

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

HYUNDAI MOTOR COMPANY,
Petitioner

v.

MEL NAVIP, LLC
Patent Owner.

U.S. Patent No. 8,812,230

Case No.: IPR2024-00174

**PETITION FOR *INTER PARTES* REVIEW OF
CLAIMS 1, 2, 4-8 OF U.S. PATENT 8,812,230 UNDER
35 U.S.C. §§ 311-319 AND 37 C.F.R. §§ 42.100 ET SEQ.**

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1001	U.S. Patent No. 8,812,230 (“the ’230 patent”)
1002	File history of U.S. Patent No. 8,812,230 (“’230-FH”)
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1004	<i>Curriculum Vitae</i> of David H. Williams
1005	U.S. Patent Application Publication No. 2004/0012506 to Fujiwara et al. (“Fujiwara”)
1006	U.S. Patent Application Publication No. 2008/0167812 to Geelen et al. (“Geelen”)
1007	Japanese Patent Publication No. JP2008051605A to Ota
1008	Certified English Translation of Japanese Patent Publication No. JP2008051605A to Ota (“Ota”)
1009	Declaration of Herman Kahn Certifying the Translation of JP2008051605A
1010	U.S. Patent No. 7,383,127 to Matsuo et al. (“Matsuo”)
1011	Docket Control Order in <i>MEL NavIP LLC v. Hyundai Motor Company et al.</i> , Case No. 23-cv-00176 (E.D. Tex.)
1012	U.S. Patent No. 7,502,686 to Pemble et al. (“Pemble”)
1013	International Patent Application Publication WO2010/051827 to Aben et al. (“Aben”)

CLAIMS LISTING

[Claim 1, 1-PRE] A navigation device comprising:

[1a] a data storage unit for storing data;

[1b] a service information reception processing unit for receiving service information at an external registration destination facility with which member registration is made, the service information being distributed from the external registration destination facility;

[1c] a service information analyzing processing unit for performing a predetermined process on the service information received by said service information reception processing unit to register the service information in said data storage unit;

[1d] a notification condition customization setting unit for setting a notification condition about notification of the service information at the external registration destination facility; and

[1e-1] a facility icon display processing unit for displaying, on a map of a current location and surrounding area of the navigation device, an icon representing a registration destination facility located within an area covered by the displayed map, and

[1e-2] for displaying a modified version of the icon on the map in such manner indicating that there is an update in service information at the registration destination

facility located within an area covered by the displayed map, according to the notification condition set by said notification condition customization setting unit, said notification condition being satisfied when the service information at the represented registration destination facility has been updated,

[1f] wherein the navigation device displays the map on which the icon is displayed in accordance with a navigation function.

[Claim 2] The navigation device according to claim 1, wherein said navigation device includes a provided information format extracting processing unit for registering a provided information format used for analyzing the service information distributed from the registration destination facility in the data storage unit, and the service information analyzing processing unit processes the service information received by the service information reception processing unit by using the provided information format registered by said provided information format extracting processing unit, and registers the service information in said data storage unit.

[Claim 4] The navigation device according to claim 1, wherein said navigation device includes a service information control processing unit for deleting and updating service information registered in the data storage unit.

[Claim 5] The navigation device according to claim 1, wherein said navigation device includes a facility service information notification processing unit for presenting a list of registration destination facilities located in an area surrounding a

route to a destination and each providing service information having an unexpired notification period.

[Claim 6] The navigation device according to claim 1, wherein the notification condition customization setting unit sets a notification condition for each registration destination facility.

[Claim 7] The navigation device according to claim 1, wherein the service information reception processing unit receives the service information from the external registration destination facility via the Internet.

[Claim 8] The navigation device according to claim 1, wherein the displayed icon is selectable by a user in order to display information of a commercial service or product currently offered at the external registration destination facility, the information of the commercial service or product being part of the service information received from the external registration destination facility.

I. INTRODUCTION

Hyundai Motor Company (“Petitioner”) seeks *inter partes* review (“IPR”) and cancellation of claims 1, 2, and 4-8 (collectively, “the Challenged Claims”) of U.S. Patent No. 8,812,230 (“the ’230 patent”).

II. GROUND FOR STANDING UNDER 37 C.F.R. §42.104

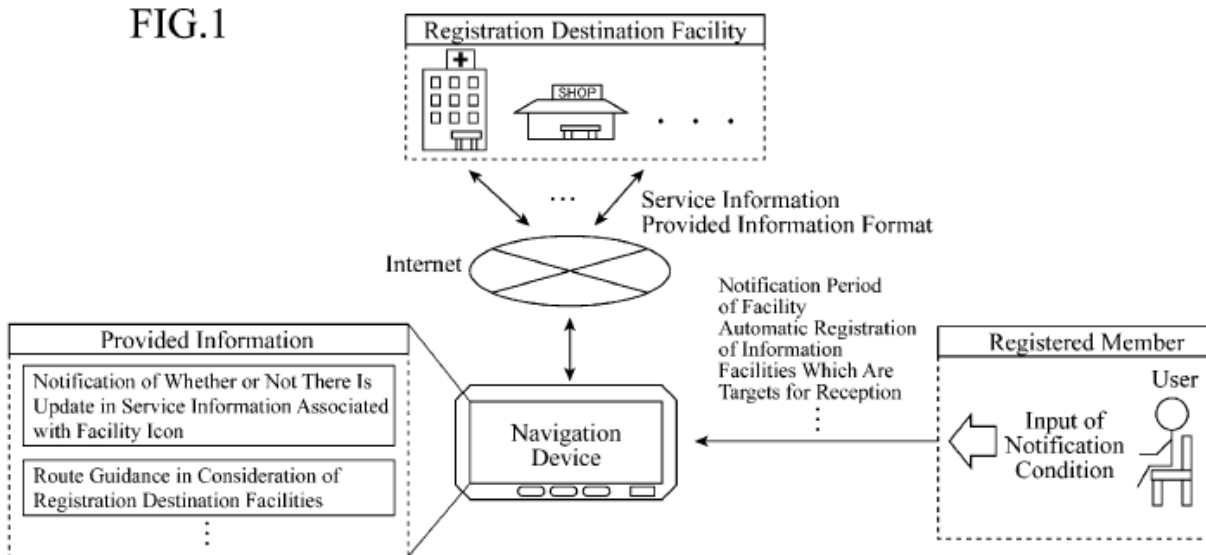
Petitioner certifies that the ’230 patent is available for IPR and Petitioner is not barred/estopped from requesting IPR. Petitioner respectfully requests cancellation on the following Grounds:

Ground	Claims	Basis for Obviousness
1	1, 2, 4-8	Fujiwara in combination with the knowledge of a POSITA
2	1, 2, 4-8	Ota in combination with Matsuo and the knowledge of a POSITA

III. BACKGROUND**A. The ’230 Patent**

The ’230 patent relates to a navigation device for guiding a driver to his or her destination and for displaying up-to-date or real-time service information (*e.g.*, addresses, menus, reservations, pricing) about external registered destination facilities (*e.g.*, points-of-interest, restaurants, stores, hospitality facilities) along a driver’s route. (EX1001, 1:5-19, 2:22-37,13:12-21, FIGS. 1, 3, 6, 9, 12-14, 16, 17,

18.) FIG. 1 shows the navigation device and how it receives service information from the registration destination facilities:



(*Id.*, FIG. 1, 2:41-44, 4:1-19.)

The '230 patent also describes that a driver can become a "Registered Member" with destination facilities by registering with a service that provides the driver with access to certain travel-related information on a member registration or subscription basis. (*Id.* at 4:4-10.)

B. The Challenged Claims Of The '230 Patent.

Of the Challenged Claims, only claim 1 is independent and it is directed to an apparatus (*i.e.*, "a navigation device"). (EX1001, claim 1.)

C. Priority Date

The '230 patent claims priority to a PCT patent application filed on June 10, 2009. (EX1001, [22].) For this proceeding, Petitioner does not dispute the '230 patent's claimed priority date.

D. The Prosecution History Of The '230 Patent.

The application that resulted in the '230 patent included six original claims. ('230 patent Prosecution History, EX1002, 231-232.)

During prosecution, the Examiner issued two office actions. The first office action rejected all claims as anticipated by Huh et al. (US2008/0139245). (EX1002, 411-416.) The second office action rejected all claims as obvious based on Huh and Goto et al. (WO2008/139890). (*Id.* at 411-416) (first action) and 438-445 (second action).)

In response to the first action, the Applicant made amendments clarifying that the service information is distributed from an external registration destination facility and argued that Huh did not disclose an external registration destination facility. (*Id.* at 430, 433.)

In response to the second office action, the Applicant made amendments regarding the updating of service information. (*Id.* at 480, 483.)

A Notice of Allowance followed. (*Id.* at 490-497.) The Examiner did not find that "an external destination registration facility with which member registration

is made, the service information being distributed from the external registration destination facility” was novel. (*See, e.g., id.* at 413, 441.)

E. A Person of Ordinary Skill in the Art (“POSITA”).

A POSITA in the field of the ‘230 patent as of its earliest effective filing date (*i.e.*, June 10, 2009) would have at least an undergraduate degree in electrical engineering, computer engineering, computer science, or an equivalent degree, as well as at least three years of experience in the design and implementation of navigation systems. (EX1003, ¶36.)¹ Additional education in the field of navigation systems or mobile telecommunications may serve as a substitute for experience in the field. (*Id.*)

F. Claim Construction

Petitioner does not believe any terms require construction at this time and applies the plain and ordinary meanings of the limitations and terms of the Challenged Claims. Petitioner reserves the right to propose specific constructions if appropriate during this proceeding.

¹ Petitioner submits the Declaration of David Williams. (EX1003)

IV. SPECIFIC GROUNDS OF UNPATENTABILITY

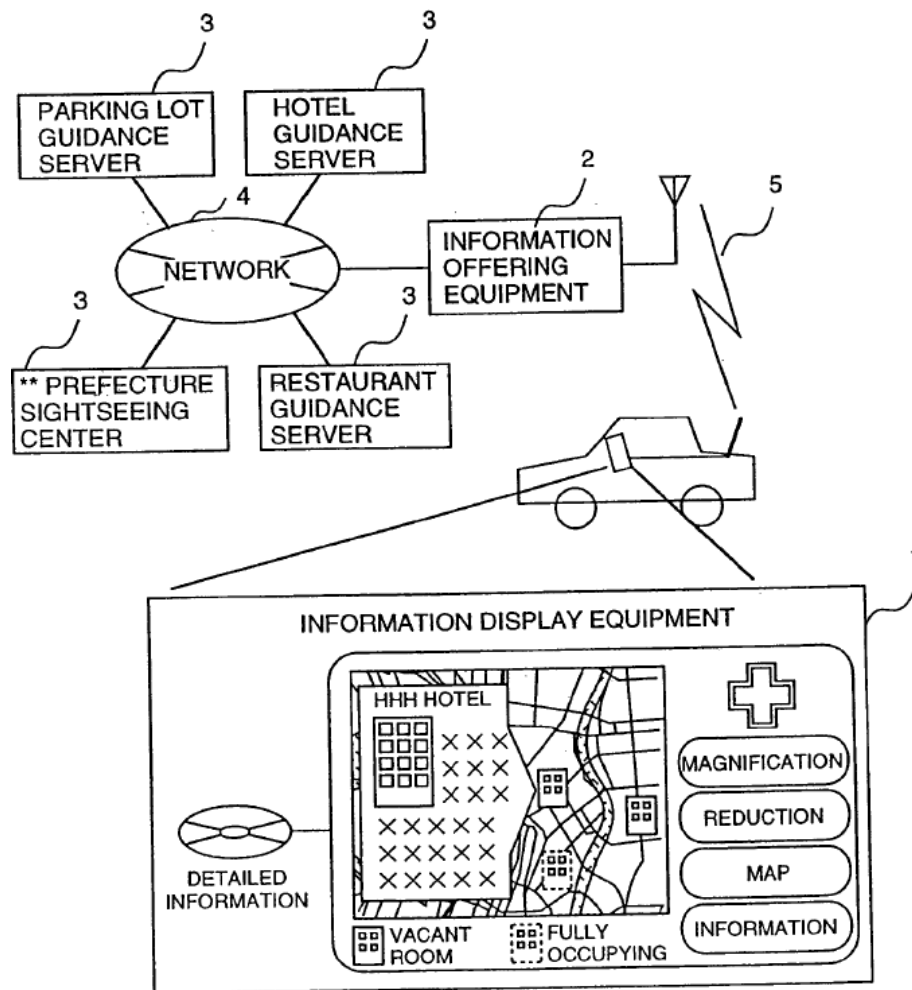
A. GROUND 1: Fujiwara In Combination With The Knowledge Of A POSITA Renders Obvious Challenged Claims 1, 2, And 4-8.

1. Overview Of U.S. Patent Application Publication No. 2004/0012506 (“Fujiwara”).

Fujiwara was published on January 22, 2004 and is prior art. (EX1005, [43]).

Fujiwara discloses a navigation device or information display equipment 1 and an information offering equipment 2 that obtains information from an information offering server 3 connected through a network 4, such as the Internet. (EX1005, [0009], [0038]; *see also id.* FIG. 1 (below).)

FIG. 1



The objective of Fujiwara is to “intelligibly” present service information to a driver via a navigation device so that the driver can readily perceive the service information without averting his or her attention from the road. (*Id.* at [0001], [0006]; *see also id.* at [0096].)

According to Fujiwara, a driver may also predetermine how facility information is to be updated (*e.g.*, based on time or location) (*see id.* at [0077]-

[0080], FIGS. 11-13), and what dynamic property information is to be updated (*e.g.*, vacancy and business hours). (*See id.* at [0076].)

Fujiwara also teaches that a driver can register or enroll with a service (including a paid service), so that the driver is provided with access to certain travel-related information. (EX1005, [0006], [0105], [0111], [0117], Claim 7.) When a driver requests certain service information about a registered facility (*e.g.*, hotel information based on a current position) from information offering equipment 2 and information offering server 3, authentication server 26 checks a driver's registration information to determine whether the driver is able to receive the requested service information because the driver is a registered user. (EX1005, [0111], [0117].) If the driver is able to receive the requested service information, the requested service information is delivered to the information display equipment 1. (*Id.*)

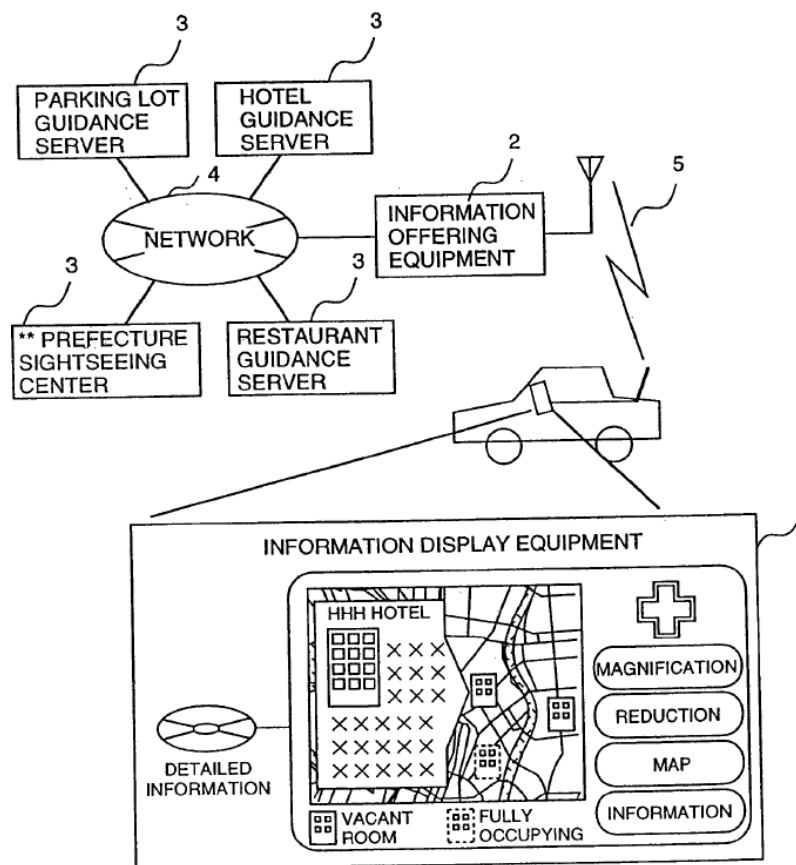
Fujiwara is analogous art to the '230 patent because Fujiwara is in the same field of endeavor as, and at least reasonably pertinent to a problem addressed by, the '230 patent: navigation systems and displaying up-to-date information relating to destinations along a navigation route, respectively. (EX1003, ¶83; EX1001, 1:5-7, 2:13-27, 5:26-31, 14:25-30, FIGS. 16-19, claim 1; EX1005, [0038], [0049]-[0050], [0076], [0110].)

2. Fujiwara In Combination With The Knowledge Of A POSITA Renders Obvious Challenged Claim 1.

(a) Fujiwara Discloses “a navigation device” (“limitation [1-PRE]”).

To the extent the preamble is limiting, Fujiwara discloses limitation [1-PRE]. Fujiwara’s information display equipment 1 is a “navigation device.” (EX1005, [0038]; EX1003, ¶¶104-107.) Fujiwara’s navigation device is shown below:

FIG.1



(b) Fujiwara Discloses “a data storage unit for storing data” (“Limitation [1a]”).

Fujiwara discloses limitation [1a].

Fujiwara discloses that its information display equipment 1 (*i.e.*, “navigation device”) includes a map memory 12, internal information memory 13, and a random access memory 32, which together, disclose a “data storage unit for storing data.” (EX1003, ¶¶108-115; EX1005, [0011], [0040], [0049]-[0050], [0053], [0067], [0072], [0093], FIGS. 2, 4.)

Fujiwara’s map memory 12 and internal information memory 13 stores data. (EX1005, [0011], [0040], [0049], [0050], [0067], [0081], [0093], FIG. 2; EX1003, ¶¶109-112.) Fujiwara’s arithmetic processing department 10 also includes memory that stores data. (EX1005, [0053], FIG. 4; EX1003, ¶113.)

(c) Fujiwara Discloses “a service information reception processing unit for receiving service information at an external registration destination facility with which member registration is made, the service information being distributed from the external registration destination facility” (“limitation [1b]”).

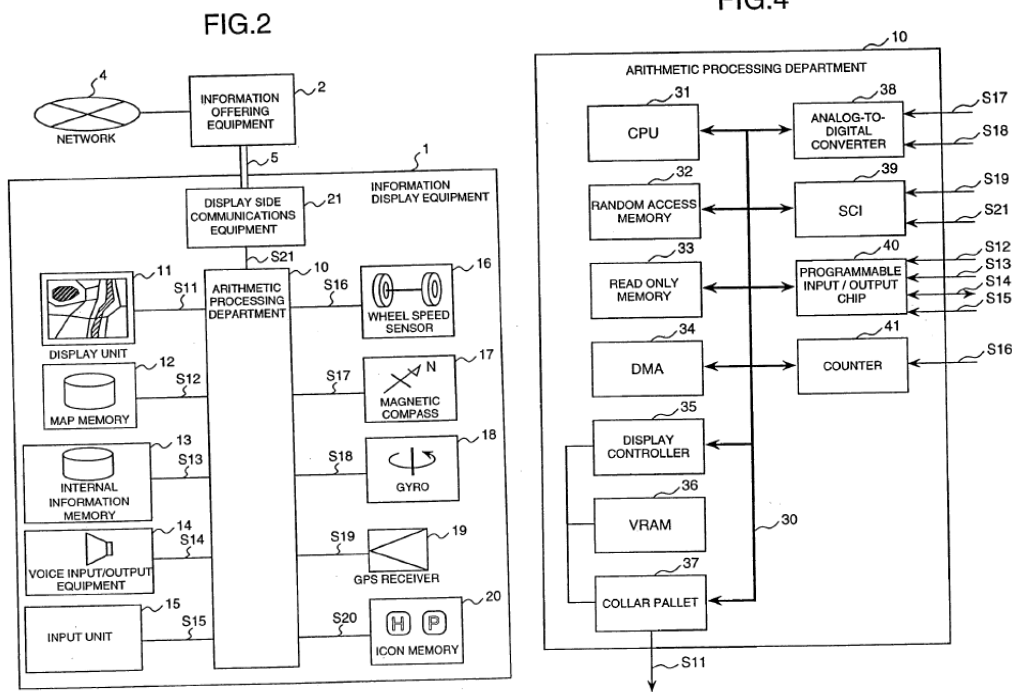
Fujiwara discloses limitation [1b].

An “external registration destination facility” is a facility such as a hotel, restaurant, ferry, or parking lot. (EX1001, 1:11-19, FIGS. 1, 16, 17; EX1003, ¶117.) “Service information” is information about an “external registration destination facility” such as business hours, address, hotel vacancy, restaurant wait times, menus, and ferry availability. (EX1001, 13:6-21, FIGS. 16, 17; EX1003, ¶117.)

Fujiwara discloses “a service information reception processing unit [for receiving service information].” Fujiwara’s information display equipment 1 (*i.e.*,

“navigation device”) includes a “display side communication device 21 [that] communicates with the information offering device 2, [] obtains the [service] information from the information offering device 2,” and stores the received service information in a memory (*e.g.*, internal information memory 13). (EX1003, ¶118; EX1005, [0049]-[0050], FIG. 2.) The information received by Fujiwara’s display side communications equipment 21 is further processed by Fujiwara’s SCI 39. (EX1005, [0053] (“SCI 39 . . . convert[s] a serial signal into a parallel signal”), FIGS. 2, 4; EX1003, ¶118.)

Fujiwara’s display side communications equipment 21 and Fujiwara’s SCI 39, together, disclose the “service information reception processing unit.” (EX1003, ¶119.) The display side communications equipment 21 receives service information and SCI 39 processes service information. (EX1003, ¶119; EX1005, [0049]-[0050], [0053], FIGS. 2, 4.) FIG. 2 shows a signal containing service information (designated S21) received by Fujiwara’s display side communications equipment 21 and FIG. 4 shows it is processed by SCI 39.

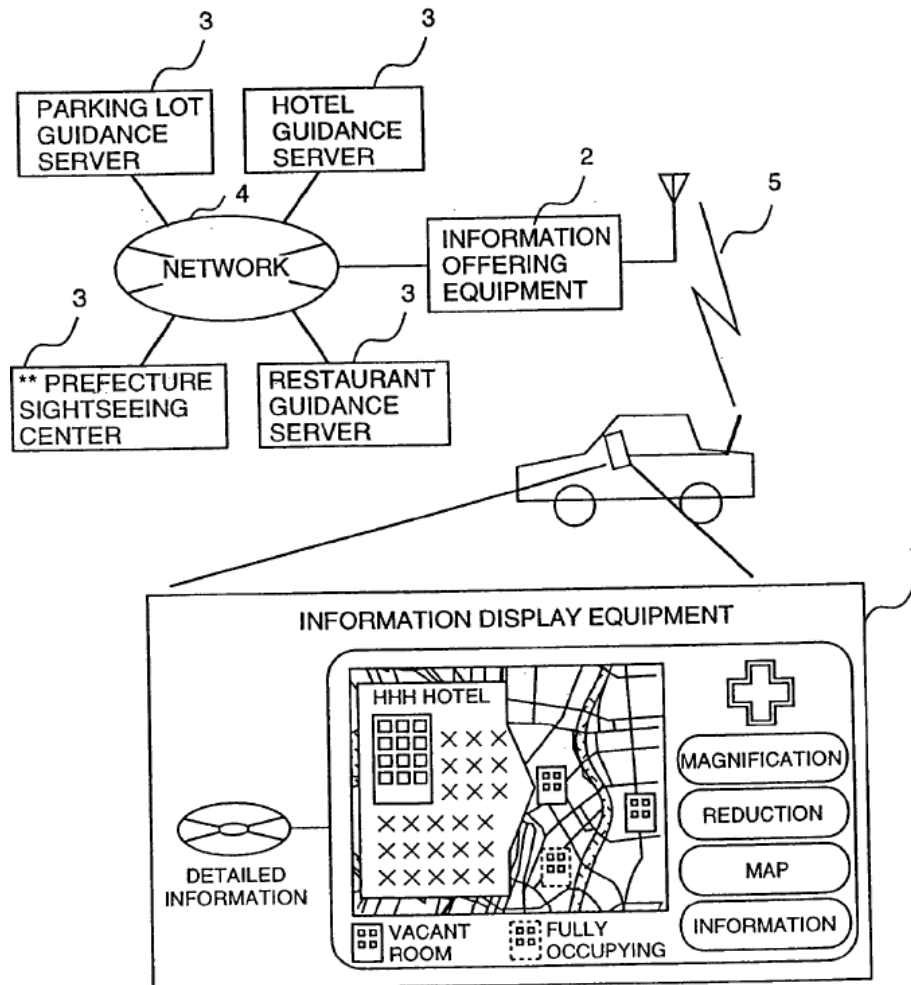


Fujiwara's display side communications equipment 21 and SCI 39 (*i.e.*, “service information reception processing unit”) “receiv[es] service information at an external registration destination facility” and that its information offering server 3 (*i.e.*, “external registration destination facility”) distributes service information. (EX1003, ¶120.)

Fujiwara's information offering server 3 can be a variety of different servers, such as a hotel guidance server 3, restaurant guidance server 3, and/or a parking lot guidance server 3. (EX1005, [0009], [0038], [0076], [0087], FIGS. 17-23; *see also id.* at FIG. 1; EX1003, ¶120.) Fujiwara's service information is distributed from the information offering server 3 (*i.e.*, “external registration destination facility”) via network 4 and stored on information offering equipment 2, which then transmits the

service information to the display side communications equipment 21 (and SCI 39 of the information display equipment 1). (EX1005, [0038], FIG. 1; *see also id.* at [0110], [0120]; EX1003, ¶121.)

FIG. 1



Fujiwara also discloses that “member registration” can be made with the information offering server 3 (*i.e.*, “external registration destination facility”). (EX1003, ¶122.) Fujiwara allows a driver to register with, or subscribe to, a service (including a paid service), so that the driver is provided with access to travel-related

information. (EX1005, [0006], [0105], [0111], [0117], Claim 7; EX1003, ¶122.) When a driver requests certain service information (*e.g.*, hotel information based on a current position) from information offering equipment 2 and information offering server 3, authentication server 26 checks the driver's registration information to determine whether the driver is able to receive the requested service information because the driver is a registered or enrolled user. (EX1005, [0111], [0117]; EX1003, ¶122.) If the driver is a registered or enrolled user and able to receive the requested service information, the requested service information is delivered to Fujiwara's information display equipment 1 (*i.e.*, "navigation device"). (*Id.*)

Each "information offering server 3 [*i.e.*, 'external registration destination facility']" includes "an authentication equipment for authenticating a user by receiving an access from said user" (*i.e.*, "member registration") and "a communication equipment for receiving a retrieval command from said user authenticated by said authentication equipment." (EX1005, at [0111], [0117], Claim 7; EX1003, ¶123.)

According to Fujiwara, a driver must be registered with an information offering server 3, such as a hotel guidance server 3, restaurant guidance server 3, and/or a parking lot guidance server 3 (*i.e.*, an "external registration destination facility") in order to gain access to the service information (*e.g.*, business hours, traffic information, hotel vacancy, restaurant wait times, and ferry availability)

distributed by each registration destination facility, and before such service information is delivered to information display equipment 1 (*i.e.*, “navigation device”). (*Id.*, at [0006], [0038], [0076], [0087], [0105], [0108], [0110], [0111], [0117], Claim 7; EX1003, ¶125.)

Fujiwara’s user authentication server 26 check’s a driver’s registration information to determine whether the driver is registered and permitted access to service information. (EX1005, [0111], [0117]; EX1003, ¶124.)

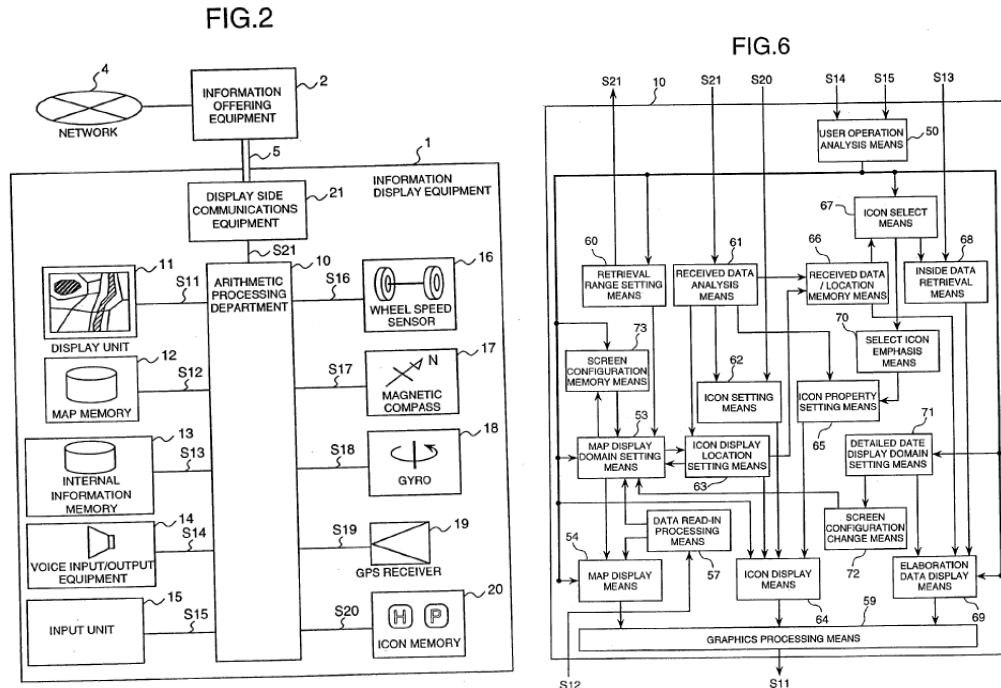
(d) Fujiwara Discloses “a service information analyzing processing unit for performing a predetermined process on the service information received by said service information reception processing unit to register the service information in said data storage unit” (“limitation [1c]”).

Fujiwara discloses limitation [1c].

Fujiwara discloses that that its information display equipment 1 (*i.e.*, “navigation device”) includes a “service information analyzing processing unit.” Fujiwara’s arithmetic processing department 10 has a received data analysis means 61 and a received data/location memory means 66. (EX1005, [0070], [0088]; EX1003, ¶128.) Together, Fujiwara’s received data analysis means 61 and received data/location memory means 66 disclose the “service information analyzing processing unit.” (EX1003, ¶128.)

Fujiwara’s received data analysis means 61 and received data/location memory means 66 (*i.e.*, “service information analyzing processing unit”) also

“perform[s] a predetermined process on the service information received by said service information reception processing unit.” The received data analysis means 61 “analyzes data to be provided through the display side communications equipment 21, selects several information contained by said data, and takes out information necessary for an afterward processing, for example, name, location on a map, property, affiliated information contained by respective information.” (EX1005, [0081], FIGS. 2, 6; EX1003, ¶129.)



As illustrated in FIGS. 2 and 6, the received data analysis means 61 performs “an afterward processing” (*i.e.*, “a predetermined process”) on the service information received from the display side communications equipment 21 (*i.e.*, “service information reception processing unit”). (EX1003, ¶130.) In Fujiwara, data (“S21” shown in FIGS. 2 and 6) passes from the display side communications

equipment 21 (*i.e.*, “service information reception processing unit”) to arithmetic processing department 10 (shown in FIG. 2). (*Id.*) That that data passes to received data analysis means 61 (shown in FIG. 6) for “afterward processing.” (*Id.*)

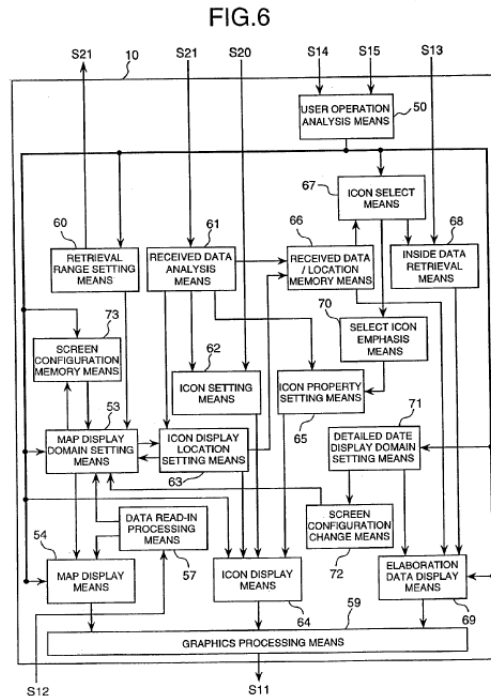
Fujiwara also discloses that its received data analysis means 61 and received data/location memory means 66 (*i.e.*, “service information analyzing processing unit”) “register[s] the service information in said data storage unit.” (EX1003, ¶131.) Fujiwara’s received data/location memory means 66 stores or registers the service information in memory 13 after received data analysis means 61 performs “an afterward processing” (*i.e.*, “predetermined process”) on the service information. (*Id.* at [0089] (“The received data/location store means 66 stores each information provided by the received data analysis means 61.”); EX1003, ¶131.)

(e) Fujiwara Discloses “a notification condition customization setting unit for setting a notification condition about notification of the service information at the external registration destination facility” (“limitation [1d]”).

Fujiwara discloses limitation [1d].

Fujiwara discloses that that its information display equipment 1 (*i.e.*, “navigation device”) includes a retrieval range setting means 60, which is the “notification condition customization setting unit.” (EX1005, [0071], [0075]-[0080], FIG. 6; EX1003, ¶134.)

Fujiwara's retrieval range setting means 60 "sets one or more items selected by the user" (*i.e.*, customization) "as a retrieve object property" (*i.e.*, "notification condition"). (EX1005, [0071], FIG. 6 (below); EX1003, ¶135.)



Fujiwara's retrieval range setting means 60 (*i.e.*, "notification condition customization setting unit") is also capable of "setting a notification condition about notification of the service information at the external registration destination facility." (EX1003, ¶136.)

As shown in FIG. 8, Fujiwara discloses numerous types of retrieve object properties (*i.e.*, "notification conditions") that a driver can set for retrieval from the information offering server 3 (*i.e.*, "external registration destination facility"). (EX1005, [0071], [0076], FIGS. 8, 9, 10; EX1003, ¶137.)

Fujiwara discloses “[a]n example to set the information which is retrieved by the user on the menu screen.” (EX1005, [0071], FIG. 8; EX1003, ¶137.)

FIG. 8 of Fujiwara shows that the driver can select desired service information, including “hotel,” “restaurant,” and “parking lot.” (EX1003, ¶138.)

FIG.8

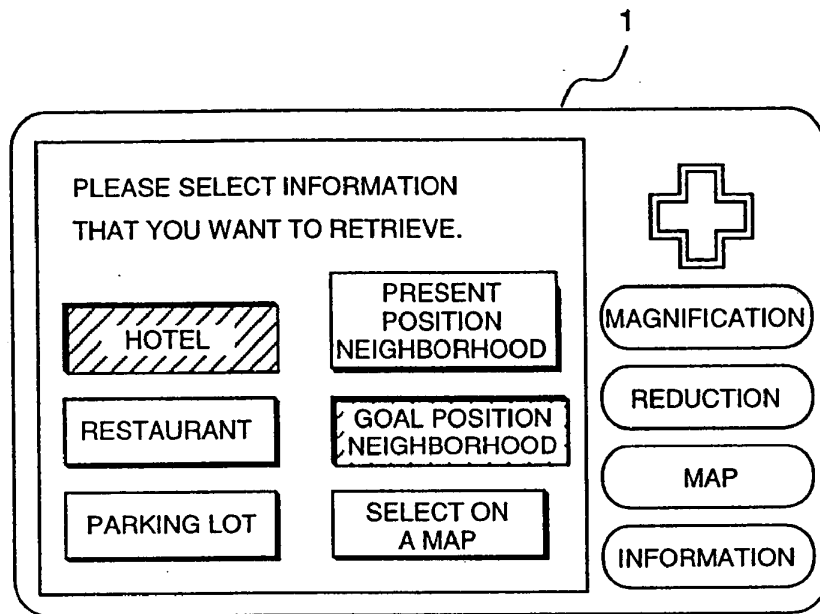
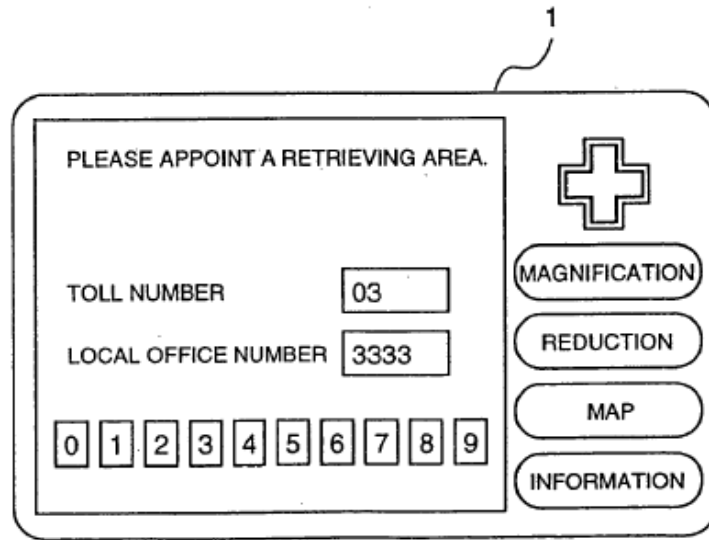


FIG. 9 of Fujiwara shows that a driver can also set the service information to be retrieved based on a particular area of interest or address. (EX1005, [0071] (“Input of the addresses is performed by using a letter input means, a place name select means chosen from a place name list, or a sound recognition means.”), FIG. 9; EX1003, ¶139.)

FIG. 9



As also shown in FIG. 9, a driver can enter an area code, “toll number,” or other designated “retrieving area.” (EX1005, FIG. 9; EX1003, ¶140.)

FIG. 10 of Fujiwara shows that a driver can also retrieve updated service information based on vehicle size, credit card information, and preferred fuel stations. (EX1005, FIG. 10 (below); EX1003, ¶141.)

FIG.10

1

PRIOR RETRIEVE SETTING
IT WILL BE RETRIEVED WITH
CONTENTS SET AS FOLLOWS.

OVERALL LENGTH OF A CAR	WIDTH	HEIGHT
4.5M	3.5M	1.5M

CREDIT CARD
☒ ABC ☐ DEF ☐ GHI

OIL COMPANY
☒ A oil ☐ B oil ☒ C oil

MAGNIFICATION
REDUCTION
MAP
INFORMATION

A driver can also search for ferry and parking lot information. Fujiwara uses a driver's vehicle size information to identify nearby and available ferries and parking lots that can accommodate that vehicle size. (EX1005, [0076] ("when ferry and parking lot information are searched, size information of the car may be stored to be set"); EX1003, ¶142.) When a driver searches for nearby restaurants and service stations, a driver's stored credit card information can be used to determine restaurants and service stations that accept the driver's preferred method of payment. (*Id.* ("[w]hen restaurant and service station information are searched, credit card information . . . may be set."); EX1003, ¶142.)

Fujiwara's retrieval range setting means 60 sends the retrieve object property to the information offering equipment 2 by using the display side communication

equipment 21 and information offering equipment 2 to retrieve the requested information from servers 3. (*Id.* at [0071], [0075] (“by providing a means for setting [the] taste² of the user, [retrieval range setting means 60] may be set so that the amount of information becomes suitably sequentially selecting the tasted information.”); EX1003, ¶143.)

Fujiwara’s retrieval range setting means 60 allows a driver to have predetermined settings that can be used to automatically retrieve object properties, such as business hour information and vacancy information. (EX1005, [0076] (“taste information of the user may be set as the search condition”); EX1003, ¶144.) “When such search conditions are used, the information provided by the retrieval” includes “dynamic information that is changed with the time.” (*Id.*; *see also, e.g., id.* (“[w]hen hotel and ferry information are searched,” vacancy on certain dates is “automatically set.”); EX1003, ¶144.) Fujiwara discloses that when search conditions are “applied to the retrieval of a service station . . . it becomes possible to understand whether it is on business or not before going.” (*Id.*) Likewise, when applying search conditions to hotels and ferries, the “date to utilize [the hotel or ferry] may be set” to determine whether a hotel or ferry is available on that date. (*Id.*)

² *i.e.*, user preferences.

In Fujiwara, a driver can also preset:

- (i) an area around a destination to be automatically updated. (*See id.* at [0077]-[0078], FIG. 11; EX1003, ¶145.);
- (ii) a time to regularly update service information. (*See id.* at [0079], FIG. 12; EX1003, ¶146.); and
- (iii) one or more points-of-interest along a route at which to automatically update service information. (*See id.* at [0080], FIG. 13; EX1003, ¶147.)

(f) Fujiwara Discloses “a facility icon display processing unit for displaying, on a map of a current location and surrounding area of the navigation device, an icon representing a registration destination facility located within an area covered by the displayed map” (“limitation [1e-1]”).

Fujiwara discloses limitation [1e-1].

Fujiwara discloses that its information display equipment 1 (*i.e.*, “navigation device”) has an arithmetic processing department 10 that includes, *inter alia*, an icon setting means 62, icon drawing location setting means 63, icon setting means 64, and icon property setting means 65. (EX1005, [0070], [0087], FIG. 6.) Together, Fujiwara’s icon setting means 62, icon drawing location setting means 63, icon setting means 64, and icon property setting means 65 disclose the “facility icon display processing unit.” (EX1003, ¶150.)

Fujiwara's icon setting means 62 selects an icon from the icon memory based on the property taken out with the received data analysis means 61 (e.g., hotel, restaurant, gas station, etc.). (*Id.* at [0082]; EX1003, ¶151.)

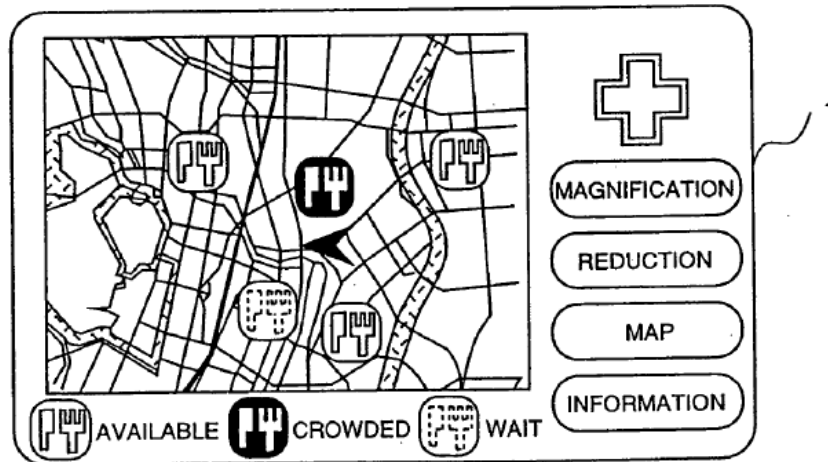
Fujiwara's icon drawing location setting means 63 “sets a location of the icon so that the corresponding information are displayed on a suitable location of the map based on a location information on the map taken out with the received data analysis means 61 and an information from the map display domain setting means 53.” (*Id.* at [0083]; EX1003, ¶152.) When the reduction scale of the map changes or the map is scrolled, the location of an icon may be adjusted. (*Id.*; *see also id.* at FIG. 17; EX1003, ¶152.) If “the icons are overlapped or the information [is not] settled within a screen of the display,” icon drawing location setting means 63 will adjust the icons. (*Id.*)

Fujiwara's icon display means 64 sends a command to the graphic processing means 59 to display an image of the icon set by the icon setting means 62 at the location set by the icon display location setting means 63. (*Id.* at [0084]; *see also id.* at FIGS. 18 (showing hotel icons) and 19 (showing restaurant icons); EX1003, ¶153.)

Fujiwara's icon setting means 62, icon drawing location setting means 63, icon setting means 64, and icon property setting means 65 (*i.e.*, “facility icon display processing unit”) “display[], on a map of a current location and surrounding area of

the navigation device.” (EX1003, ¶154.) As shown in Fujiwara’s FIG. 19, Fujiwara displays a map of the current location of the information display equipment 1 (*i.e.*, “navigation device”) (shown by the dark arrow) and of the surrounding area, including icons representing restaurants, which each disclose an “icon representing a registration destination facility located within an area covered by the displayed map.” (*Id.* at FIG. 19; EX1003, ¶155.)

FIG.19



Fujiwara “sets a display domain according to the calculated current position of the moving body or scroll operation by the user.” (EX1005, [0042]; EX1003, ¶156.) Fujiwara’s “display domain” is “a map of a current location and surrounding area of the navigation device” and “an area covered by the displayed map.” (*Id.*; see also *id.* at [0066] (the arithmetic processing department 10 includes a map display domain setting means 53 that “sets a map domain that be displayed”).)

Fujiwara's icon setting means 62, icon drawing location setting means 63, icon setting means 64, and icon property setting means 65 (*i.e.*, "facility icon display processing unit") also discloses "an icon representing a registration destination facility located within an area covered by the displayed map." (EX1003, ¶157.) Fujiwara's icon setting means 62 selects an icon from the icon memory based on the property taken out with the received data analysis means 61 (*e.g.*, hotel, restaurant, gas station, etc.). (*Id.* at [0082], [0084], FIGS. 19 (showing restaurant icons); EX1003, ¶157.) Fujiwara's icon display means 64 sends a command to the graphic processing means 59 to display an image of the icon set by the icon setting means 62 at the location set by the icon display location setting means 63. (*Id.*)

- (g) **Fujiwara In Combination With The Knowledge Of A POSITA Teaches And Renders Obvious "for displaying a modified version of the icon on the map in such manner indicating that there is an update in service information at the registration destination facility located within an area covered by the displayed map, according to the notification condition set by said notification condition customization setting unit, said notification condition being satisfied when the service information at the represented registration destination facility has been updated" ("limitation [1e-2]").**

Fujiwara in combination with the knowledge of a POSITA teaches and renders obvious limitation [1-e2].

Fujiwara discloses "displaying a modified version of the icon on the map in such manner indicating that there is an update in service information at the

registration destination facility located within an area covered by the displayed map.” (EX1003, ¶160.)

Fujiwara’s icon property setting means 65 “sets [the] property of an icon such as color and size, intensity, chroma, light on/light off, display/non display, based on information taken out with the received data analysis means 61.” (EX1005, [0087]; EX1003, ¶160.)

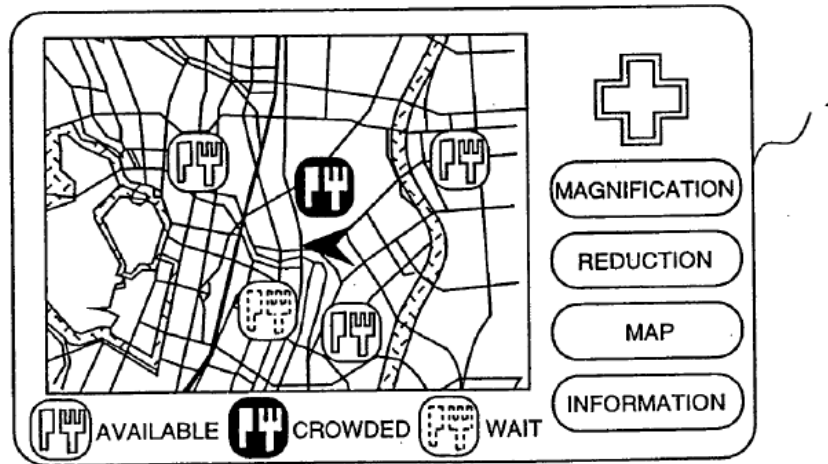
Fujiwara’s “received data analysis means 61 analyzes data to be provided through the display side communications equipment 21, selects several information contained by said data, and takes out information necessary for an afterward processing, for example, name, location on a map, property, affiliated information contained by respective information. In analysis of data, it is necessary to know with what kind of form the data stores the information.” (*Id.* at [0081]; EX1003, ¶161.)

Fujiwara’s “icon display means 64 displays the icon based on the property set by the icon property setting means 65.” (*Id.*; EX1003, ¶162.)

Fujiwara further discloses that the icon property setting means 65 can “change [*i.e.*, modify] the property of the icon, for example, by changing a color of the selected icon, by raising the intensity of the selected icon, by flashing on and off the selected icon, by reducing the intensity of the icon which [is not] selected, or by stopping the display of the icon which [is not] selected (transparent color).” (*See*

EX1005, [0096], FIG. 19 (modifying restaurant icons based on availability or wait time); EX1003, ¶163.)

FIG. 19



(See also *id.* at FIG. 21 (fading hotel icons not selected by the driver), FIG. 17 (fading hotel icons based on occupancy); EX1003, ¶163.)

A POSITA would have understood that Fujiwara's icon property setting means 65 also teaches "displaying a modified version of the icon on the map in such manner indicating that there is an update in service information at the registration destination facility located within an area covered by the displayed map" because the icon property setting means 65 "sets [the] property of an icon such as color and size, intensity, chroma, light on/light off, display/non display, based on information taken out with the received data analysis means 61." (EX1003, ¶164; EX1005, [0087], [0096].)

A POSITA would have understood that one of the benefits of Fujiwara's navigation device is the ability to provide temporally sensitive service information (e.g., hotel vacancy, restaurant wait time, traffic jam information, etc.) and to alert a driver to the new information as the driver travels along a route. (EX1003, ¶165; *see also, e.g.,* EX1005, Abstract (desiring “to provide a navigation system intelligibly providing various information which contains information to vary with time and is expected by the user.”); [0050] (“[t]he display side communication device 21 communicates with the information offering device 2, and obtains the information from the information offering device 2, which mainly changes with time and are updated with a high frequency, for example, traffic jam information of a road, vacant information of a hotel and a parking lot, weather information, and sale information of a store.”).)

A POSITA would have further understood that Fujiwara's disclosure that the information received from the “information offering device 2” “changes with time and are updated with high frequency” along with Fujiwara's disclosure that icon property setting means 65 “sets [the] property of an icon such as color and size, intensity, chroma, light on/light off, display/non display, based on information taken out with the received data analysis means 61” would result in changes to the display of icons indicating that there is an update in the service information. (EX1003, ¶166; EX1005, [0050], [0087].)

Fujiwara discloses that the “received data analysis means 61 analyzes data to be provided through the display side communications equipment 21.” (*Id.* at [0081].) A POSITA would have appreciated that when there is an update in service information for a restaurant located within an area covered by the displayed map (*e.g.*, table availability changes from “wait” to “crowded”), the icon property setting means 65 would change the icon from the dashed “wait” restaurant icon to the solid black “crowded” icon, as shown in FIG. 19. (EX1003, ¶167; EX1005, [0087], FIG. 19.)

A POSITA would also have understood that Fujiwara discloses that icon property setting means 65 can display a modified version of the icon on the map in such manner to indicate that there is an update in service information at the registration destination facility (*e.g.*, restaurant or hotel). (EX1003, ¶168; EX1005, [0050], [0087].)

Fujiwara discloses modifying icons “according to the notification condition set by said notification condition customization setting unit, said notification condition being satisfied when the service information at the represented registration destination facility has been updated.” (EX1003, ¶169.)

Fujiwara also discloses that a driver may predetermine how property information is to be updated (*e.g.*, based on time or location) (*see id.* at [0077]-[0078] (setting a “retrieve neighborhood”), [0079] (setting “a predetermined time point

when the user ordered it or when a predetermined time interval has passed”), [0080] (setting “several nodes” along the route to the destination “as the centers of every retrieve area.”); *see also id.* at FIGS. 11-13), and what dynamic property information is to be updated (*e.g.*, vacancy and business hours). (*See id.* at [0076] (when search conditions are “applied to the retrieval of a service station . . . it becomes possible to understand whether it is on business or not before going” or whether it “is vacant on the date”); EX1003, ¶169.)

Fujiwara further discloses that its purpose is to provide a navigation device that can “intelligibly” present service information to a user while driving. (EX1005, [0001]; EX1003, ¶170.) Fujiwara states that it is important for the driver to be able to readily perceive new service information because it is dangerous for a driver to avert his attention from the road. (*Id.* at [0006]; EX1003, ¶170.) Fujiwara’s arithmetic processing department 10 utilizes a “select icon emphasis means 70 [that] controls the icon property setting means [65] so that the icon which the user selected by the icon select means 67 may distinguish the other icon on the screen.” (*Id.* at [0096]; EX1003, ¶170.)

A POSITA would have also understood that, because Fujiwara discloses “intelligibly” presenting service information (*e.g.*, vacancy, business hours, etc.) for a driver’s convenience (*i.e.*, to “readily perceive new service information”) and safety (*i.e.*, without “avert[ing] his attention”), the icons in Fujiwara would be

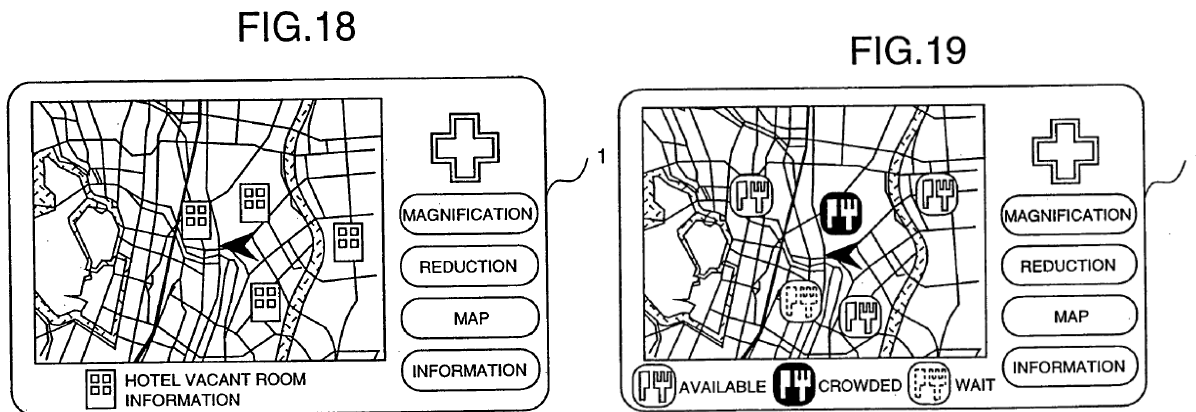
modified and updated in accordance with a driver's settings (*i.e.*, notification conditions). (EX1003, ¶171.)

(h) Fujiwara Discloses “wherein the navigation device displays the map on which the icon is displayed in accordance with a navigation function” (“limitation [1f]”).

Fujiwara discloses limitation [1f].

Fujiwara discloses that its information display equipment 1 (*i.e.*, “navigation device”) “displays the map on which the icon is displayed in accordance with a navigation function.” (EX1003, ¶174.)

As shown below in Fujiwara's FIGS. 18 and 19, a vehicle's current position is displayed as a mark (*e.g.*, arrow) on the map of a route and in relation to icons representing destination facilities, such as hotels and restaurants. (FIGS. 18, 19; *see also id.* at [0042]; EX1003, ¶175.)



Fujiwara's information display equipment 1 also displays a map “in accordance with a navigation function.” (EX1003, ¶176.) Fujiwara's arithmetic

processing department 10 uses GPS receiver 19 and sensors 16, 17, 18 to identify a current position of a car, and “a means to select a most suitable road which connects current position with a goal position directed by the user and to notify them by using a sound and graphic display to the user.” (EX1005, [0041]; EX1003, ¶176.)

3. Challenged Claim 2.

Fujiwara in combination with the knowledge of a POSITA teaches and renders obvious the additional limitations of Challenged Claim 2 (*i.e.*, “wherein said navigation device includes a provided information format extracting processing unit for registering a provided information format used for analyzing the service information distributed from the registration destination facility in the data storage unit, and the service information analyzing processing unit processes the service information received by the service information reception processing unit by using the provided information format registered by said provided information format extracting processing unit, and registers the service information in said data storage unit.”)

Fujiwara discloses that its information display equipment 1 (*i.e.*, “navigation device”) includes a fixed form format setting means 88 (*i.e.*, “provided information format extracting processing unit”). (EX1003, ¶180.)

Fujiwara’s fixed form format setting means 88 “register[s] a provided information format used for analyzing the service information distributed from the

registration destination facility in the data storage unit.” Fujiwara’s fixed form format setting means 88 sets a data storage format that is consistent with the format required for analyzing the data in the information display equipment 1. (EX1005, [0125]-[0126] (“the format is provided to fit to the information display equipment 1.”); EX1003, ¶180.) Fujiwara discloses a fixed form format setting means 88 residing in information offering equipment 2, but a POSITA would have understood that a fixed form format setting means 88 could have alternatively resided in information display equipment 1 (*i.e.*, “navigation device”) to ensure that the received data is consistent with the format required for analyzing the data in the information display equipment 1. (EX1003, ¶181.)

Fujiwara’s received data analysis means 61 (*i.e.*, “service information analyzing processing unit”) also “processes the service information received by the service information reception processing unit by using the provided information format registered by said provided information format extracting processing unit.” Fujiwara’s received data analysis means 61 processes service information received according to a defined information format as shown below. (*See id.* at [0081], FIGS. 14, 15; EX1003, ¶182)

FIG.14

<NAME>	<NORTH LATITUDE>	<EAST LONGITUDE>	<PROPERTY>	<DYNAMIC INFORMATION>
HHH HOTEL	35.42'45"	139.46'28"	HOTEL	SIGLE ROOM VACANT 5, TWIN ROOM VACANT 7, 5 MINUTES FROM OBJECT LOCATION
OHEDO MINSYUKU H	35.42'52"	139.46'25"	PRIVATE HOME PROVIDING MEALS AND LODGING	ROOM FOR 4 PERSON VACANT 2, FIREWORKS MEETING IS HELD NOW
H&H TOKYO	35.42'55"	139.46'27"	CAPSULE TYPE HOTEL	VACANT TODAY ¥3500 / A NIGHT SAUNA IS FREE

Fujiwara's received data/location memory means 66 registers or stores the service information provided by received data analysis means 61 in memory 13. (*Id.* at [0089]; EX1003, ¶183.)

4. Challenged Claim 4.

Fujiwara in combination with the knowledge of a POSITA teaches and renders obvious the additional limitations of Challenged Claim 4 (*i.e.*, “wherein said navigation device includes a service information control processing unit for deleting and updating service information registered in the data storage unit.”)

Fujiwara's information display equipment 1 (*i.e.*, “navigation device”) includes a received data/location memory means 66 (*i.e.*, “service information control processing unit”) for deleting and updating service information in Fujiwara's internal information memory 13 (*e.g.*, “data storage unit”). (*Id.* at [0089] (“The

received data/location store means 66 stores each [service] information provided by the received data analysis means 61.”); EX1003, ¶186.)

Fujiwara’s internal information memory 13 “memorizes various kinds of information to offer to the user, and most of the information is static information which are updated with a low frequency.” (EX1005, [0049]; EX1003, ¶187.)

Fujiwara’s display side communication device 21 obtains service information (*i.e.*, hotel vacancy, traffic jams, etc.), which mainly changes with time and is updated with a high frequency. (*Id.* at [0050].) This service information corresponds to information already stored in internal information memory 13. (EX1003, ¶187)

One of Fujiwara’s objectives was to limit the amount of frequently updated service information that needed to be stored on the internal information memory 13 while ensuring that sufficient service information was always offered. (*Id.*; *see also id.* at [0078]-[0079] (explaining that it is desirable to erase outdated information to prevent the new service information from “becoming infinitively large.”); EX1003, ¶188.)

A POSITA would also have understood that readily updating service information in internal information memory 13 would have been used to provide reliable, up-to-date service information to a user of Fujiwara’s navigation device. (EX1003, ¶189; *see, e.g.*, EX1005, Abstract (desiring “to provide a navigation system intelligibly providing various information which contains information to

vary with time and is expected by the user.”); [0050] (“[t]he display side communication device 21 communicates with the information offering device 2, and obtains the information from the information offering device 2, which mainly changes with time and are updated with a high frequency, for example, traffic jam information of a road, vacant information of a hotel and a parking lot, weather information, and sale information of a store.”).)

A POSITA would have further understood that deleting or overwriting service information from the memory would have been necessary to avoid overburdening Fujiwara’s navigation device with unnecessary, outdated, and voluminous service information, particularly for dynamic service information. (EX1003, ¶190.)

5. Challenged Claim 5.

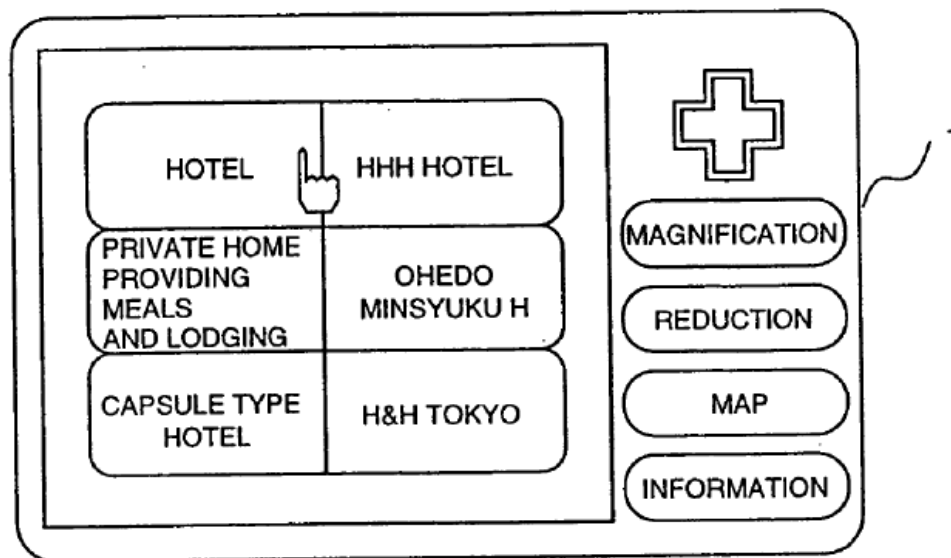
Fujiwara in combination with the knowledge of a POSITA teaches and renders obvious the additional limitations of Challenged Claim 5 (*i.e.*, “wherein said navigation device includes a facility service information notification processing unit for presenting a list of registration destination facilities located in an area surrounding a route to a destination and each providing service information having an unexpired notification period.”)

Fujiwara discloses that its information display equipment 1 (*i.e.*, “navigation device”) includes a detailed data display means 69 (*i.e.*, “facility service information notification processing unit”) for presenting a list of registration destination facilities

located in an area surrounding a route to a destination and for providing service information having an unexpired notification period. (EX1005, [0094], FIG. 20; EX1003, ¶193.)

Fujiwara's detailed data display means 69 (*i.e.*, “facility service information notification processing unit”) transmits a command to present a list of detailed service information on the screen of the information display equipment 1 (*i.e.*, “navigation device”). (EX1005, [0094], FIG. 20 (showing a list of lodging facilities (*i.e.*, HHH Hotel, H&H Tokyo) located in an area); EX1003, ¶194.)

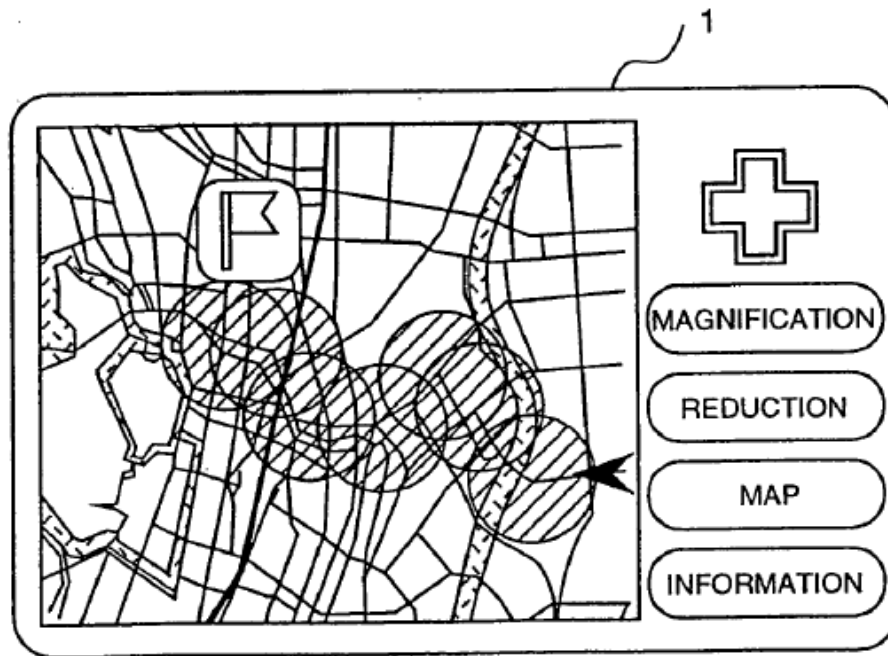
FIG.20



Fujiwara also discloses “a list of registration destination facilities located in an area surrounding a route to a destination.” Fujiwara discloses that a driver may

search for destination facilities along a route to a destination. (EX1005, [0080], FIG. 13 (showing a searchable area surrounding a route to a destination); EX1003, ¶195.)

FIG.13



Fujiwara also teaches and suggests that the service information requested along the route may disappear after it has become outdated or unnecessary. (EX1003, ¶196.) A POSITA would have understood that providing service information that is not expired (*i.e.*, outdated) is suggested by Fujiwara's navigation device because the value of Fujiwara's navigational offerings depends on the ability of the navigation device to provide temporally sensitive service information (*e.g.*, hotel vacancy, restaurant wait time, traffic jam information, etc.) and to alert a driver to the new information as the driver travels along a route. (EX1003, ¶196; EX1005,

Abstract (desiring “to provide a navigation system intelligibly providing various information which contains information to vary with time and is expected by the user.”).) A POSITA would have understood that it was beneficial for a navigation device to provide a driver with current service information. Fujiwara discloses that a driver expects that service information to be current (*i.e.*, “unexpired”). (*Id.*) (EX1003, ¶196.)

6. Challenged Claim 6.

Fujiwara discloses the additional limitations of Challenged Claim 6 (*i.e.*, “wherein the notification condition customization setting unit sets a notification condition for each registration destination facility.”)

Fujiwara discloses a retrieval range setting means 60 (*i.e.*, “notification condition customization setting unit”) that “sets one or more items selected by the user” “as a retrieve object property” (*i.e.*, “notification condition”). (*Id.* at [0071], [0075]; EX1003, ¶199.)

According to Fujiwara, a driver can set notification conditions (*i.e.*, “retrieve object properties”) for separate information offering servers 3 for hotels, restaurants, ferries, gas stations, etc. (*i.e.*, “registration destination facilities”). (*Id.* at FIG. 8 (showing that a driver can set the information to be retrieved based on type), FIG. 9 (showing how a driver can set the information to be retrieved based on area of interest), FIG. 10 (showing that a driver can retrieve information based on vehicle

size, credit card information, and preferred service stations); EX1003, ¶200.) Fujiwara also discloses that a driver may set a vehicle's size as a criterion for searching nearby and available ferries, because the driver may be interested in a ferry that can accommodate the driver's vehicle size. (*Id.* at [0076]; EX1003, ¶200.) Fujiwara further discloses that a driver can set a preferred method of payment (*e.g.*, an American Express credit card) as a search criterion for restaurants or gas stations because a driver may only be interested in restaurants and gas stations that accept a driver's preferred method of payment. (*Id.*)

A driver may also instruct Fujiwara's information display equipment 1 to automatically update service information at several, different points-of-interest (*i.e.*, "retrieve object properties") along a route. (*See id.* at [0080], FIG. 13; EX1003, ¶201.) Fujiwara's retrieval range setting means 60 allows a driver to have predetermined settings for one or more destination facilities for which to automatically retrieve object properties, such as business hour information and vacancy information. (*Id.* at [0076] ("taste information of the user may be set as the search condition"); EX1003, ¶201.) "[W]hen such search conditions are used, the information provided by the retrieval" includes "dynamic information that is changed with the time." (*Id.*; *see also, e.g., id.* ("[w]hen hotel and ferry information are searched," vacancy on certain dates is "automatically set.")) As Fujiwara discloses checking availability for a particular ferry that can accommodate the

dimensions of the user's vehicle, a POSITA would have understood that Fujiwara enables setting notification conditions for each individual facility. (EX1003, ¶202.)

7. Challenged Claim 7.

Fujiwara discloses the additional limitations of Challenged Claim 7 (*i.e.*, “wherein the service information reception processing unit receives the service information from the external registration destination facility via the Internet.”)

Fujiwara discloses that its display side communication equipment 21 (*i.e.*, “service information reception processing unit”) receives service information from information offering servers 3 for hotels, restaurants, gas stations (*i.e.*, “external registration destination facilities”) via the Internet. (EX1005, [0001] (Fujiwara's “navigation system provid[es] information for a user intelligibly by obtaining said information from a network like the internet from which various kinds of data are provided.”), [0038] (“obtain various information from an information offering server 3 connected through a network 4 such as the internet, and to provide it to a user”), [0105], [0110], [112], [117], FIG. 1 (showing facility information being sent over network 4 (*i.e.*, the Internet); EX1003, ¶205.)

8. Challenged Claim 8.

Fujiwara discloses the additional limitations of Challenged Claim 8 (*i.e.*, “wherein the displayed icon is selectable by a user in order to display information of a commercial service or product currently offered at the external registration

destination facility, the information of the commercial service or product being part of the service information received from the external registration destination facility.”).

Fujiwara discloses “the displayed icon is selectable by a user in order to display information.” A driver may select an icon using a touch panel or cursor. (EX1005, [0092], [0096] (“select icon emphasis means 70 controls the icon property setting means so that the icon which the user selected by the icon select means 67 may distinguish the other icon on the screen.”); EX1003, ¶208.)

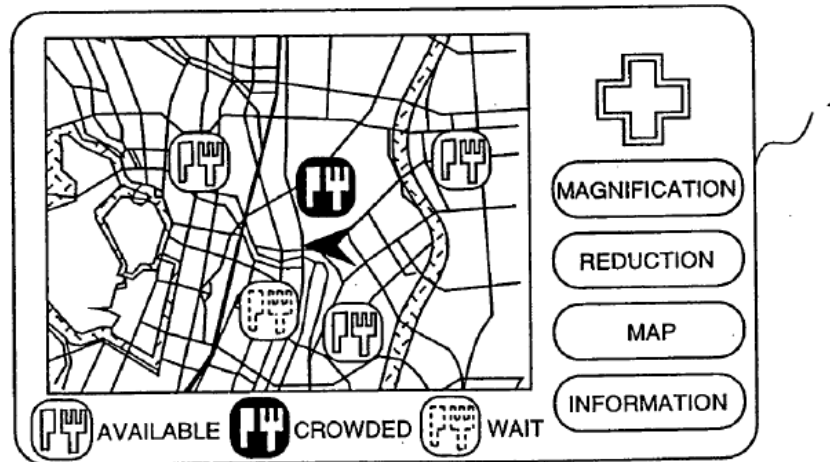
Fujiwara further discloses that “detailed information of the icon which a user selected may be displayed keeping the icon displayed on the map, and furthermore, the objected icon is distinguished from other icons easily, the detailed information display which is easy to be understood very much may be provided.” (*Id.* at [0100]; EX1003, ¶209.)

According to Fujiwara, “information of a commercial service or product currently offered at the external registration destination facility” that is displayed is “part of the service information received from the external registration destination facility.” (*See* EX1005, [0096]-[0098], [0101], [0103]; *see also id.* at FIG. 21 (showing room availability), FIG. 22 (showing vacancy, pricing, accommodations), FIG. 23 (showing room availability along navigation route); EX1003, ¶210.) A driver can select a facility icon displayed on the navigation device or information

display equipment 1 and current service information (*e.g.*, such as pricing, accommodations, and wait time) relating to the offerings at the selected registered destination facility (*e.g.*, hotel, restaurant, gas station). (*Id.*)

For example, the displayed restaurant icons in FIG. 19 of Fujiwara are modified to show current information about each restaurant (*e.g.*, “available,” “crowded,” “wait”). (*See* EX1005, [0096], FIG. 19 (below); EX1003, ¶211.)

FIG.19



B. GROUND 2: Ota In Combination With Matsuo And The Knowledge Of A POSITA Renders Obvious Challenged Claims 1, 2, And 4-8.

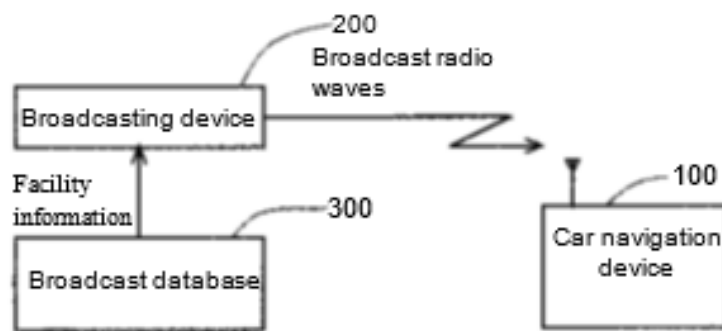
1. Overview Of Japanese Patent Publication No. JP2008051605A (“Ota”).

Ota was published on March 6, 2008 and is prior art. (EX1008, [43].)

Ota discloses a car navigation device 100 that includes a broadcasting database 300 that stores facility information (*e.g.*, restaurants, amusement facilities, and sightseeing facilities) and sends that facility information to a broadcasting

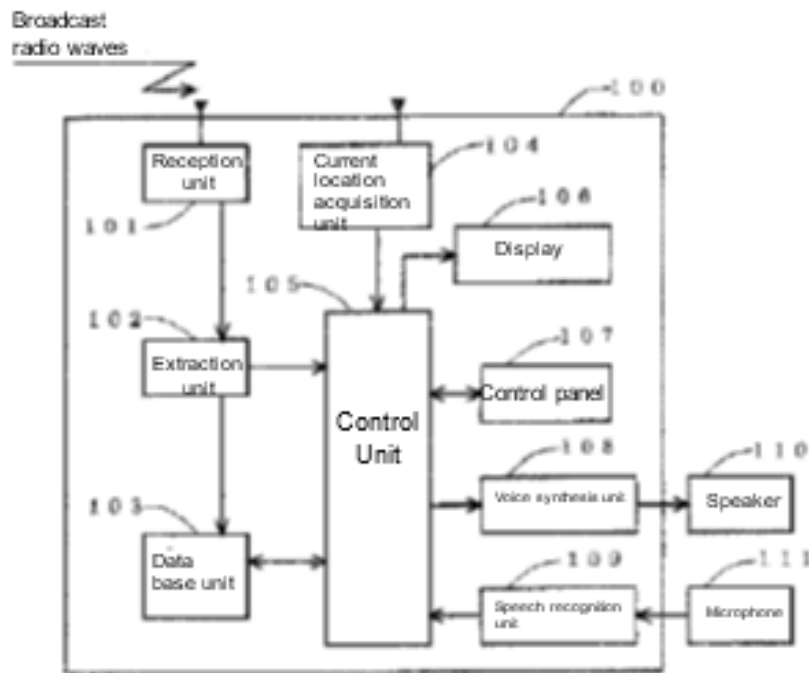
device 200. (EX1008, [0073], [0086], FIG. 1 (below).) Broadcasting device 200 receives and stores the facility information and subsequently repeatedly broadcasts it over radio waves, including the Internet. (*Id.* at [0074].) Ota's navigation device 100 receives the broadcasted facility information, extracts the facility information, and stores the facility information. (*Id.* at [0076].) The user of Ota's navigation device 100 can use the facility information while driving. (*Id.* at [0077].)

[FIG. 1]



Ota also discloses that broadcasting device 200 receives and re-broadcasts information regarding numerous facilities. (EX1008, [0086].) The received facility information includes service information, a timestamp relating to the information, location information, and a name of the facility. (*Id.* at [0079].)

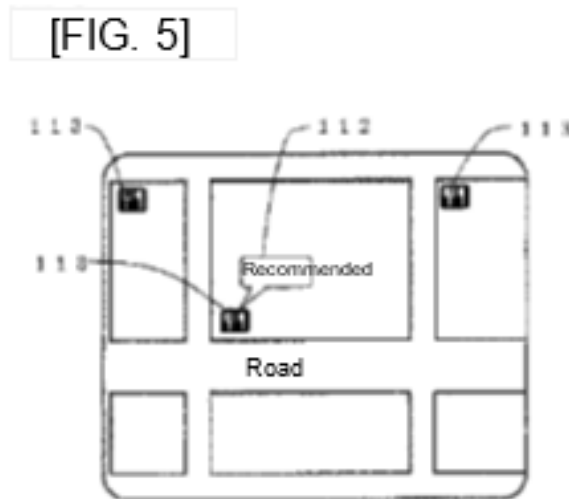
[FIG. 4]



Ota also discloses that control unit 105: (i) acquires the GPS location of the current position from position acquisition unit 104; (ii) reads out map information from database unit 103 according to the destination location; (iii) calculates a route between the route between the current position and the destination location; and (iv) displays the route on display 106 as a map image. (*Id.* at [0126].)

According to Ota, when a driver wants to know service information about, for example, restaurants near the current position, the driver instructs operation panel 107 (*i.e.*, via touchscreen) to search restaurants. (*Id.* at [0128], [0132].) The driver's action causes the control unit 105 to search for and read out updated restaurant service information from database unit 103 based on date information within a

driver's predetermined range and the displayed map area (*i.e.*, current location). (*Id.*) As shown below in FIG. 5, the restaurant that is positioned on the current map on display 106 and whose facility information is within the predetermined range (*i.e.*, date and time) is shown with a unique mark 112 so a driver can recognize or differentiate between facilities having new or updated service information. (*Id.* at [0063], [0129], [0138], [0158] (teaching that normal information about the facility will no longer be displayed with a unique phrase (*i.e.*, "recommended" or "new") or character (*e.g.*, asterisk)), FIG. 5 (showing restaurant with the term "recommended").)



Ota is analogous art to the '230 patent because Ota is in the same field of endeavor as, and is at least reasonably pertinent to a problem addressed by, the '230 patent: navigation systems and displaying up-to-date information relating to destinations along a navigation route, respectively. (EX1003, ¶93; EX1001, 1:5-7,

2:13-27, 5:26-31, 14:25-30, FIGS. 16-19, claim 1; EX1008, Abstract, [0001], [0020]-[0021], [0056], [0082], [0106], [0129]-[0131], [0159], [0161], FIGS. 1, 4, 5.)

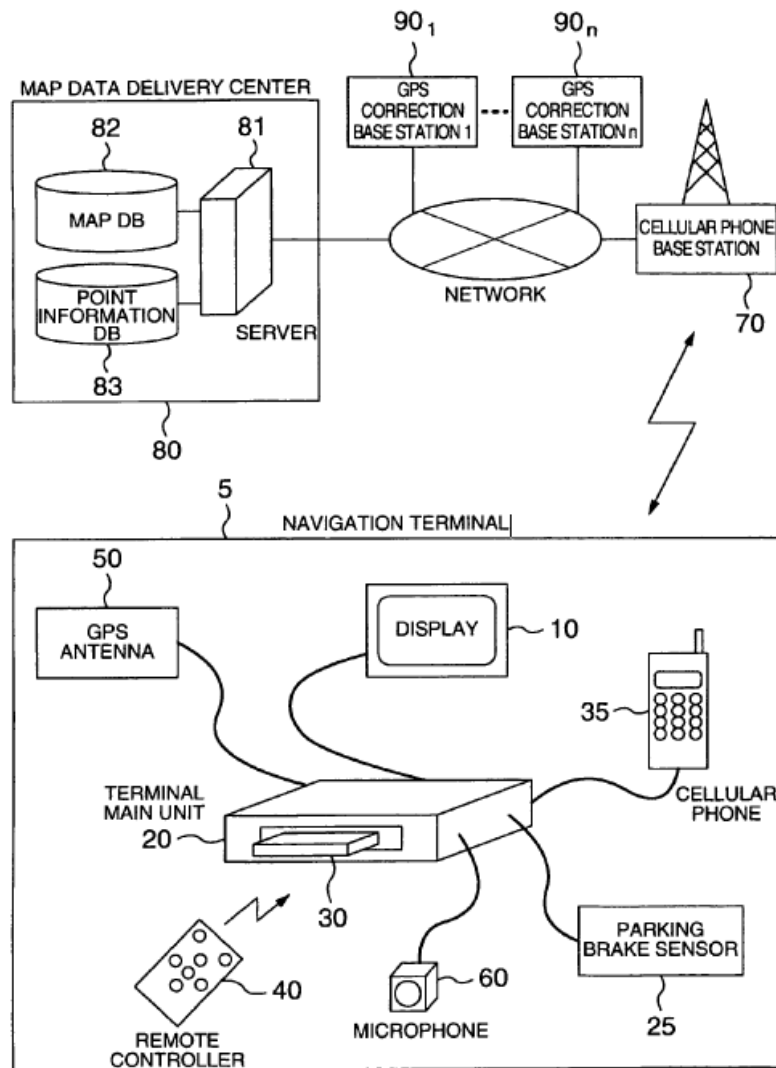
2. Overview Of U.S. Patent No. 7,383,127 (“Matsuo”).

Matsuo issued on June 3, 2008 and is prior art. (EX1010, [45].)

Matsuo discloses a navigation device or communication type navigation terminal 5 for receiving and downloading map data. (EX1010, Abstract.) The navigation device in Matsuo is intended to reduce the amount of map information transferred, to correct GPS positioning, and to deliver advertisements. (*Id.*)

As shown below, Matsuo discloses a communication type navigation terminal 5 mounted on a vehicle, a cellular phone base station 70 for performing radio communication with a cellular phone, a map data delivery center 80 for delivering map data, and one or more GPS correction base stations 90 for calculating GPS correction data. (*Id.* at 5:11-18, FIG. 1)

FIG. 1



Matsuo's map delivery center 80 includes: "a server 81, a map database (DB) 82 for storing map data, and a point information database (DB) 83 for storing information indicating the types, names, addresses, and telephone numbers of primary facilities such as restaurants, gas stations, leisure facilities, and public facilities in respective areas of a map." (*Id.* at 7:48-55, FIG. 1.)

Matsuo's server 81 has an authentication unit 801 that performs an authentication process when accessed by navigation terminal 5 and permits only a registered navigation terminal 5 to access server 81. (*Id.* at 8:5-8; *see also id.* at 5:9-15 (teaching that authentication is required to receive a route from map DB 82 and associated map data cutting unit 83).)

Matsuo is analogous art to the '230 patent because Matsuo is in the same field of endeavor as, and is at least reasonably pertinent to a problem addressed by, the '230 patent: navigation systems and displaying up-to-date information relating to destinations along a navigation route, respectively. (EX1003, ¶101; EX1001, 1:5-7, 2:13-27, 5:26-31, 14:25-30, FIGS. 16-19, claim 1; EX1010, 1:10-14, 2:40-44, 2:54-56, 3:47-67, 5:19-53, 14:24-38, FIGS. 1, 8, 12, 13.)

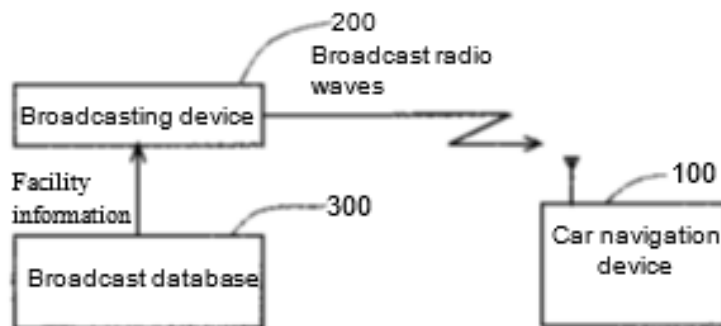
3. Ota In Combination With Matsuo And The Knowledge Of A POSITA Renders Obvious Challenged Claim 1.

(a) Ota Discloses Limitation [1-PRE].

To the extent the preamble is limiting, Ota discloses limitation [1-PRE].

Ota discloses "a car navigation device 100." (EX1008, Abstract; *see also id.* at FIG. 1 (showing car navigation device 100, broadcasting apparatus 200, and broadcasting database 300); EX1003, ¶216.)

[FIG. 1]



(b) Ota Discloses Limitation [1a].

Ota discloses limitation [1a].

Ota's car navigation device 100 includes a database unit 103 (*i.e.*, “data storage unit for storing data”). (EX1008, [0106], *see also id.* at FIG. 4.) Ota's “database unit 103 is a storage device” that “stores map information and facility information.” (*Id.* at [0113], [0114].) Ota's database unit 103 associates map information (*i.e.*, roadway information) with “information about facilities around the roads,” such as name, telephone number, and address for each facility. (*Id.*) (EX1003, ¶219.)

(c) Ota In Combination With Matsuo Teaches And Renders Obvious Limitation [1b].

Ota in combination with Matsuo teaches and renders obvious limitation [1b].

As discussed above, an “external registration destination facility” is a facility such as a hotel, restaurant, ferry, or parking lot. (EX1001, 1:11-19, FIGS. 1, 16, 17;

EX1003, ¶222.) “Service information” is information about an “external registration destination facility” such as business hours, address, hotel vacancy, restaurant wait times, menus, and ferry availability. (EX1001, 13:6-21, FIGS. 16, 17; EX1003, ¶222.)

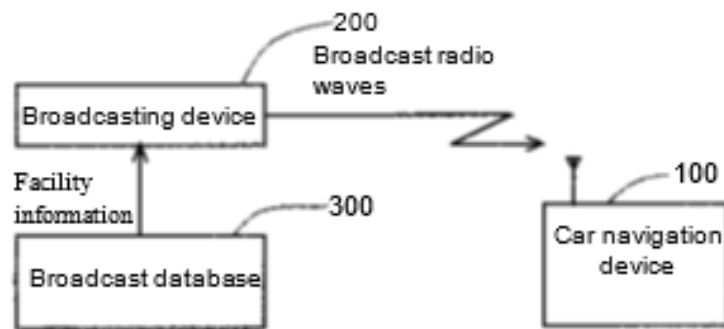
Ota’s car navigation device 100 (*i.e.*, “navigation device”) includes “a service information reception processing unit [for receiving service information].” (EX1003, ¶223.) Ota’s receiving unit 101 and decryption means together disclose the “service information reception processing unit.” (*Id.*) Ota’s reception unit 101 receives the facility information (*e.g.*, “business hours, phone number, address, availability of parking, etc.” and “recommended dishes”) distributed by broadcast database 300 (*i.e.*, “external registration destination facility”) over a network. (EX1008, [0118], [0141], FIG. 1; EX1003, ¶223.) Ota also has “a decryption means” “provided between the reception unit 101 and the extraction means 102 to enable descrambling of the broadcast radio waves received by the reception unit 101.” (*Id.* at [0118]; EX1003, ¶223.) Ota’s receiving unit 101 is configured to receive facility information and Ota’s decryption means is configured to process facility information. (EX1008, [0118], [0141], FIG. 4; EX1003, ¶223.)

Ota also discloses that its receiving unit 101 and decryption means (*i.e.*, “service information reception processing unit”) “receiv[es] service information at an external registration destination facility” and that Ota’s broadcast database 300

(*i.e.*, “external registration destination facility”) distributes service information. (EX1003, ¶224.)

Ota’s car navigation device 100 (*i.e.*, “navigation device”), broadcast device 200, and a broadcast database 300 (*i.e.*, “external registration destination facility”) are shown below. (EX1008, [0072], FIG. 1; EX1003, ¶225.)

[FIG. 1]



Ota’s “broadcast database 300 [*i.e.*, ‘external registration destination facility’] is a database in which facility information [*i.e.*, ‘service information’] has been accumulated.” Ota’s broadcast database 300 “is configured to send facility information to be broadcasted to the broadcasting device 200.” (EX1008, [0073]-[0074]; *see also id.* at [0114], [0117], FIG. 1; EX1003, ¶226.) Ota’s facility information (*i.e.*, “service information”) includes “date and time information,” “location information of the facility,” “type of facility, *i.e.* restaurant, entertainment facility,” “images of the facility,” and “comment information” about numerous facilities, such as “restaurants, entertainment facilities, tourism facilities, etc.”

(EX1008, [0077]-[0079]; *see also id.* at [0044] (“French restaurant, Italian restaurant, Chinese restaurant, Japanese restaurant, etc.”), [0045] (“business hours, phone number, address, availability of parking, etc.” and “recommended dishes”); EX1003, ¶226.) Ota’s broadcast database 300 (*i.e.*, “external registration destination facility”) also distributes “service information” (*i.e.*, Ota’s facility information). (EX1003, ¶226.)

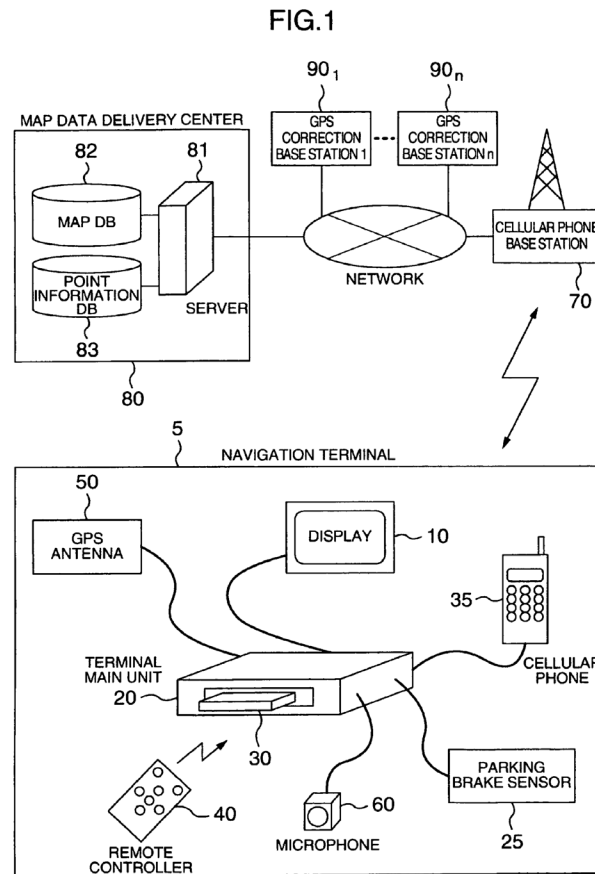
Ota further discloses that broadcasting device 200 receives and stores the received facility information (*e.g.*, address, dishes, etc.) and subsequently broadcasts it over radio waves to Ota’s car navigation device 100 (*i.e.*, “navigation device”). (EX1003, ¶227.) Ota’s car navigation device 100 receives the broadcasted facility information, extracts the facility information, and stores the facility information. (EX1008, [0076]-[0077]; EX1003, ¶227.)

Ota does not expressly disclose that “member registration is made” at Ota’s broadcast database 300. (EX1003, ¶228.)

In the same field, Matsuo discloses a navigation device (*i.e.*, “navigation terminal 5”) that receives service information from a map data delivery center 80 (*i.e.*, “external registration destination facility”) with which member registration is made (*i.e.*, via server 81). (*See* EX1010, 8:5-8; EX1003, ¶229.)

As shown in FIG. 1, Matsuo discloses that a “navigation terminal 5 obtains map data delivered from the map data delivery center 80 and then gives guidance of

a route to a destination, using the map data obtained.” (EX1010, 5:19-22, FIG. 1; EX1003, ¶230.)



Matsuo’s map delivery center 80 (*i.e.*, “external registration destination facility”) includes: “a server 81, a map database (DB) 82 for storing map data, and a point information database (DB) 83 for storing information indicating the types, names, addresses, and telephone numbers of primary facilities such as restaurants, gas stations, leisure facilities, and public facilities in respective areas of a map.” (*Id.* at 7:48-55, FIG. 1; EX1003, ¶231.)

Matsuo's server 81 has "an authentication unit 801 that performs an authentication process" and "permits only a navigation terminal 5 that is registered in advance" to receive information from server 81. (*Id.* at 8:5-8, 8:9-37 (requiring authentication to receive a route from map DB 82 and associated facility information along the route from point information DB 83); EX1003, ¶231.)

Matsuo therefore discloses an "external registration destination facility" (*i.e.*, map data delivery center 80) with which "member registration is made" (*i.e.*, authentication unit 801 at server 81) and that distributes service information to the navigation device (*i.e.*, navigation terminal 5). (*Id.*; EX1003, ¶232.)

A POSITA would have been motivated to, and would have found it obvious to, modify Ota's broadcast database 300 to include a "member registration" service (*e.g.*, a registration or subscription service) in view of Matsuo because a POSITA would have recognized that navigation devices that relied on broadcasting information, like Ota's navigation device, were ideally suited for registration or subscription-based services for which user registration or enrollment is required. (EX1003, ¶233.)

Ota discloses a broadcast service model (*i.e.*, one-way distribution of information from broadcast database 300). (EX1008, [0073]-[0074]; EX1003, ¶234.) A navigation service provider would have understood that, by broadcasting

information, Ota's navigation device requires a service provider's revenue stream to heavily rely on revenue from advertisements. (EX1003, ¶234.)

At the time of the '230 patent, navigation systems were becoming readily available commodities due to the proliferation of the Internet and mobile devices. (EX1003, ¶235.) It was well known at the time of the '230 patent that many navigation system providers, including TomTom, Garmin, and cellular providers (*e.g.*, Sprint), viewed registration or subscription-based services as a way to provide premium navigation services to their customers. (*Id.*)

For navigation service providers, a POSITA would have understood that implementing Matsuo's member registration model in Ota's navigation device would have allowed a service provider to expand product offerings, enhance the consumer experience, and generate additional revenue. (EX1003, ¶236.) It was well-known that users of navigation devices were concerned with receiving convenient, up-to-date, real-time, and accurate information while travelling and were willing to pay to register or subscribe to content that is of interest to them. (*Id.*) A service provider would have expanded product offerings to provide certain drivers (in exchange for a registration or subscription fee) with desired information, such as information with or without advertisements, service information tailored to long-haul truckers (*e.g.*, diesel fuel stations, showers, overnight parking, federal

highways), or information based on geography (*e.g.*, regional, state, local, etc.) or road-type (*e.g.*, federal highways, toll roads, local side streets, etc.). (*Id.*)

Because navigation services were becoming a commodity and because broadcast-only navigation systems limited revenue streams, a navigation service provider would have sought (and did seek) to diversify revenue streams and enhance product offerings beyond foundational navigational guidance. (EX1003, ¶237.)

A POSITA also would have had a reasonable expectation of successfully implementing Matsuo's member registration (*i.e.*, authentication unit 801) in Ota's navigation device because Ota's navigation terminal was already enabled to permit only car navigation devices 100 with the "decryption means" to decrypt the signals broadcasted by broadcast device 200. (EX1003, ¶238.) Specifically, Ota discloses that its car navigation device 100 can be provided with the "decryption means" to descramble the broadcasts from the broadcast device 200. (EX1008, [0119] ("a decryption means (not illustrated) for decrypting the encrypted facility information should be provided in the extraction unit 102. This makes it possible to decrypt the facility information extracted by the extraction unit 102."); EX1003, ¶239.) As Matsuo teaches permitting only subscribers who had registered or enrolled in advance to receive certain information from its server 81 (EX1010, 8:5-8), a POSITA would have been motivated to modify Ota's broadcast database 300 such that only those car navigation devices 100 that are pre-registered with the broadcast

database 300 be provided with the “decryption means,” *i.e.*, decryption key, to descramble certain broadcasts from broadcast server 300 broadcast via the broadcast device 200. (EX1003, ¶239; EX1008, [0118].) In the proposed Ota-Matsuo combination, those car navigation devices 100 that were pre-registered with broadcast database 300 would be provided with Ota’s “decryption means.” (EX1003, ¶239.)

This registration or subscription model was well known at the time of the ‘230 patent and is technologically similar to how cable or broadcast TV service providers required users to have set-top cable boxes and would need to be pre-registered with a subscription service provider (*e.g.*, HBO) or have decryption pre-installed on the set-top box in order to display the broadcasted subscription channels. (EX1003, ¶240.) This is also technologically similar to how SiriusXM broadcasts its channels over radio waves to permit only users that are pre-registered with SiriusXM to listen to certain radio channels. (*Id.*)

A POSITA would have had a reasonable expectation of success because no modification to Ota’s system architecture would have been required. (EX1003, ¶241.)

(d) Ota Discloses Limitation [1c].

Ota discloses limitation [1c].

Ota's car navigation device 100 (*i.e.*, "navigation device") includes a control unit 105 and extraction unit 102 (*i.e.*, "service information reception analyzing unit"). (EX1003, ¶244.) Ota's control unit 105 and extraction unit 102 process service information relating to facilities (*e.g.*, "business hours, phone number, address, availability of parking, etc." and "recommended dishes") received from receiving unit 101 (*i.e.*, "service information reception processing unit") to register the service information in Ota's database unit 103 (*i.e.*, "data storage unit"). (EX1008, [0123], [0125]-[0126]; *see also id.* at [0119] (Ota includes an extraction unit 102 configured to extract the facility information from the received airwaves, a facility information storage unit configured to store the extracted facility information), [0142]-[0143], (teaching that, in step 3 of Ota's process, extraction unit 102 extracts facility information from the broadcasted radio waves and converts into a usable format, and in step 4, the control unit 105 determines whether service information has been stored and, if not, stores the new service information), FIG. 6; EX1003, ¶244.)

Ota also discloses a "predetermined process" with steps, S01-S05, that are performed on broadcasts received by the car navigation device 100. (EX1008, [0140]-[0145]; EX1003, ¶245.)

Ota also discloses "register[ing] the service information in said data storage unit." (EX1003, ¶246.) Ota's "control unit 105 recognizes the facility information

extracted by the extraction part 102 [and] determines whether or not facility information with the same identification information has already been accumulated in the database unit 103 by searching the facility information accumulated in the database unit 103.” (EX1008, [0120]; EX1003, ¶246.) If not, the facility information determined not to be stored in the database unit 103 is stored in the database unit 103, and the facility information determined to be already stored is to be deleted. (*Id.*)

(e) Ota Discloses Limitation [1d].

Ota discloses limitation [1d].

Ota discloses that its car navigation device 100 (*i.e.*, “navigation device”) includes a facility information reading means (*i.e.*, “notification condition customization unit”) that reads out facility information within a predetermined range (*i.e.*, “notification condition”) using, for example, the date and time information as an index related to the facility information. (EX1008, [0055]-[0063]; EX1003, ¶249.)

Ota’s facility information reading means uses a predetermined range, which can be set by the driver, to ensure that up-to-date service information relating to facilities is available to a user of the navigation device. (EX1008, [0037], [0056] (“it becomes possible to selectively read newer facility information from among the

accumulated facility information”), [0058] (“the user can arbitrarily set the predetermined range” to receive updated information); EX1003, ¶249.)

Ota also discloses “setting a notification condition about notification of the service information at the external registration destination facility.” (EX1003, ¶250.) In Ota, when a driver sets certain “date and time information” (*e.g.*, year, month, day, or hours, minutes, seconds), new facility information can be “selectively read” from the stored facility information using the set “date and time information as an index.” (*Id.* at [0056]; EX1003, ¶245.) A driver can also fix, in advance, the predetermined range, or arbitrarily set the predetermined range (*i.e.*, “notification condition”), but the default predetermined range is one or two weeks from the current date. (*Id.* at [0058]-[0059]; EX1003, ¶250.) According to Ota, a driver can also select the type of facility information (*e.g.*, “notification condition”) that is to be updated (*e.g.*, restaurant or amusement facility). (*Id.* at [0060]-[0061]; EX1003, ¶250.) Once the information is updated according to a driver’s setting (*e.g.*, by range or type), Ota discloses that a driver may be notified of the updated facility information by a change in the display icon. (*Id.* at [0062], [0063]; EX1003, ¶250.)

(f) Ota Discloses Limitation [1e-1].

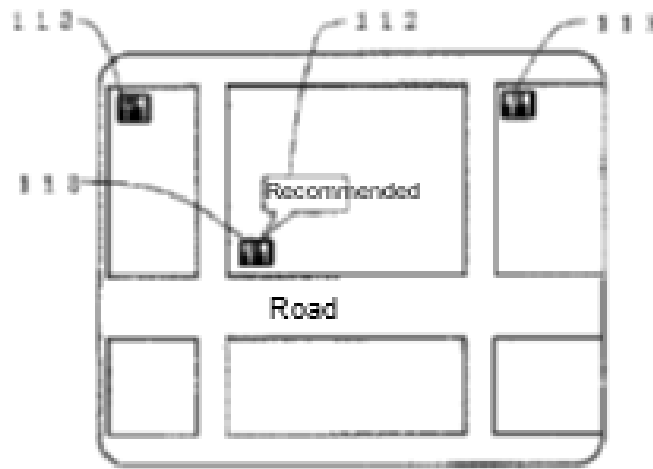
Ota discloses limitation [1e-1].

Ota discloses that its car navigation device 100 (*i.e.*, “navigation device”) includes a map information display control means (*i.e.*, “facility icon display

processing unit for displaying, on a map of a current location and surrounding area of the navigation device”). (EX1003, ¶253.) Ota’s map information display control means is used to display a map image on a driver’s current location and the area surrounding the driver. (EX1008, [0020]-[0021], [0054]; EX1003, ¶253.) Ota’s navigation device: (i) obtains a vehicle’s current position using Ota’s current position acquisition unit 104 (*e.g.*, GPS unit), (ii) reads the map information of the surrounding area from Ota’s map information storage unit, and (iii) displays a map of the area around the current position. (*Id.* at [0109]-[0110]; EX1003, ¶253.)

Ota also discloses “an icon representing a registration destination facility located within an area covered by the displayed map.” (EX1003, ¶254.) As shown in Ota’s FIG. 5, Ota’s navigation device displays nearby facilities, such as entertainment facilities, restaurants, and public facilities, as icons. (*Id.* at [0129], [0158]; FIG. 5 (showing nearby restaurants as “fork and knife” icons 113); EX1003, ¶254.)

[FIG. 5]



(g) Ota In Combination With The Knowledge Of A POSITA Teaches And Renders Obvious Limitation [1e-2].

Ota in combination with the knowledge of a POSITA teaches and renders obvious limitation [1e-2].

Ota discloses “displaying a modified version of the icon on the map in such manner indicating that there is an update in service information at the registration destination facility located within an area covered by the displayed map.” (EX1003, ¶257.) Ota’s facility icons 113 may be displayed on the map with phrases, such as “recommended” or “new,” or characters, such as an asterisk, which a user can recognize or differentiate between facilities having new or updated service information. (EX1008, [0063], [0129], FIG. 5 (showing restaurant with the term “recommended”); EX1003, ¶257.)

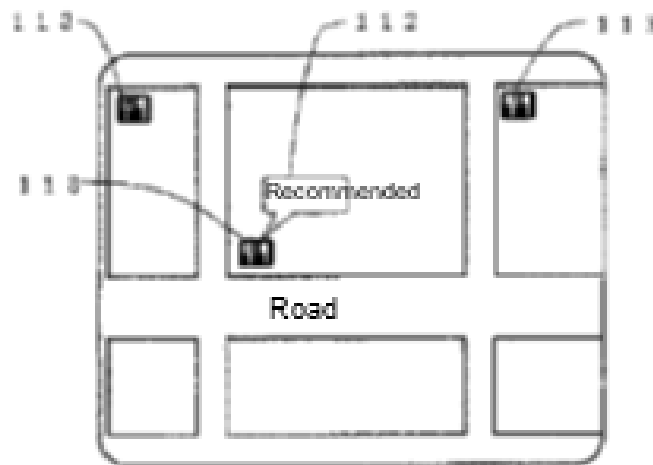
A POSITA would have understood that Ota's display of unique phrases (*i.e.*, “new”) and characters (*e.g.*, asterisks) would indicate to a driver that updated service information is available for certain facilities. This understanding would have been consistent with the problem that Ota's navigation device was trying to solve—“[t]o provide a navigation system and a navigation device that make it possible to easily obtain new facility information and allow such information to be used while being identified as new facility information.” (EX1003, ¶258; EX1008, Abstract.)

Ota also discloses “according to the notification condition set by said notification condition customization setting unit, said notification condition being satisfied when the service information at the represented registration destination facility has been updated.” (EX1003, ¶259.) When Ota's car navigation device 100 is turned on, Ota's current position acquisition unit 104 uses GPS to acquire information (*i.e.*, latitude and longitude) about the current position of the vehicle. (EX1008, [0109]; EX1003, ¶259.) Then, Ota's control unit 105 recognizes the current position information acquired by the current position acquisition unit 104 and shows roadways around the current position based on the initial settings of the display 106. (EX1008, [0110], [0126]; EX1003, ¶259.)

According to Ota, when a driver wants to know service information about, for example, restaurants near his or her current position, the driver instructs operation panel 107 to search restaurants, which causes the control unit 105 to search for and

read out updated restaurant service information from database unit 103 based on date information within a driver's predetermined range and the displayed map area (*i.e.*, current location). (EX1008, [0132]; EX1003, ¶259.) As shown in FIG. 5, the restaurant that is positioned on the current map on display 106 and whose facility information is within the predetermined range (*i.e.*, date and time) is shown with a mark 112 containing the word "recommended." (EX1008, [0156]; *see also id.* at [0138] (teaching that normal information about the facility would no longer be displayed with a unique phrase (*i.e.*, "recommended" or "new") or character (*e.g.*, asterisk); EX1003, ¶259.)

[FIG. 5]



A POSITA would have understood that because Ota discloses: (i) a process for automatically updating service information based on a vehicle's current location; and (ii) that a driver can preset conditions for how and what service information

should be updated, Ota also discloses the claimed “according to the notification condition set by said notification condition customization setting unit, said notification condition being satisfied when the service information at the represented registration destination facility has been updated.” (EX1003, ¶260; EX1008, [0063], [0109], [0110], [0126], [0129], [0132].)

A POSITA would have further understood that one of the benefits of Ota’s mobile navigation device depends on the ability of the navigation device to provide temporally sensitive service information (*e.g.*, hotel vacancy, restaurant wait time, traffic jam information, etc.) and to alert a driver to the new information as the driver travels along a route. (EX1003, ¶261; EX1008, [0002], [0020], [0021], [0057], [0153]-[0154].) Ota discloses that a driver expects that service information to be current while travelling along a route. (*Id.*) A POSITA would have understood that it was desired for a navigation device to provide a driver with current service information. (EX1003, ¶261.) A POSITA would have understood that these features would enhance a driver’s convenience and safety.

A POSITA would have also understood that a problem to be solved by Ota is “[t]o provide a navigation system and a navigation device that make it possible to easily obtain new facility information [*e.g.*, vacancy, business hours, etc.] and allow such information to be used while being identified as new facility information.” (EX1003, ¶262; EX1008, Abstract; *see also id.* at [0037], [0043]-[0044], [0058]-

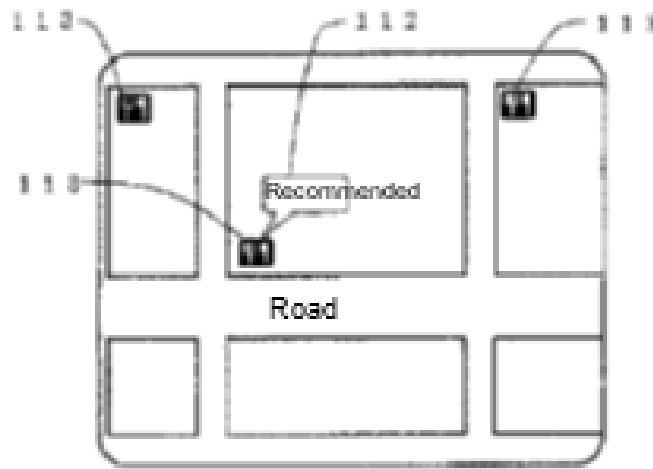
[0059], [0064]-[0065], [0067].) The icons in Ota would be modified and updated in accordance with a driver's settings. (EX1008, [0109], [0110], [0126], [0128] (“based on settings or manipulation of the control panel 107”), [0132].)

(h) Ota Discloses Limitation [1f]

Ota discloses limitation [1f].

Ota discloses that its “navigation device displays the map on which the icon is displayed in accordance with a navigation function.” (EX1003, ¶265.) Ota's control unit 105 of the navigation device 100 reads out facility location information from database unit 103 based on the distance from the navigation route and displays such facilities with a mark 113 (*i.e.*, “displays the map on which the icon is displayed”). (EX1008, [0128]-[0129] (“display[ing] the location of certain facilities with an accompanying mark, whereof the location is within the range of the map image displayed on the display 106, using the location information included in the facility information.”), FIG. 5 (showing nearby restaurants along a route on car navigation device 100); EX1003, ¶265)

[FIG. 5]



Because Ota discloses that control unit 105 reads out facility information based on the distance from the navigation route and the navigation terminal displays facilities with a mark or text, Ota discloses that its car navigation device 100 (*i.e.*, “navigation device”) displays icons relating to facilities while the user is travelling a route (*i.e.*, “in accordance with a navigation function”). (EX1003, ¶266.) A POSITA would also understand that if the navigation device did not display facility icons close to a driver’s route, the service information provided by Ota’s navigation device would not be beneficial to a driver. (*Id.*) Ota’s navigation device provides course guidance between a current position and a destination as well as display the route on the map. (EX1008, [0126]-[0129].) Ota discloses that control unit 105: (i) acquires the GPS location of the current position from position acquisition unit 104; (ii) reads out map information from database unit 103 according to the destination

location; (iii) calculates a route between the current position and the destination location; and (iv) displays the route on display 106 as a map image. (*Id.* at [0126]; EX1003, ¶267.)

4. Challenged Claim 2.

Ota discloses the additional limitations of Challenged Claim 2 (*i.e.*, “wherein said navigation device includes a provided information format extracting processing unit for registering a provided information format used for analyzing the service information distributed from the registration destination facility in the data storage unit, and the service information analyzing processing unit processes the service information received by the service information reception processing unit by using the provided information format registered by said provided information format extracting processing unit, and registers the service information in said data storage unit.”)

Ota discloses that its navigation device 100 (*i.e.*, “navigation device”) includes an extraction unit 102 (*i.e.*, “provided information format extracting processing unit”) “for registering a provided information format used for analyzing the service information distributed from the registration destination facility in the data storage unit.” (EX1003, ¶271.)

Ota’s receiving unit 101, receives the service information via radio waves broadcasted by broadcast device 200. (*Id.*) Ota’s extraction unit 102 extracts the

facility information from the broadcast radio wave received by the receiving unit 101 and extracts the facility information. (EX1008, [0117]; EX1003, ¶271.) According to Ota, the extraction unit 102 converts the service information from a broadcast format to a format that can be used in the car navigation device 100. (*Id.*, [0118] (explaining that extraction unit 102 “descrambles” or decrypts the received broadcast radio waves); EX1003, ¶271.)

As discussed above, Ota’s control unit 105 and extraction unit 102 (*i.e.*, “service information reception processing unit”) “processes the service information received by the service information reception processing unit by using the provided information format registered by said provided information format extracting processing unit.” (EX1003, ¶272.) Ota’s control unit 105 and extraction unit 102 receives the service information (*e.g.*, business hours, recommended dishes, etc.) via radio waves broadcasted by broadcast device 200, and Ota’s extraction unit 102 extracts the service information from the broadcast radio wave and into a usable format. (EX1008, [0117]; EX1003, ¶272.) Then, the control unit 105 processes the facility information extracted by the extraction unit 102 in a format that is consistent with how it is stored in database unit 103, and determines whether the facility information is already stored in the database unit 103. (EX1008, [0120]; EX1003, ¶272.) If it is not already stored, the control unit 105 stores (*i.e.*, registers) the facility information in the database unit 103. (*Id.*) Ota discloses that control unit 105

“registers the service information in said data storage unit” (*i.e.*, database unit 103). (*Id.*)

5. Challenged Claim 4.

Ota discloses the additional limitations of Challenged Claim 4 (*i.e.*, “wherein said navigation device includes a service information control processing unit for deleting and updating service information registered in the data storage unit.”)

Ota discloses that its navigation device 100 (*i.e.*, “navigation device”) includes a control unit 105 (*i.e.*, “service information control processing unit”) that “determines whether or not facility information with the same identification information has already been accumulated [*i.e.*, stored] in the database unit 103.” (EX1008, [0120]; EX1003, ¶275.) Facility information that is determined to be stored in the database unit 103 (*i.e.*, data storage unit) is stored in the database unit 103, and the facility information that has been determined not to be stored is deleted as it is obsolete. (*Id.*)

Ota further discloses a methodology for how its control unit 105 determines whether and when to update and delete outdated facility information. (EX1008, [0148], [0149]; EX1003, ¶276.)

6. Challenged Claim 5.

Ota in combination with Matsuo renders obvious the additional limitations of Challenged Claim 5 (*i.e.*, “wherein said navigation device includes a facility service

information notification processing unit for presenting a list of registration destination facilities located in an area surrounding a route to a destination and each providing service information having an unexpired notification period.”)

Matsuo discloses that: (i) navigation terminal 5 “requests a list of restaurants around the current position of the navigation terminal 5”; (ii) point information search unit 804 “notifies the navigation terminal 5 of the list” of restaurants; and (iii) “the navigation terminal 5 selects one of the restaurants included in the notified list.” (EX1010, 8:21-37; EX1003, ¶279.). Thus, a POSITA would have understood that Matsuo discloses a “facility service information notification processing unit for presenting a list of registration destination facilities located in an area surrounding a route to a destination and each providing service information having an unexpired notification period.” (EX1003, ¶280.)

A POSITA would have found it obvious to modify Ota’s navigation device 100 with the ability to present a “list” of information to a driver, like in Matsuo, because Ota emphasizes that new facility information should be presented to the driver in a manner that makes it easily identifiable (EX1008, [0019], [0042] (“The [facility] name makes it easy to distinguish the facility from other facilities.”)) and listing search results allows a user to easily distinguish facilities. (EX1003, ¶281.) A POSITA would have had a reasonable expectation of success in modifying Ota’s navigation terminal with the ability to display a “list” of facility information because

it would require only adding the display of the list to Ota's graphical display operation. (*Id.*)

A POSITA would also have understood that providing service information that is not expired (*i.e.*, outdated) comports with the disclosures for Ota's navigation device because Ota's navigation device seeks to provide temporally sensitive service information (*e.g.*, hotel vacancy, restaurant wait time, etc.) and to alert a driver to the new information as the driver travels along a route. (EX1003, ¶282; EX1008, Abstract (“To provide a navigation system and a navigation device that make it possible to easily obtain new facility information [e.g., vacancy, business hours, etc.] and allow such [new facility] information to be used while being identified as new facility information” for a driver's convenience and safety); *see also id.* at [0037], [0043]-[0044], [0058]-[0059], [0064]-[0065], [0067].)

7. Challenged Claim 6.

Ota discloses the additional limitations of Challenged Claim 6 (*i.e.*, “wherein the notification condition customization setting unit sets a notification condition for each registration destination facility.”)

As discussed above, Ota discloses that its facility information reading means is configured to read out updated facility information (*e.g.*, recommended dishes, business hours) within a predetermined range (*i.e.*, “notification condition”) from the facility information storage unit according to date and time information.

(EX1008, [0055]; EX1003, ¶285.) According to Ota, new facility information can be *selectively* read from the database unit 103. (EX1008, [0056]; EX1003, ¶285.) Ota teaches that a driver can fix the “predetermined range” (*i.e.*, “notification condition”) in advance or arbitrarily. (EX1008, [0058]; EX1003, ¶285.) For example, a driver can set the “predetermined range of facility information” based on preference according to either date and time information within a predetermined time range retroactively from the current time (*e.g.*, one week, two weeks). (EX1008, [0057]-[0058]; EX1003, ¶285.) Alternatively, a driver could set a specific date as the predetermined range. (EX1008, [0059]; EX1003, ¶285.)

Ota further discloses that a driver can preferably set different predetermined ranges for different facilities:

By using the broadcast date and time as an index, the user can recognize facility information within a predetermined range based on the newness of the broadcast program for facilities introduced in a broadcast program. For example, facility information can be read out within a predetermined range, such as within 1 week or within 1 month retroactively from the current time, using the broadcast date and time as an index. Note that this predetermined range does not particularly need to be fixed, and can be configured to be changeable according to user wishes by means of the control panel 107.

(*Id.* at [0130]; EX1003, ¶286.)

8. Challenged Claim 7.

Ota teaches alone, or Ota in combination with the knowledge of a POSITA teaches and renders obvious, the additional limitations of Challenged Claim 7 (*i.e.*, “wherein the service information reception processing unit receives the service information from the external registration destination facility via the Internet.”).

It was well-known at the time of the ‘230 patent that navigation devices received up-to-date service information by accessing a database storing information regarding facilities “*via the Internet* or other communication lines to obtaining the information, and then transmitting this obtained information to the car navigation device.” (EX1003, ¶289; EX1008, [0008]; EX1010, 7:32-35, 8:1-4 (“the server 81 exchanges information with the navigation terminal 5 over the Internet, and supports an Internet protocol.”).)

Ota discloses that service information is broadcasted over radio waves. (EX1003, ¶290; EX1008, [0023]-[0026].)

A POSITA would have understood that a common, well-understood way to transmit and receive data from the Internet is by broadcasting information over radio waves. (EX1003, ¶291.)

9. Challenged Claim 8.

Ota discloses the additional limitations of Challenged Claim 8 (*i.e.*, “wherein the displayed icon is selectable by a user in order to display information of a

commercial service or product currently offered at the external registration destination facility, the information of the commercial service or product being part of the service information received from the external registration destination facility.”)

Ota discloses that “the displayed icon is selectable by a user” “through the manipulation of the control panel 107” such that “[i]nformation about the type of facility is included in the facility information [e.g., facility type, facility name], and by utilizing this type [of] information, only facility information of a specified type can be read out” from Ota’s database unit 103. (EX1008, [0108] (describing control panel 107 as a touch screen display), [0132] (“For example, if one is looking for a restaurant, the control unit 105 can select ‘restaurant’ as the facility type, and read out, from the database unit 103, facility information containing ‘restaurant’ as the facility type information.”); EX1003, ¶294.)

Ota further discloses that “through manipulation of the control panel 107, the control unit 105 can be set not only to display the locations of facilities [*i.e.*, service information] with an accompanying mark on the map image, but also to display the names of the facilities [*i.e.*, ‘service information’].” (EX1008, [0133], [0127]; EX1003, ¶295.) Locations and names of facilities are “service information.”

Ota also discloses that, when a driver selects a specific facility, control unit 105 reads the facility information and displays the detailed facility information of

the facility (e.g., business hours, presence or absence of a parking lot, holidays, recommended dishes, services provided, an image of the facility or dishes, etc.) on display 106. (EX1008, [0134]; EX1003, ¶296.)

V. DISCRETIONARY DENIAL IS UNWARRANTED.

A. *Fintiv*.

Patent Owner has asserted the '230 patent against Petitioner in the Litigation currently pending in the Eastern District of Texas (*i.e.*, *Mel NavIP LLC v. Hyundai Motor Company et al.*, 2:23-cv-00176 (E.D. Tex.) (the “Litigation”)). The Board should not exercise its discretion to deny institution because the Petition presents compelling evidence of unpatentability. (Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022) (“*Fintiv* Memo”) at 2, 9.) Consideration of all the *Fintiv* factors also supports that the Board should decline to exercise its discretion to deny institution.

Factor 1: This factor is neutral because Petitioner has not yet moved for a stay in the Litigation and the court has not yet considered entering a stay.

Factor 2: This factor weighs against discretionary denial or is neutral at worst because the final written decision is expected to issue around the same time as the trial date in the Litigation. In the Litigation, a trial date has been scheduled for March 3, 2025. (EX1011, 1.) Based on the filing date of the Petition, a final written decision is expected by May 2025, a mere two months after the current trial date.

This two-month difference is insignificant as court deadlines often change and the anticipated trial date is well over a year away. *See Fintiv* Memo at 8.

Factor 3: This factor weighs against discretionary denial because the Litigation is in its infancy, the parties have invested very little in the case, and Petitioner was diligent in filing its Petition. Fact discovery has only just begun, the parties conducted their Rule 26(f) conference on October 11, 2023, and the court entered its scheduling order on October 16, 2023. (EX1011, 1.) There has been no claim construction briefing or *Markman* hearing, the court has not entered a claim construction opinion or any substantive orders relating to the '230 patent or the invalidity issues raised in the Petition, and Petitioner provided its initial invalidity contentions just days ago. (*Id.* at 3-4.) A claim construction order will not issue until well after the institution decision. (*Id.* at 3 (setting *Markman* hearing for September 18, 2024).) Petitioner was also very diligent in preparing and filing the Petition as the Petition was filed just two months after Patent Owner served its infringement contentions and well in advance of the statutory deadline (*i.e.*, April 21, 2024). (*Id.* at 5.)

Factor 4: This factor weighs against discretionary denial in view of the following stipulation, which confirms that there will be no overlap between the invalidity issues and prior art raised in the Petition and the invalidity issues and prior art litigated in the Litigation:

Petitioner and its real parties-in-interest hereby stipulate that, in the event the PTAB institutes an *inter partes* review based on this Petition, Petitioner and its real parties-in-interest will not rely on the same Grounds and References (*i.e.*, Fujiwara, Ota, and Matsuo) asserted in this Petition to challenge the validity of the Challenged Claims of the ‘230 patent in the Litigation.

Petitioner’s invalidity contentions in the Litigation also contain numerous prior art references (including prior art systems), obviousness combinations, and statutory invalidity grounds (*i.e.*, 35 U.S.C. §§ 101 and 112) that are not at issue in the Petition.

Factor 5: This factor is neutral as it is typical for a petitioner in an *inter partes* review and a defendant in a parallel district court proceeding to be the same.

Factor 6: This factor weighs against discretionary denial because the Petition sets forth compelling evidence of unpatentability. (*See* Sec. I-IV, *supra*.) “[T]he PTAB will not deny institution [] under *Fintiv* (i) when a petition presents compelling evidence of unpatentability.” *Fintiv* Memo at 9. Here, the evidence presented in the Petition, “if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable.” *Id.* at 4. Further, Ground 1 is a single-reference obviousness ground demonstrating how Fujiwara alone renders obvious all of the Challenged Claims. Thus, discretionary denial is inappropriate in view of the compelling evidence of unpatentability presented in the Petition. Further, neither of the Grounds raised in the Petition (or the references contained therein) have been

previously considered by the PTO. Thus, even if the Board finds that *Fintiv* factors 1-5 favor denial of institution, discretionary denial would be inappropriate in view of the compelling evidence of unpatentability presented in the Petition.

B. *Advanced Bionics.*

The Board should decline to exercise its discretion to deny institution under 35 U.S.C. § 325(d) because the art and arguments set forth in the Petition are not the same or substantially the same as those presented to the PTO during prosecution of the '230 patent. As noted above, the prior art raised in the Petition's Grounds was neither cited by the Examiner nor identified by the Applicant in an information disclosure statement. The prior art raised in the Grounds is also materially different from, and not cumulative of, any art before the Examiner such that the Petition's art and arguments are not the same or substantially the same as those before the Examiner.

VI. MANDATORY NOTICES UNDER 37 C.F.R. §42.8(a)(1)

A. Real Party-in-Interest Under 37 C.F.R. §42.8(b)(1).

The real parties-in-interest in this petition are as follows:

- Hyundai Motor Company;
- Hyundai Motor America;
- Hyundai Capital America;
- Kia Corporation; and

- Kia America, Inc.

B. Related Matters Under 37 C.F.R. §42.8(b)(2).

The following pending federal district court litigations may affect or be affected by a decision in this proceeding:

- *Mel NavIP LLC v. Hyundai Motor Company, Hyundai Motor America, Hyundai Capital America, Kia Corporation, and Kia America, Inc.*, 2:23-cv-176 (E.D. Tex.) (“the Litigation”); and
- *Mel NavIP LLC v. General Motors Company and General Motors LLC*, 2:23-cv-175 (E.D. Tex.)

The undersigned is unaware of any other any other judicial or administrative matter that would affect, or be affected by, a decision in this proceeding.

C. Lead And Back-up Counsel Under 37 C.F.R. §42.8(b)(3) And Service Information Under 37 C.F.R. §42.8(b)(4).

Petitioner designates the following lead and backup counsel:

Lead Counsel	Back-up Counsel
James J. Lukas, Jr. (Reg. No. 59,114) GREENBERG TRAURIG, LLP 77 West Wacker Drive Suite 3100 Chicago, IL 60601 Telephone: (312) 456-8400 Facsimile: (312) 456-8435 lukasj@gtlaw.com	Trenton A. Ward (Reg. No. 59,157) GREENBERG TRAURIG, LLP 3333 Piedmont Road NE, Suite 2500 Atlanta, GA 30305 Telephone: 404-434-0741 trenton.ward@gtlaw.com Benjamin Gilford (Reg. No. 72,072) GREENBERG TRAURIG, LLP 77 W. Wacker Drive, Suite 3100 Chicago, IL 60601 Telephone: 312-456-8400

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Service on Petitioner may be made by mail or hand delivery to: Greenberg Traurig, LLP, 77 W. Wacker Dr., Suite 3100, Chicago, IL 60601. Petitioner consents to and prefers electronic service by emailing counsel of record (shown above).

VII. CERTIFICATION OF WORD COUNT UNDER 37 C.F.R. §42.24(d).

Petitioner certifies that the word count in this Petition is 13,063 words, as counted by the word-processing program (Microsoft Word for Office 365) used to generate this Petition, where such word count excludes the claims listing, table of contents, mandatory notices, certificate of service, appendix of exhibits, and this

certificate of word count. This Petition is in compliance with the 14,000 word limit set forth in 37 C.F.R. §42.24(a)(1)(i).

VIII. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests that *inter partes* review of the '230 patent be instituted and the Challenged Claims be cancelled as unpatentable.

Respectfully submitted,
GREENBERG TRAURIG, LLP

Date: November 20, 2023

By: /s/James J. Lukas, Jr.
Counsel for Petitioner

CERTIFICATE OF SERVICE

The undersigned certifies that a true and correct copy of the Petition together with all exhibits identified in the above Table of Exhibits and Petitioner's Power of Attorney, have been served on the Patent Owner via Priority Mail Express or by means at least as fast and reliable as Priority Mail Express on the below date, at the following addresses:

BIRCH STEWART KOLASCH & BIRCH, LLP

8110 Gatehouse Road
Suite 100 East
Falls Church, VA 22042-1248
UNITED STATES

Respectfully submitted,
GREENBERG TRAURIG, LLP

Date: November 20, 2023

By: /s/James J. Lukas, Jr.
Counsel for Petitioner