 would have been obvious over Okubo, Konishi, and Hartz.[5] Pet. 18–46. To support its contentions, Petitioner provides explanations as to how the prior art accounts for each claim limitation and the rationale to combine the references. *Id*. Patent Owner counters that the prior art does not render the claims obvious because the prior art fails to sufficiently teach some of the claim elements, and the Petition fails to demonstrate a rationale to combine the prior art

[5] Patent Owner moves to exclude the translations of Okubo and Konishi. *See* Mot. Ex. 2; Ex. 1006; Ex. 1012. As discussed *infra* Section III, we do not grant the motion to exclude these documents, and we consider the respective translated versions.

references and to show a reasonable expectation of success of the combination. PO Resp. 11–49.

On this complete record, we are not persuaded by Petitioner's explanations and evidence in support of the obviousness grounds over Okubo and Konishi for claims 1, 2, 5, 9, and 19 and over Okubo, Konishi, and Hartz for claims 1, 2, 5, 6, and 9. We begin our discussion with a brief summary of Okubo, Konishi, and Hartz and then address the evidence, analysis, and arguments presented by the parties.

1. Okubo (Ex. 1006)

Okubo discloses a user setting up a group to enable recognition of the position of the mobile terminal of group members. Ex. 1006, Abs., ¶¶ 20–24. Figure 4, reproduced below, shows an example of the menu screen for setting up a group. *Id.* ¶ 19.

(Figure 4)

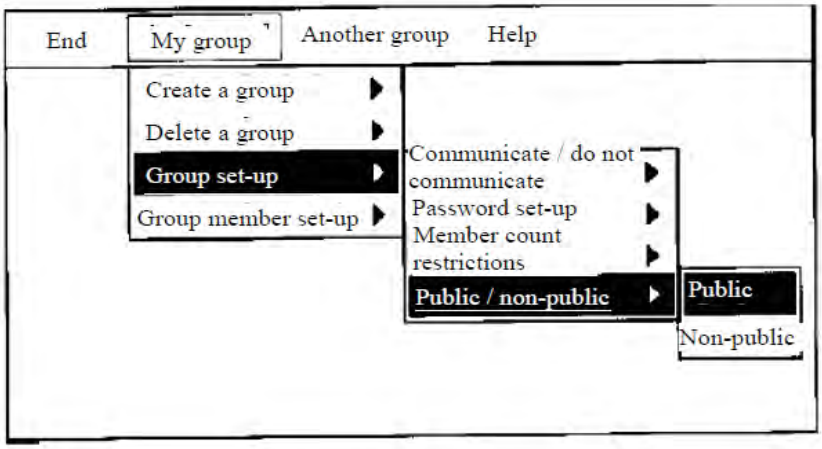


Figure 4, above, depicts a menu to select options for a group. Ex. 1006 ¶ 19. Okubo is directed to a system for providing location information for the group members to one's own mobile phone, and then displaying the phone's own location and group members' locations on a map on the phone's

display. *Id*. ¶¶ 21, 30. Figure 1, reproduced below, is a block diagram depicting the configuration of examples of embodiments. *Id*. ¶ 15.

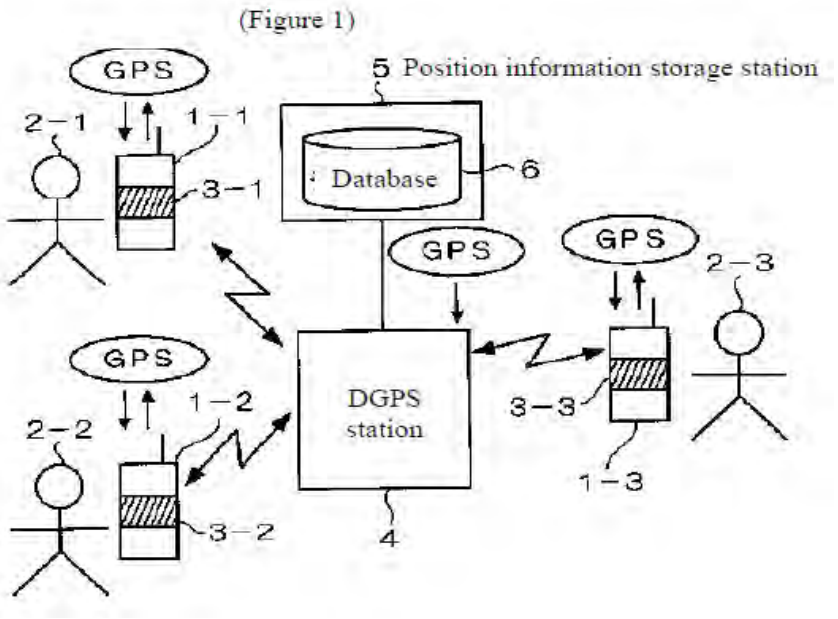


Figure 1, above, shows the overall configuration of an embodiment, where "mobile terminals 1-1, 1-2 and 1-3 are terminals that may be carried by group members 2-1, 2-2 and 2-3," and differential global positioning system [DGPS] station 4 will "transmit and receive the data following measurement of the position information." Ex. 1006 ¶ 15. Figure 3, reproduced below, "shows an example of the display of a mobile terminal during a search for other group members." *Id*. ¶ 18.

(Figure 3)

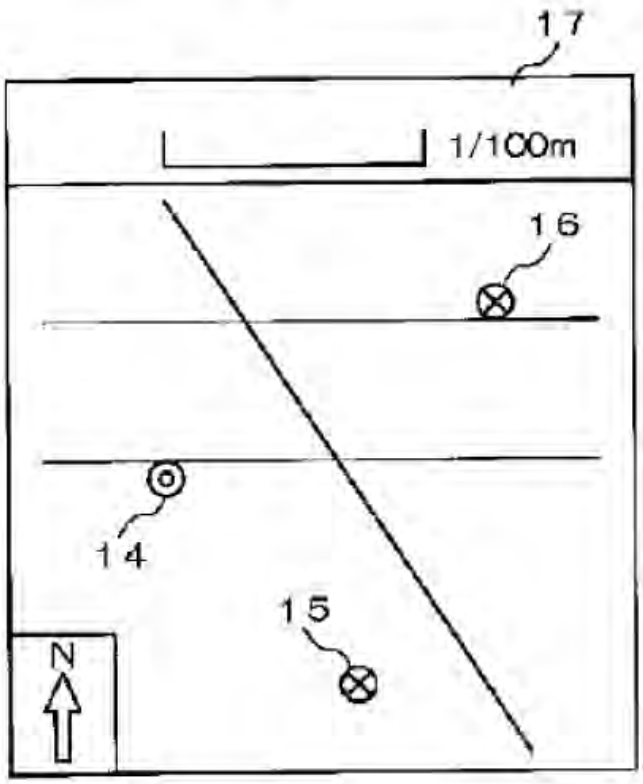
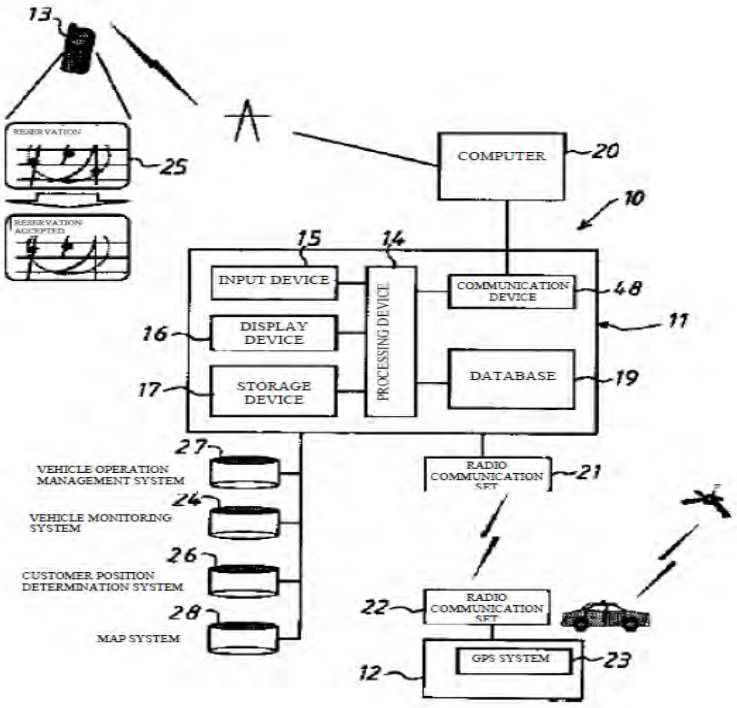


Figure 3, above, shows a display of a mobile terminal during a search for other group members, where mark 14 shows one's own position, and marks 15 and 16 indicate the positions of other group members. Ex. 1006 ¶ 18.

2. Konishi (Ex. 1012)

Konishi is directed to a vehicle search system that enables a customer to search for vacant vehicles, "by marking the current position of the customer and the current positions of vacant vehicles located within a prescribed range from the current position of the customer on a map and displaying the positions on the screen of the customer's information terminal." Ex. 1012, Abs. Figure 1, reproduced below, illustrates the configuration of the system.

[FIG. 1]



As depicted in Figure 1 of Konoshi, above, the system is comprised of information processing device 11, vehicle information terminal 12 mounted in each vehicle, and mobile telephone set 13 that is used as a customer information terminal. Ex. 1012 ¶ 26. When a customer accesses information processing device 11 with mobile phone set 13, customer position determination system 26 acquires and stores a customer's position. *Id.* ¶ 28. Information processing device 11:

> reads out a map of a region of a specific range with the customer position in the center from the map system 28 to the storage device 17, inputs the customer position and the first wireless device associated with the requestor of a service second wireless device associated with the provider of a service information processing device, current position of the retrieved vacant vehicle (step 36), transmits the information to the mobile

> telephone set 13, and displays the information on the screen 25 (step 37.)

Id. ¶ 31.

The screen of the customer's mobile phone is then updated to display the current position of the reserved vehicle on a map as it approaches, as well as the customer's position. *Id*. ¶ 33.

3. Hartz (Ex. 1020)

Hartz is directed to a real estate search and retrieval system with generation of maps on mobile phones. Ex. 1020, Abs., 4: 31–32. A terminal, which can include laptop computers, web-enabled phones or other portable devices, is used to assist buyers with helping to locate properties in specific geographic positions. *Id*. at 4:15–24. The terminal has a "map generation unit" that generates a digital map for display. *Id*. at 4:19–21, 4:30–31. Hartz discloses that it can use web-accessible map generation units, such as the program known as "MapQuest®." *Id*. at 4:50–57.

4. Analysis

Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail on its challenges, Petitioner must demonstrate by a preponderance of the evidence that the challenged claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 406

(2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness.[6] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Independent Claims 1 and 19 -- Obviousness over Okubo and Konishi

Independent claims 1 and 19 both require an apparatus having "software responsive to a request from the first individual to obtain a map, to obtain a last known position for multiple users identified by the buddy list, and to plot the last known location of at least two of the multiple users on the map, *and to transmit the map with plotted locations to the first individual*." *See* Ex. 1001, 28:56–61, 30:59–64 (emphasis added).

Petitioner asserts that Okubo discloses plotting the current positions of multiple group members on a map and displaying the map on a mobile device, but does not expressly provide implementation details. Pet. 30. Dr. Bartone testifies that although Okubo "suggests to a person of ordinary skill in the art that the map is transmitted" to the mobile device, it "does not expressly provide implementation details explaining how the current locations of the group members are displayed on the map on the mobile device." Ex. 1003 ¶¶ 86–87.

The Petition also argues that "a skilled artisan would have found it obvious to provide mapping as taught by Konishi to provide the maps with the last known buddy locations as taught by Okubo." Pet. 31 (citing Ex. 1003 ¶¶ 87–88). Dr. Bartone testifies that a person of ordinary skill

[6] Patent Owner does not argue on the record that there are objective indicia of nonobviousness.

"would have understood that there are several design choices, for example to have the map already stored on the mobile devices or to transmit the map to the mobile device," and would have understood that Okubo's system could be implemented either way. *Id*. ¶ 87. Dr. Bartone testifies that a person of ordinary skill would have considered it "an obvious design choice to have server-side software, for example software on the position information storage station 5, obtain a map, plot the location on the map of the group members (i.e., buddies), and transmit the map to the mobile terminal." *Id*. Dr. Bartone additionally testifies that, even if Okubo did not teach that its system could be implemented by obtaining maps on the server and plotting locations prior to transmitting maps, a person of ordinary skill in the art would have found it obvious "to implement Okubo's system that way based on Konishi's teachings to host the map data on servers and plot the user locations on the map prior to sending the map." *Id*. ¶ 88.

Petitioner refers to Konishi's disclosure of plotting the last known location of at least two group members on a map, and transmitting the map with the plotted locations to the customer's mobile device for display. Pet. 30–31 (citing Ex. 1012 ¶ 31). Petitioner asserts that a skilled artisan would have found it obvious to provide mapping as taught by Konishi to provide the maps with the last known buddy locations as taught by Okubo. *Id*. (citing Ex. 1003 ¶¶ 87–88).

Petitioner contends in its Reply and at the oral hearing that it is not arguing that a person of ordinary skill would have modified Okubo based upon Konishi's teachings, but rather that it is only offering Konishi's teachings as an implementation detail. Pet. Reply 11–14; Tr. 8–10. Petitioner argues that it is not disputed that Okubo has a display which

shows the location of users, but Okubo is silent on the implementation, that is, whether the plotting of the locations is done by the server with the plotted map sent to the mobile device or whether the plotting is done by the mobile device. Tr. 8:1–13. Petitioner avers that because of Okubo's lack of detail, a person of ordinary skill in the art would have been motivated to look to other references to determine how to implement Okubo, and, therefore, the rationale to combine is based upon the omission of implementation details in the teachings of Okubo. *Id*. at 8:14–9:2; *see also* Pet. Reply 11. Petitioner asserts that Konishi describes one of the ways that Okubo could have been implemented, which includes either plotting on a server and sending or plotting on a phone, and that these are design choices, and Konishi provides both. Tr. 11:10–17; *see also* Pet. Reply 12.

Petitioner argues that the prior art provides a sufficient basis for a reasonable expectation of success because Okubo was successful in achieving the result of displaying locations on a map to a user, and Petitioner points to a different implementation where Konishi plots the locations on the map prior to transmitting it to the mobile device. *See* Tr. 10:15–11:5; Pet. Reply 18–19. Petitioner argues that a person of ordinary skill would have expected success "because Konishi's server-side mapping is one of two known ways to implement Okubo's system." Pet. Reply 18–19 (citing Ex. 1003 ¶¶ 87–88, 93–94). Petitioner further contends that "it would be a straightforward application of Konishi's server-side mapping." *Id*. at 19.

As an additional argument, Petitioner asserts that Okubo and Konishi are in the same field of endeavor, as both relate to location sharing for mobile phones, and seek to solve the same problem: helping one user view and track the location of other users. Pet. 23–25 (citing Ex. 1003 ¶¶ 76–77).

Petitioner asserts that a person of ordinary skill in the art would have also been motivated to combine Okubo and Konishi because the combination would create a more robust system. *Id*. at 25 (citing Ex. 1003 ¶ 78).

Patent Owner argues that Petitioner does not provided a sufficient rationale to combine the teachings of Okubo and Konishi. PO Resp. 22–33. Patent Owner contends that Petitioner's alleged motivation to combine is legally insufficient because Petitioner employs conclusory statements rather than articulating specific reasoning, based on the evidence of record, to support a conclusion of obviousness. *Id*. at 22. Patent Owner argues that allegations of similarities among the references, such as being in the same field of endeavor, are insufficient to demonstrate obviousness. *Id*. at 23–24. Patent Owner asserts that Petitioner's allegation that the proposed combination creates a "more robust system" does not represent articulated reasoning with evidentiary support. *Id*. at 25–26. Patent Owner avers that "when two references accomplish similar functions, but in different ways, an ordinary artisan 'would have no reason to combine the features of both devices into a single device,'" that the alleged disclosures of Okubo and Konishi operate independently, and that Petitioner has not provided a reason to combine or modify them. *Id*. at 25 (citing *Kinetic Concepts, Inc. v. Smith & Nephew, Inc*., 688 F.3d 1342, 1369 (Fed. Cir. 2012); *In re NTP, Inc*., 654 F.3d 1279, 1298–99 (Fed. Cir. 2011)).

Patent Owner also contends that a person of ordinary skill in the art would not have modified Okubo with Konishi's teachings because Okubo's system could not handle high-data transfers. PO Resp. 28–32. Patent Owner argues that Okubo does not describe its "mobile terminals" as cellular phones or that they are cellular capable, and that a person of

ordinary skill in the art would have understood that Okubo's mobile devices are GPS devices, and not cellular telephones. *Id*. at 28 (citing Ex. 2004 ¶ 79). Patent Owner also refers to Okubo's teachings of the use of DGPS connections, which Patent Owner alleges are low-data-rate systems, and which a person of ordinary skill would not have been motivated to use for the transfer of large data files, such as maps. *Id*. at 28–29 (citing Ex. 2004 ¶¶ 81–94). Dr. Sturza testifies that "to the extent Okubo describes the results of its modifications to the prior DGPS systems, it appears that the only modifications are low-data rate transfers, such as coordinate positions and zone information of group members," and "Okubo does not propose modifying the system in a way that would be capable of transferring large data files, such as maps." Ex. 2004 ¶ 84 (citing Ex. 1006 ¶ 20).

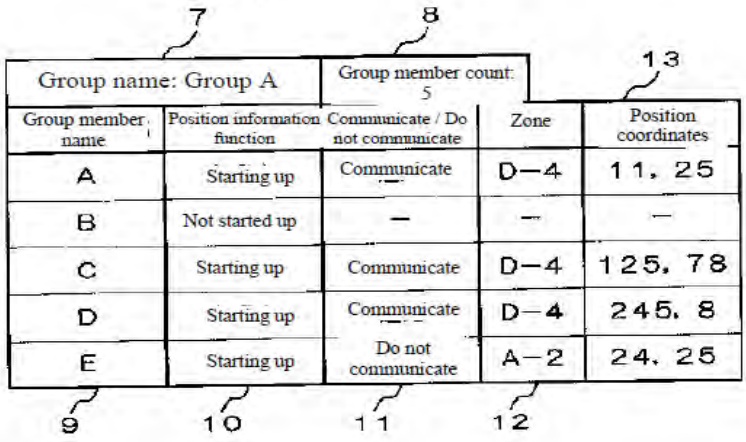
Patent Owner asserts that a person of ordinary skill in the art would have "transmitted only user coordinates for plotting on the mobile devices for the mobile device to plot on maps already stored on the device, enhancing reliability and avoiding large data transfers." PO Resp. 30–31 (citing Ex. 2004 ¶¶ 83, 86). Patent Owner argues that Petitioner's proposed modification would require resending new maps to users whenever any group member changed location, and the increased data requirements would make the system unworkable. *Id*. at 31 (citing Ex. 2004 ¶¶ 87, 89–90). Patent Owner further contends that Petitioner's proposed modification of transmitting maps over Okubo's system would defeat its purpose because it would compound data transfer problems and slow Okubo's system, which is supposed to regularly update group user's positions. *Id*. at 31–32 (citing Ex. 1006 ¶ 25; Ex. 2004 ¶¶ 86–90).

Patent Owner argues that a reasonable expectation of success for sending the map at the time of invention has not been demonstrated by Petitioner. PO Resp. 33–37; Tr. 27:24–29:4. Patent Owner asserts that there is no showing or allegation of a reasonable expectation of success in the Petition, and Petitioner only states that "a person of ordinary skill . . . would understand how to implement the system described in Okubo [with] the various features described by Konishi according to *known methods* to yield *predictable results*." PO Resp. 33 (citing Pet. 25). Patent Owner avers that the stated conclusory basis is insufficient. *Id*. at 33–35.

Having considered the complete trial record, we determine that Petitioner has failed to sufficiently demonstrate, by a preponderance of the evidence, that one of ordinary skill in the art would have been motivated to combine Okubo and Konishi to reach the claimed invention.

We are not persuaded by Petitioner's arguments that one of ordinary skill would seek to modify Okubo because it fails to teach the implementation details of *how* the plotting of member locations on a map is done on its mobile terminal to the extent that is being argued by Petitioner. *See* Ex. 1003 ¶ 87. Figure 2 of Okubo, reproduced below, depicts "the position information for group members and the group information that is registered in the database" of position information storage station 5. Ex. 1006 ¶ 17.

(Figure 2)



Group name: Group A		Group member count: 5		
Group member name	Position information function	Communicate / Do not communicate	Zone	Position coordinates
A	Starting up	Communicate	D—4	11, 25
B	Not started up	—	—	—
C	Starting up	Communicate	D—4	125, 78
D	Starting up	Communicate	D—4	245, 8
E	Starting up	Do not communicate	A—2	24, 25

As depicted in Figure 2, above, Okubo discloses that the "group member name 9" refers to the names of the group members belonging to a group, "zone 12" is the information that shows the zone in which group members are present, and position coordinates 13 is information that shows the position coordinates for each group member within the zone. Ex. 1006 ¶ 17. Okubo states that "position information storage station 5 will read out the position information (zone 12, position coordinates 13) for the other group members (mobile terminals) from database 6, and will transmit this information to the [] mobile terminal." *Id*. ¶ 16. Okubo discloses that:

> Once the position information for mobile terminal 1-1 has been registered, *the position information (zone 12, position coordinates 13) for the other group members 2-2 and 2-3 (mobile terminals 1-2 and 1-3) will be read out from database 6 of position information storage station 5 and will be transmitted to mobile terminal 1-1. In mobile terminal 1-1, the position information for the other group members 2-2 and 2-3 will be received and displayed on the display part. As shown in Figure 3, mark 14* that shows the current position of mobile terminal 1-1, which is one's own terminal, *mark 15* that shows the current position of mobile terminal 1-2 of group member 2-2 and *mark 16* that *shows the current position of mobile*

> *terminal 1-3 of group member 2-3 are displayed on the map on the display part.*

Ex. 1006 ¶ 21 (emphases added).

Patent Owner provides expert testimony that Okubo's teachings are to "low-data rate transfer, such as coordinate positions and zone information of group members," and "Okubo does not propose modifying the system in a way that would be capable of transferring large data files, such as maps." Ex. 2004 ¶ 84. Petitioner does not dispute that Okubo teaches the transmission of positions for user locations to its mobile terminals and the display of those locations on a map in the mobile device. *See* Pet. 29–31; Ex. 1003 ¶¶ 84–88; Tr. 13:12–15:14. For instance, the Petition states that in Okubo "the position information for the other group members . . . . will be read out from database 6 of position information storage station 5 and will be transmitted to mobile terminal 1-1." Pet. 29 (citing Ex. 1006 ¶ 21); *see also* Ex. 1003 ¶¶ 84–85.

Petitioner alleges that a skilled artisan would be motivated to seek the teachings of references other than Okubo: "Okubo suggests to a person of ordinary skill in the art that the map is transmitted, but does not expressly provide implementation details explaining how the current locations of the group members are displayed on the map on the mobile device." Ex. 1003 ¶ 87. There is no dispute that Okubo teaches that position information for multiple users is sent to a mobile device and the positions are displayed on the map on the display part of the mobile terminal. *See* Ex. 1006 ¶ 21. The issue that Petitioner argues is whether one of ordinary skill in the art would have sought other teachings on how the display is generated in Okubo, that is, a skilled artisan's understanding of this implementation. Petitioner's argument on this issue does not persuade because the record indicates

otherwise. Petitioner's expert, Dr. Bartone, testifies that the view of one of ordinary skill is that, after position information is sent to Okubo's mobile device, "*Okubo then teaches plotting the last known location of at least two of the group members on a map*." Ex. 1003 ¶¶ 85–86 (emphasis added). Thus, Petitioner's expert recognizes the understanding of a person of ordinary skill for the implementation of the user position display on a map in the mobile terminal in Okubo. Moreover, Petitioner asserts that, based on Okubo's teachings *alone*, a person of ordinary skill in the art would have a reasonable expectation of success in implementing Okubo, "Okubo was successful in achieving this result," and Konishi merely represents an alternative implementation to Okubo. *See* Tr. 10:24–11:5. Petitioner argues that "the primary reference [Okubo] does not need modification." Pet. Reply 14. This reflects the Petitioner's recognition that Okubo would be successful in receiving user positions at its mobile terminal and presenting the plotted locations of group members on a map on its mobile terminal. Accordingly, we are not persuaded that one of ordinary skill in the art would have been motivated to look to other references, such as Konishi, to determine how to implement the teachings of Okubo.

In view of the alleged lack of implementation details, Petitioner also argues that Konishi would be a design choice. Ex. 1003 ¶¶ 87–88. Petitioner argues that one of skill in the art would seek to combine Okubo with Koniski, with Konishi teaching mapping of user locations on a map on *server*, and transmitting the map with the plotted locations from its server to the mobile device. Pet. 30–31 (Ex. 1003 ¶¶ 86–88; Ex. 1012 ¶ 31). We find that this argument represents impermissible hindsight. As discussed above, Okubo teaches that only position information is transmitted to its mobile

terminal, and the display of the positions on a map is done on the mobile terminal. Petitioner does not identify any teaching or suggestion in Okubo that a *plotted map* is transmitted from DGPS station 4 of Figure 1 or transmitted from anywhere else to the mobile terminals. *Id*. at 29–31. Petitioner's apparent view of the alternative where a plotted map is sent from a server to Okubo's mobile terminal as only an implementation detail is not supported by the Okubo's teachings as discussed above, so the evidence does not support that Konishi's alternative teachings would be a design choice for Okubo—instead the use of Konishi's teachings in this regard would represent a proposed wholesale modification to Okubo.

The experts of both Petitioner and Patent Owner agree that it was known that a map could be stored on the mobile device itself, and Dr. Bartone testifies that Okubo suggests that the map is transmitted to the mobile device. Ex. 1003 ¶ 87; Ex. 2004 ¶ 86. This lends further support for Okubo's teachings of the mobile terminal receiving position information only and then displaying a plotted map there, with the plotting on the map done in Okubo's mobile terminal, and further, as discussed above, the record supports a skilled artisan's understanding that Okubo sufficiently teaches the implementation of plotting the locations of group members on a map on its mobile terminal. *See* Ex. 2004 ¶ 86. Therefore, we are not persuaded by Petitioner's assertion that one of ordinary skill would seek out Konishi as a design choice for combination with Okubo.

We are also not persuaded by Petitioner's alleged motivation to make a modification to Okubo based on Petitioner's rationale that Okubo and Konishi are in the same field of endeavor or the combination would result in a more robust system. Merely asserting that the prior art references are in

same field of endeavor or seek to solve the same problem, or that the combination would create a more robust system, without an identification of a specific rationale why the prior art teachings should be combined, is insufficient to demonstrate why a person of ordinary skill would make the proposed modification. *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d at 1367 ("Without any explanation as to how or why the references would be combined to arrive at the claimed invention, we are left with only hindsight bias that *KSR* warns against." (citing *KSR*, 550 U.S. at 421)).

Accordingly, we determine that Petitioner has not provided sufficient evidence to support that a person of ordinary skill in the art would have been motivated to look to other references, such as Konishi, to determine how to implement the teachings of Okubo.

Therefore, for the reasons discussed above, Okubo fails to teach or suggest the limitation of independent claims 1 and 19 of "software . . . to transmit the map with plotted locations to the first individual," because there is no teaching or suggestion of a map with plotted locations being transmitted to its mobile terminal, and Petitioner fails to provide sufficient rationale to consider Konishi's teachings in combination with Okubo to support a prior art teaching or suggestion of the limitation.

Independent Claim 1 as Obviousness over Okubo, Konishi, and Hartz

The Petition relies upon Hartz only for its teachings related to the term "default geographic resolution" in the limitation "wherein the software to obtain the map is to obtain the map in a manner having a default geographic resolution." Pet. 41–42. Accordingly, Hartz fails to remedy the Petition's failing to provide sufficient evidence of a teaching or suggestion of the claim

1 limitation of "software . . . to transmit the map with plotted locations to the first individual" to support the obviousness challenge.

Dependent Claims 2, 5, 6, and 9

Dependent claims 2, 5, 6, and 9 depend directly from claim 1 of the '593 patent. The additional evidence presented in the Petition for the dependent claims is directed only to the limitations of the dependent claims, and does not remedy the Petition's failure to sufficiently demonstrate the obviousness of claim 1. *See* Pet. 35–38, 44–46.

In light of the insufficiency of the evidence to demonstrate that claim 1 is obvious over Okubo and Konishi or over Okubo, Konishi, and Hartz, there is also insufficient evidence to demonstrate the obviousness of dependent claims 2, 5, 6, and 9.

Conclusion

Accordingly, based on the complete record before us, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1, 2, 5, 9, and 19 are obvious over Okubo and Konishi or claims 1, 2, 5, 6, and 9 are obvious over Okubo, Konishi, and Hartz.

D. Obviousness of Claims 1, 2, 5, 9, and 19 over Makoto and of Claim 6 over Makoto and Hartz

Petitioner contends that claims 1, 2, 5, 9, and 19 would have been obvious over Makoto and claim 6 would have been obvious over Makoto and Hartz.[7] Pet. 46–64. To support its contentions, Petitioner provides explanations as to how the prior art allegedly discloses each claim limitation.

[7] Patent Owner moves to exclude the translation of Makoto. *See* Mot. Ex. 2; Ex. 1009. As discussed *infra* Section III, we do not grant the motion to exclude this document, and we consider the translated version.

Id. Patent Owner counters that the prior art does not render the claims obvious because the prior art fails to sufficiently teach some of the claim elements, and the Petition fails to sufficiently demonstrate a rationale to combine the prior art references. PO Resp. 49–60.

On this complete record, we are not persuaded by Petitioner's explanations and evidence provided in support of the obviousness of claims 1, 2, 5, 9, and 19 over Makoto or the obviousness of claim 6 over Makoto and Hartz. We begin our discussion with a brief summary of Makoto and then address the evidence, analysis, and arguments presented by the parties.

1. Makoto (Ex. 1009)

Makoto is directed to providing multiple locations of users on mobile phones. Ex. 1009, Abs., ¶ 38. In Makoto, mobile phones 304_1 and 304_2 communicate with position information service providing device 305, as depicted in Figure 16, reproduced below. *Id.* ¶¶ 97–98.

[FIG. 16]

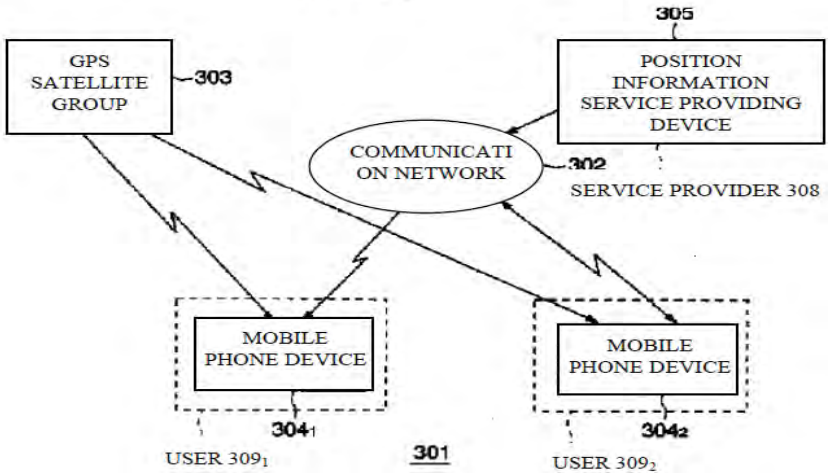


Figure 16, above, depicts a configuration diagram of an embodiment of the invention. Ex. 1009 ¶ 97. Position information service providing device 305 includes a storage device. *Id.* ¶ 104. Upon a registration request,

a group ID is generated, with association of the communication device IDs. *Id*. ¶¶ 107–111. A mobile communication device may generate a location information request with device ID and group ID, and transmit it to the server. *Id*. ¶¶ 119–120. The location information for the group members may be transmitted to the mobile communication device that sent the request, and the mobile communication device provides a display of the locations on the map. *Id*. ¶¶ 124–126. The map is generated using the positional relationship of the mobile phone devices. *Id*. ¶ 56. Figures 5A and 5B, reproduced below, depict maps with users' positions as shown.

[FIG. 5]

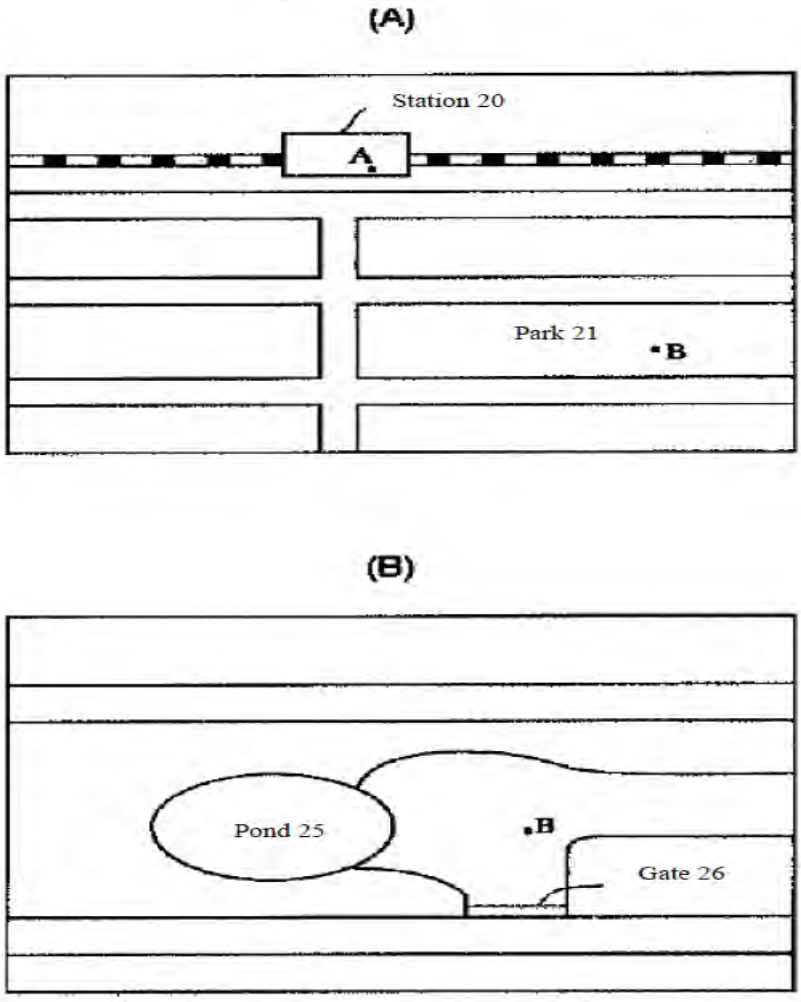


Figure 5A, above, depicts a map showing the location of user A, located within the location of station 20, and user B located in neigboring park 21. Ex. 1009 ¶ 56. Processing unit 14 may specify the location of only one mobile phone device, and that is depicted in Figure 5 B, above. *Id*. Makoto discloses that there can be instruction for changing a map by "for example, zooming-in [or] zooming-out," and the system specifies a new map according to the instruction. *Id*. ¶ 57.

2. Analysis

Independent Claims 1 and 19

Petitioner asserts that claims 1 and 19 would have been rendered obvious by Makoto. *See* Pet. 51–58, 60–62. Petitioner contends that Makoto teaches a "position information service providing device," that is equivalent to a server, a database that includes information for a first user, and group ID and communication device IDs of the devices belonging to the group, which serve to form a buddy list. *Id*. at 52–54. It is asserted that fee collection user accounts are taught. *Id*. at 53–54.

Petitioner alleges that Makoto teaches the use of software that provides map plotting of other group members, and "last known positions" of group members in the view of one of ordinary skill in the art. Pet. 54–56. More specifically, for the teaching of the limitation "software . . . transmit[ting] the map with plotted locations to the first individual," Petitioner asserts that Makoto discloses generating a display signal on a mobile phone, but in a related embodiment, Makoto also discloses that the mobile phone could read a map from internal storage or "download . . . from a predetermined server device connected to the mobile phone communication network." *Id*. at 55–56 (citing Ex. 1003 ¶ 131; Ex. 1009 ¶¶

54, 124–125). Petitioner then alleges that "[b]ecause Makoto teaches that the mobile phone device reading the map from internal storage or the server transmitting the map to the mobile device as interchangeable design options, a skilled artisan would have found it obvious to obtain a map plotting the locations of at least two group members and transmit the map with the plotted locations to the first individual." *Id*. at 56 (citing Ex. 1003 ¶ 131). Dr. Bartone's testimony in support of the allegation is essentially identical to the allegation in the Petition and thus, it fails to provide support and elaboration for Petitioner's argument. *See* Ex. 1003 ¶ 131. In Reply, Dr. Bartone further testifies that in Makoto one of ordinary skill would understand that "there would be two predominate options: either have the locations plotted on the map prior to its transmission since the server received the 'map information' including 'information required to display the location of the mobile phone devices [] on the map' or have the locations plotted on the map by the phone after the phone receives the map." Ex. 1031 ¶ 33.

Patent Owner counters that Petitioner's rationale to modify Makoto is insufficient. PO Resp. 53–57. Patent Owner argues that the Petition fails to provide any specific reason why one of skill in the art would modify Makoto. *Id*. at 54–57. Patent Owner argues that Makoto does not teach sending a map with plotted locations. *Id*. at 54 (citing Ex. 2004 ¶¶ 126–127). Patent Owner refers to Petitioner's assertion that sending a map over a network is interchangeable with having the map loaded locally on the mobile device, but then, without explanation, Petitioner concludes that a person of ordinary skill would have found it obvious to obtain a map with plotted locations of group members to the first individual. *Id*. at 54. Patent Owner

avers that instead "Makoto discloses that the *mobile device* plots the locations onto the map, regardless of whether the map was on the device or downloaded." *Id*. at 55 (citing Ex. 1009 ¶¶ 50, 55, 76, 93, 125; Ex. 2004 ¶ 127). Patent Owner further argues that Petitioner identifying the proposed modification as a "design option" does not substitute for providing a reasoning for way one of ordinary skill in the art would have made the proposed modification. *Id*.

We fail to find sufficient evidentiary support for Petitioner's assertions that transmitting a plotted map from a server to a mobile phone represents a known design option for Makoto. Instead, Makoto's teachings are directed to map plotting done by its mobile communication device. *See* Ex. 1009 ¶¶ 53–56, 126, 129. Makoto teaches that map information may be read by the processing unit of a mobile phone device from the mobile phone device's storage unit 13, or the map information may downloaded from a service device to the mobile phone device. *See* Ex. 1009 ¶ 54. Petitioner conflates this teaching about the source of an unplotted map to limitations pertaining to a plotted map. Makoto's teaching of maps being already loaded on internal storage of the mobile phone device or being obtainable from a server is a separate issue from whether Makoto teaches that it is a server, rather than a mobile device, that plots user locations on a map. Regardless of how the map comes to be loaded on Makoto's mobile phone device, the evidence of record supports that plotting buddies' locations on a map is done only by the mobile phone device.

Makoto states, for instance, that its steps done on the mobile phone device include plotting and mapping user locations:

> "*[i]n the processing unit 14 of mobile phone device* 4_1, the map information required to display the location of mobile phone devices 41 and 42 on a map is specified;"
>
> "*[t]he processing unit 14 of mobile phone device* 4_1 reads the map information" stored in the phone device storage unit;
>
> "*[i]n the processing unit 14 of mobile phone device* 4_1, a display signal showing the relation between mobile phone devices 4_1 and 4_2 [] on a map is generated;" and
>
> that display signal "is outputted to the display unit 15 from the *processing unit 14 of mobile phone device* 4_1."

See Ex. 1009 ¶¶ 53–56 (emphasis added); *see also id.* at ¶¶ 126, 129. Petitioner fails to identify in its Petition or Reply any disclosures in Makoto that support teachings of anything other than it is the mobile phone device that is used to plot buddies' locations onto a map. *See* Pet. 54–56; Pet. Reply 22–25.

Petitioner does not provide any additional evidence or explanation why the asserted modification to Makoto to have plotting done by the server with a plotted map transmitted to the mobile phone of a user is a design option that would be sought by a person of ordinary skill. Petitioner's design choice contentions are conclusory, and, as discussed, the evidence does not support a specific rationale to make the modification. *See Cutsforth, Inc. v. Motive Power, Inc.*, 636 Fed. Appx. 575, 578 (Fed. Cir. 2016) ("Merely stating" a modification "is a design choice does not make it obvious.").

Accordingly, for the reasons discussed above, Makoto fails to teach or suggest the limitation of independent claims 1 and 19 of "software . . . to transmit the map with plotted locations to the first individual."

Dependent Claims 2, 5, 6, and 9

Dependent claims 2, 5, 6, and 9 depend directly from claim 1 of the '593 patent. The additional evidence presented in the Petition for the dependent claims is directed only to the limitations of those claims, and does not remedy the Petition's failing to sufficiently demonstrate the obviousness of claim 1. *See* Pet. 58–60, 62–64.

In light of the insufficiency of the evidence to demonstrate that claim 1 is obvious over Makoto, there is also insufficient evidence provided to demonstrate the obviousness of claims 2, 5, and 9 over Makoto, as well as claim 6 over Makoto and Hartz.

Conclusion

Accordingly, based on the complete record before us, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1, 2, 5, 9, and 19 are obvious over Makoto or claim 6 is obvious over Makoto and Hartz.

III. MOTION TO EXCLUDE

A. Exhibits 1005–1013

Patent Owner moves to exclude Exhibits 1005–1013[8], which include the declarations of Angela Lo (Exs. 1007, 1010, and 1013 ("the Lo declarations")) filed in support of accuracy of the translations of Okubo (Ex. 1006), Makoto (Ex. 1009), and Konishi (Ex. 1012). *See* Mot. Ex. 2–8; Mot. Ex. Reply 1–2. Patent Owner contends that the Lo declarations are deficient because (1) Ms. Lo did not personally translate the documents, and the declarant cannot attest to the accuracy of a translation as required under Rule 42.63(b) and the Federal Rules of Evidence; (2) the Lo declarations are

[8] We address Exhibits 1014–1016 below.

not affidavits and do not include a warning that willful false statements and the like are punishable by fine or imprisonment; and (3) the Lo declarations are hearsay. *Id*. Patent Owner further alleges that reliance on subsequent declarations filed (Exs. 1027, 1029, and 1030) would violate Rule 42.63(b). Mot. Ex. 5–6. Petitioner opposes the motion.

We have reviewed the Motion, Opposition, and Reply, and we do not agree with Patent Owner that it is required that the Lo declarations come from the translator of the documents. A declarant is required to attest to the accuracy of the provided translations under Rule 42.63(b). Ms. Lo's declarations state that the translation is "to the best of my knowledge and belief," that the translated document represents a "true and accurate translation from Japanese into English," and that the translation "has been verified to be an accurate and complete rendering of the original document." *See e.g.*, Ex. 1007. Patent Owner also relies upon Federal Rules of Evidence 602 in support of its allegation that Ms. Lo is an improper declarant. Rule 602 requires that evidence is presented of the declarant's personal knowledge, and Rule 603 states that "a witness must give an oath or affirmation to testify truthfully. It must be in a form designed to impress that duty on the witness's conscience." The Lo declarations contain sworn testimony before a notary public, and, as identified, the statements in the declarations sufficiently demonstrate Ms. Lo's personal knowledge of her statements. Additionally, under Rule 42.2, an "affidavit means affidavit or declaration," and the declarations represent sworn testimony before a notary.

Patent Owner does not explain why the Lo declarations are hearsay, short of an allegation of lack of personal knowledge. *See* Mot. Ex. Reply 2. In this context, lack of personal knowledge in making an averment,

however, pertains to credibility of the witness, not inadmissibility of evidence as hearsay.

As for other alleged failures of the Lo declarations, any alleged deficiencies were remedied when Petitioner filed Exhibits 1027, 1029, and 1030, which are declarations of the translators for translated documents, Exhibits 1006, 1009, and 1012.[9] Additionally, the declarations in Exhibits 1027, 1029, and 1030 contain statements that willful false statements are punishable by fine and imprisonment. Accordingly, we deny Patent Owner's motion to exclude the translations of prior art references, Okubo, Makoto, and Konishi (Exs. 1006, 1009, and 1012), their untranslated versions (Exs. 1005, 1008, and 1011), and associated declarations in support of the translations (Exs. 1007, 1010, and 1013).

B. Exhibits 1014–1016, 1021, 1025, and 1026

Patent Owner moves to exclude Exhibits 1014–1016, 1021, 1025, and 1026 as not being relevant to this proceeding because they were not relied upon by Petitioner in its Petition, Reply, or Dr. Bartone's supporting declarations. Mot. Ex. 8, 11–13. Petitioner responds that the exhibits were included to provide consistency between this proceeding and the IPR2017-01264 proceeding, and to the extent the Board does not rely on these exhibits, the Motion to Exclude should be dismissed as moot. Mot. Ex. Opp. 11.

[9] We granted Petitioner's motion to file the supplemental declarations, in part, because the information in the supplemental declarations "constitutes additional support that allegedly confirms the accuracy of translations of prior art" and the filing could "obviate the need for filing additional authenticating documents in the future." *See* Paper 20, 5.

Neither party has relied, substantively, on any of Exhibits 1014–1016, 1021, 1025, and 1026. We also have not. Accordingly, we dismiss the Motion to Exclude for these exhibits as moot.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that claims 1, 2, 5, 9, and 19 would have been obvious in view of Okubo and Konishi; that claims 1, 2, 5, 9, and 19 would have been obvious in view of Makoto; that claims 1, 2, 5, 6, and 9 would have been obvious in view of Okubo, Konishi, and Hartz; and that claim 6 would have been obvious in view of Makoto and Hartz.

V. ORDER

It is, therefore,

ORDERED that Petitioner has not demonstrated by a preponderance of the evidence that any one of claims 1, 2, 5, 6, 9, and 19 of U.S. Patent No. 8,798,593 B2 is unpatentable;

FURTHER ORDERED that the Motion to Exclude as to Exhibits 1005–1013 is denied and the Motion to Exclude as to Exhibits 1014–1016, 1021, 1025, and 1026 is dismissed as moot; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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