

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC.,
Petitioner,

v.

JI-SOO LEE,
Patent Owner.

Case IPR2016-00022
Patent 6,532,413 B1

Before PATRICK R. SCANLON, RAMA G. ELLURU, and
SCOTT C. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

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

I. INTRODUCTION

Google Inc. (“Petitioner”) filed a Petition (Paper 2; “Pet.”) to institute an *inter partes* review of claims 64, 77, and 79 of U.S. Patent No. 6,532,413 B1 (Ex. 1001; “the ’413 patent”).¹ Ji-Soo Lee (“Patent Owner”) filed a Preliminary Response (Paper 7; “Prelim. Resp.”). The Board instituted a trial as to claims 64, 77, and 79 of the ’413 patent. Paper 8 (“Dec. on Inst.”).

After institution of a trial, Patent Owner filed a Patent Owner Response (“PO Resp.”) to the Petition. Paper 20. Petitioner also filed a Reply (“Reply”) to the Patent Owner Response. Paper 28. Petitioner relies on the Declaration of Dr. William Michalson (Ex. 1003) in support of its Petition, and the Second Declaration of Dr. William Michalson (Ex. 1016) in support of its Reply. Patent Owner relies on the Declaration of J. Tipton Cole (Ex. 2010) in support of its Response. An oral hearing was held on February 22, 2017, and the record contains a transcript of this hearing. Paper 29 (“Tr.”).

We have jurisdiction over this dispute under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Petitioner has shown by a preponderance of the evidence that claims 64 and 77 of the ’413 patent are unpatentable under 35 U.S.C. § 103(a). Petitioner has not shown by a preponderance of the evidence that claim 79 is unpatentable.

¹ Google also identifies Samsung Electronics America, Inc., LG Electronics Mobilecomm U.S.A., Inc., HTC America, Inc., and Motorola Mobility LLC as real parties in interest. Pet. 2.

II. BACKGROUND

A. *Related Proceedings*

The parties state that the '413 patent is asserted by a licensee of Patent Owner in several cases pending in the U.S. District Court for the Eastern District of Texas. Pet. 2–3; Paper 5, 1–2, Paper 13, 2; Paper 16, 2.

B. *The '413 Patent*

The '413 patent relates to a method and apparatus for efficiently transmitting image-based time-variant geographical information (e.g., traffic information) to a user device for processing time-variant geographical information in order to produce information-containing images on a screen. Ex. 1001, 1:8–15. The specification indicates that prior art image-based traffic information services typically required the transmission of large quantities of data. *Id.* at 2:5–8. One object of the disclosed invention is to more efficiently transmit image-based traffic information. *Id.* at 2:25–27.

The specification uses the term basic map (“BM”) to refer to an image of a region that depicts entities that do not change with time (i.e., time-invariant entities). Ex. 1001, 16:62–66. Examples of time-invariant entities include a river, a building, a mountain, and a boundary line. *Id.* at 16:66–17:3. Basic maps may be stored in the memory of a user device. *Id.* at 17:7–8.

The disclosed user device may receive time-variant traffic information (referred to in the specification as traffic state information, or “TSI”) from a traffic information provider via a mobile network or the Internet. Ex. 1001, 21:16–19. The user device may also receive route indication information (“RII”) that represents at least one available path from the user’s current

location to a specified location. *Id.* at 26:1–4. The received TSI and/or RII may include graphic vectors. *Id.* at 17:19–22, 26:4–7. A graphic vector may include a shape designating statement (e.g., data defining the curvature of the graphic vector, or indicating that the graphic vector is a straight line), a position designating statement (data defining the position of the graphic vector), and an attribute designating statement (data defining some attribute of the graphic vector, such as the vector’s line thickness or color). *See id.* at 16:25–36, 17:22–27, 29:17–23. The attribute designating statement may be comprised of an attribute designating command (data that identifies a particular attribute of the graphic vector, such as the vector’s color) and an attribute value (data that defines the identified attribute, e.g., “green”). *See id.* at 20:5–7, 29:20–25. The specified attribute of a graphic vector (e.g., the color of the vector) may represent time-variant information, such as the velocity of traffic on a road segment. *See id.* at 17:28–32, 18:38–42, 22:40–46; Fig. 6B.

The received TSI or RII may include a map name or map identifier (“map ID”), which is an alphanumeric code unique to a basic map. *See id.* at 4:26–27, 17:53–54, 18:15–17. The user device may use the map identifier to retrieve one or more previously-stored basic maps that correspond to the received TSI or RII. *See id.* at 5:15–16, 10:39–41. The user device may then display an image containing both time-invariant components from the basic map, and time-variant traffic and/or routing data from the TSI and/or RII. *See id.* at 5:17–21, 10:42–45.

C. Challenged Claims

Challenged claims 64, 77, and 79 are independent claims. Claim 64 is illustrative and is reproduced below.

64. Time-variant geographical information device capable of being coupled to a display panel, comprising:

- a receiver for receiving a RII(route indication information) including a map identification and a plurality of graphic vectors, each of said graphic vectors for RII including an attribute designating statement, a shape designating statement and a position designating statement, said attribute designating statement being composed of an attribute designating command and at least one attribute value;
- a memory for storing at least one BM (=basic map), said BM including an image data for representing time-invariant components in a region;
- means for selecting a basic map in accordance with said map identification of the RII; and
- means for producing a route-information containing image in accordance with said BM and said RII, said route information-containing image representing at least one path to a specific location.

D. References Relied Upon

Petitioner relies on the following references and materials in support of the instituted grounds of unpatentability:

References and Materials	Exhibit No.
U.S. Patent No. 5,848,373 (iss. Dec. 8, 1998) ("DeLorme")	1004
U.S. Patent No. 5,243,528 (iss. Sept. 7, 1993) ("Lefebvre")	1005
U.S. Patent No. 5,968,109 (iss. Oct. 19, 1999) ("Israni")	1006
U.S. Patent No. 5,274,387 (iss. Dec. 28, 1993) ("Kakihara")	1007
Japanese Patent No. JPH 08-7197 (laid open Jan. 12, 1996) ("Degawa")	1008, 1009
Japanese Patent No. JPH 09-16892 (laid open Jan. 17, 1997) ("Maruoka")	1010, 1011

Pet. 4; Dec. on Inst. 37.

E. Grounds of Unpatentability

We instituted trial on the following grounds:

Ground	Challenged Claim(s)	Statutory Basis	References
1	64 and 77	35 U.S.C. § 103(a)	DeLorme, either alone or in combination with Lefebvre
2	64 and 77	35 U.S.C. § 103(a)	Israni, either alone or in combination with Kakihara
3	79	35 U.S.C. § 103(a)	Degawa, either alone or in combination with Maruoka

Dec. on Inst. 37.

III. ANALYSIS

A. *Level of Ordinary Skill in the Art*

In our Decision on Institution, we treated the cited references as being representative of the level of ordinary skill in the art. Dec. on Inst. 12 n.5 (citing *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001)). The parties do not argue in the Petition or Patent Owner Response that we should adopt a specific formulation regarding the level of ordinary skill in the art. Although the Petition and Patent Owner Response are accompanied by declaration testimony that address this subject (*see, e.g.*, Ex. 1003 ¶ 14; Ex. 2010 ¶ 22), the parties did not advocate for specific formulations regarding the level of ordinary skill in the art in these briefs, and our rules do not permit parties to incorporate such arguments by reference from their declarations. 37 C.F.R. § 42.6(a)(3). Moreover, even if the parties had cited this declaration testimony in the briefs, it would not persuade us to adopt the specific formulation regarding the level of ordinary skill in the art set forth by either declarant because both declarants' testimony is conclusory in nature and does not cite any specific evidence that persuasively supports either declarant's proposed formulation. *See* Ex. 1003 ¶ 14; Ex. 2010 ¶ 22; 37 C.F.R. § 42.65(a).

Petitioner implicitly asserts in its Reply that a person of ordinary skill in the art would have had experience in navigational or geographic information systems. *See* Reply 32. To the extent Petitioner was attempting to set forth an explicit formulation regarding the level of ordinary skill in the art, this argument improperly exceeds the scope of the Patent Owner Response. *See* 37 C.F.R. § 42.23(b) (setting forth the proper scope of a reply). This argument also is based on the unpersuasive declaration

testimony cited above. *See* Reply 32 (citing Ex. 1016 ¶¶ 107–108 (citing Ex. 1003 ¶ 14)). In any event, Petitioner confirmed during the oral hearing that its unpatentability arguments do not depend on the Board adopting a specific formulation regarding the level of skill in the art, and that Petitioner does not object to the Board treating the references as representative of the level of ordinary skill in the art. Tr. 26:9–27:8.

On this record, we decline to adopt a specific formulation regarding the level of ordinary skill in the art, and find that the cited references are representative of the level of ordinary skill in the art. *See Okajima*, 261 F.3d at 1355 (the level of ordinary skill in the art may be evidenced by the cited references themselves).

B. Evidentiary Issues

On August 9, 2016, two weeks after filing its Response, Patent Owner filed a Supplemental Declaration of J. Tipton Cole (Ex. 2012). The Patent Owner Response does not cite to, or explain the relevance of, this Supplemental Declaration, as required by our Rules. *See* 37 C.F.R. §§ 42.120(a), 42.23(a), 42.22(a)(2). Patent Owner also did not seek leave to serve or file this Supplemental Declaration after the deadline for disclosing the evidence upon which it would rely to demonstrate patentability. *See* 37 C.F.R. § 42.51(b)(1). Moreover, we previously ordered that any patentability argument not included in the Patent Owner Response would be deemed waived. Paper 9, 3. Accordingly, we expunge Exhibit 2012, and do not consider this exhibit in reaching the findings and conclusions set forth in this Final Written Decision.

Petitioner also argues in its Reply that Patent Owner's declarant, Mr. Cole, is not qualified by knowledge and experience to offer expert testimony in this proceeding. See Reply 32. Although Petitioner does not cite to the Federal Rules of Evidence, this argument is effectively an attack on Mr. Cole's qualifications under Federal Rule of Evidence 702, which provides that a witness "who is qualified as an expert by knowledge, skill, experience, training, or education" may offer expert testimony.

Our Rules require that any party wishing to challenge the admissibility of evidence do so by filing a Motion to Exclude. 37 C.F.R. § 42.64(a), (b)(1), (c); Office Trial Practice Guide, 77 Fed. Reg. at 48767. Petitioner did not file a Motion to Exclude Mr. Cole's declaration (Exhibit 2010) based on Federal Rule of Evidence 702. Accordingly, we decline to exclude Exhibit 2010 from evidence. Instead, we treat Petitioner's arguments as going to the weight, rather than the admissibility, of Mr. Cole's testimony.

C. Claim Construction

1. Overview

We interpret claims of an unexpired patent using the broadest reasonable interpretation in light of the specification of the patent. 37 C.F.R. § 42.100(b); see *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (concluding the broadest reasonable construction "regulation represents a reasonable exercise of the rulemaking authority that Congress delegated to the Patent Office"). There is a presumption that claim terms are given their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art in the context of the specification. See *In*

re Translogic Tech. Inc., 504 F.3d 1249, 1257 (Fed. Cir. 2007). An applicant may rebut that presumption by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). An applicant also may narrow the meaning of a claim term by disclaiming or disavowing claim scope; however, such a “disclaimer or disavowal of claim scope must be clear and unmistakable, requiring ‘words or expressions of manifest exclusion or restriction’ in the intrinsic record.” *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1358 (Fed. Cir. 2016) (quoting *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002)). In the absence of such a definition or disclaimer, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

2. Confirmation of Undisputed Claim Constructions

In our Decision on Institution, we expressly construed the following two terms from claim 64: “means for selecting a basic map in accordance with said map identification of the RII,” and “means for producing a route-information containing image in accordance with said BM and said RII.” Dec. on Inst. 7–11. The parties do not dispute our prior constructions of these terms. Thus, on this record and to the extent necessary for our Final Written Decision, we now confirm our prior constructions and adopt the supporting reasoning from our Decision on Institution for purposes of the present Final Written Decision. We construed these terms as follows.

a. “Means for Selecting a Basic Map In Accordance With Said Map Identification of the RII”

This claim term is means-plus-function limitation that is governed by 35 U.S.C. § 112, ¶ 6. *See* Dec. on Inst. 8. The recited function of this limitation is “selecting a basic map in accordance with the map identification of the RII.” *See id.* The corresponding structure is “controller 2006.” *See id.* at 10.

b. “Means for Producing a Route-Information Containing Image In Accordance With Said BM and Said RII”

This claim term is a means-plus-function limitation that is governed by 35 U.S.C. § 112, ¶ 6. *See* Dec. on Inst. 10. The recited function of this limitation is “producing a route-information containing image in accordance with the BM and the RII.” *See id.* at 11. The corresponding structure is “controller 2006.” *See id.*

3. Disputed Claim Terms

Patent Owner, in its Response, asks that we construe several additional claim terms. These claim construction disputes are addressed below.

a. “attribute designating statement”

Patent Owner asserts that the claim term “attribute designating statement,” which is recited in claims 64 and 77, is defined in those claims as including an “attribute designating command” and “at least one attribute value.” PO Resp. 6. Petitioner does not dispute that claims 64 and 77 require that the recited “attribute designating statement” includes an “attribute designating command” and “at least one attribute value.” Reply 1.

However, Petitioner argues that the term “attribute designating statement,” when read outside the context of the claims 64 and 77, is not so limited. *Id.*

In view of the undisputed fact that claims 64 and 77 both recite an “attribute designating statement” that includes an “attribute designating command” and “at least one attribute value,” we need not resolve this dispute in order to determine the patentability of the challenged claims. Accordingly, on this record, we decline to adopt an explicit construction of the claim term “attribute designating statement.” *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

b. “attribute designating command”

Patent Owner concedes that the specification does not contain an “explicit definition” of the claim term “attribute designating command,” which is recited in claims 64 and 77. PO Resp. 7. Patent Owner notes that the specification contains “multiple examples of ‘attribute designating commands.’” *Id.* Patent Owner argues that we should adopt what it calls an “ordinary meaning” construction based on these examples, and construe “attribute designating command” as being limited to “a command describing the action to be performed on the attribute values associated with the command.” *Id.*

Petitioner argues in response that Patent Owner has failed to provide a sufficient reason to justify reading limitations from the specification into the claims. Reply 7. Petitioner also argues that Patent Owner’s proposed

construction is too narrow because, for example, Patent Owner has failed to cite any evidence that a command must necessarily “describ[e]” an “action,” and because Patent Owner’s construction would require multiple “attribute values,” even though the claims only require “at least one attribute value.” Reply 2–3.

We have reviewed the evidence cited by Patent Owner, and find that Patent Owner has not identified a lexicographic definition or clear and unmistakable disclaimer that limits the claim term “attribute designating command” to a command “describing the action to be performed on the attribute values associated with the command.” The declaration testimony that Patent Owner cites is not persuasive because it merely repeats the same arguments set forth in the Patent Owner’s Response without providing additional persuasive supporting explanations or evidence. *Compare* PO Resp. 7 *with* Ex. 2010 ¶ 75. Moreover, the specification provides that an attribute designating command can be a command to set the color of a vector entity, and that the attribute value may be a particular color. *See, e.g.*, Ex. 1001 Fig. 3A (“ADC: ATTRIBUTE DESIGNATING COMMAND (e.g.: ‘SET COLOR’ command);] AV: ATTRIBUTE VALUE (e.g.: ‘GREEN’)”). In this example, the attribute designating command does not specify an “action to be performed” on the attribute value. Accordingly, on this record, we determine that the claim term “attribute designating command” is not limited to “a command describing the action to be performed on the attribute values associated with the command.” Neither party has asked that we further construe this claim term. Thus, we decline to adopt any further express construction of “attribute designating statement.”

c. “shape designating statement”

Patent Owner asks that we construe the claim term “shape designating statement,” which is recited in claims 64 and 77, as “a shape designating statement to be processed by a software program to draw a route.” PO Resp. 8. Patent Owner does not argue that the specification defines this claim term. *See id.* Instead, Patent Owner again relies on “examples” throughout the specification. *See id.* For example, Patent Owner cites disclosures in the specification of an embodiment in which “the user device has a function for *processing* vector entities so as to *produce* an image according thereto” (PO Resp. 8 (citing Ex. 1001, 31:15–18)), and in which the processing is “implemented by *a software program*” (PO Resp. 8 (citing Ex. 1001 31:60–64)).

Petitioner argues that Patent Owner’s construction is overly narrow because, for example, it “simply repeats the term ‘shape designating statement’ itself and then appends imported language.” Reply 4.

We have reviewed the evidence cited by Patent Owner, and find that Patent Owner has not identified a lexicographic definition or clear and unmistakable disclaimer that limits the claim term “shape designating statement” to “a shape designating statement to be processed by a software program to draw a route.” The declaration testimony that Patent Owner cites is not persuasive because it merely repeats the same arguments set forth in the Patent Owner’s Response without providing additional persuasive supporting explanations or evidence. *Compare* PO Resp. 8 *with* Ex. 2010 ¶ 77. Moreover, as Petitioner points out, Patent Owner’s proposed construction does not clarify what a “shape designating statement” is, but instead merely attempts to append additional limiting language to the end of

this claim term. Accordingly, on this record, we determine that the claim term “shape designating statement” is not limited to “a shape designating statement to be processed by a software program to draw a route.” Neither party has asked that we further construe this claim term. Thus, we decline to adopt any express construction of “shape designating statement.”

d. “position designating statement”

Patent Owner asks that we construe the claim term “position designating statement,” which is recited in claims 64 and 77, as “a position designating statement to be processed by a software program to draw a route at the designated position.” PO Resp. 9. Patent Owner does not argue that the specification defines this claim term. *See id.* Instead, Patent Owner argues that a “position designating statement” is an “essential component of the term ‘graphic vector,’” and therefore must be “processed by software” for the same reasons the “shape designating statement” allegedly must be “processed by software.” PO Resp. 9.

Petitioner argues that Patent Owner’s construction is overly narrow because, for example, it merely “repeats the term ‘position designating statement’ itself and then appends imported language” from the specification. Reply 5.

We have reviewed the evidence cited by Patent Owner, and find that Patent Owner has not identified a lexicographic definition or clear and unmistakable disclaimer that limits the claim term “position designating statement” to a “position designating statement to be processed by a software program to draw a route at the designated position.” The declaration testimony that Patent Owner cites is not persuasive because it

merely repeats the same arguments set forth in the Patent Owner's Response without providing additional persuasive supporting explanations or evidence. *Compare* PO Resp. 9 with Ex. 2010 ¶ 78. Moreover, as Petitioner points out, Patent Owner's proposed construction does not clarify what a "position designating statement" is, but instead merely attempts to append additional limiting language to the end of this claim term. Accordingly, on this record, we determine that the claim term "position designating statement" is not limited to "position designating statement to be processed by a software program to draw a route at the designated position." Neither party has asked that we further construe this claim term. Thus, we decline to adopt any express construction of "position designating statement."

e. "for receiving a RII(route indication information)"

Patent Owner asserts that the claim term "for receiving a RII(route indication information)" requires information that is "transmitted and received through a communications network *in real time*." PO Resp. 9 (emphasis added). Patent Owner argues that column 4, lines 24–39 of the specification provide a lexicographic definition of this claim term. *Id. at 10*. Patent Owner also argues that one of the objectives of the '413 patent invention is to "efficiently transmit[] image based time-variant geographical information" that can be processed "so as to produce an information-containing image on a screen." *Id.* (citing Ex. 1001, 1:11–15). Patent Owner concedes that the specification does not recite "real time," but argues that several portions of the specification describe the processing of RII in real time. PO Resp. 10 (citing Ex. 1001, 2:5–24, 5:15–17, 21:16–19, 25:26–31, 35:58–60).

Petitioner argues that specification does not contain a lexicographic definition of this claim term, and that Patent Owner's proposed construction improperly imports limitations from the specification. *See* Reply 7–8.

We reject Patent Owner's argument that column 4, lines 24–39 of the specification provide a lexicographic definition of the claim term “for receiving a RII(route indication information).” This portion of the specification merely describes one embodiment of a method. *See* Ex. 1001, 4:24 (“The method may further comprises [sic] the step of . . .”). It does not purport to define any claim term. We have reviewed the other evidence cited by Patent Owner, and find that Patent Owner has not identified any lexicographic definition or clear and unmistakable disclaimer that limits the claim term “for receiving a RII(route indication information)” to information that is “transmitted and received through a communications network in real time.” In addition, the declaration testimony that Patent Owner cites is not persuasive because it is little more than a paraphrase of the argument in Patent Owner's Response, and provides no additional persuasive explanations or evidence in support of Patent Owner's argument. *Compare* PO Resp. 9–11 *with* Ex. 2010 ¶¶ 79–80. Accordingly, on this record, we determine that the claim term “for receiving a RII(route indication information)” does not require information that is “transmitted and received through a communications network in real time.” Neither party has asked that we further construe this claim term. Thus, we decline to adopt any express construction of “for receiving a RII(route indication information).”

f. Other claim terms

Patent Owner asks us to construe two additional claim terms that are recited in claim 79. *See* PO Resp. 11–16. We decline to do so because it is not necessary to construe these terms in order to resolve the parties’ disputes. *See Wellman*, 642 F.3d at 1361.

D. *Instituted Grounds of Unpatentability*

1. Overview

Petitioner argues that all of the challenged claims are unpatentable under 35 U.S.C. § 103. Pet. 4. A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which such subject matter pertains.” 35 U.S.C. § 103(a). The question of obviousness under 35 U.S.C. § 103 is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Petitioner’s burden of proof is higher now than it was at the institution stage of this proceeding. At the institution phase, Petitioner was only required to show a “reasonable likelihood” that it would prevail as to at least one challenged claim. 35 U.S.C. § 314(a). In order to prevail in this Final Written Decision, Petitioner must prove the unpatentability of each challenged claim by a preponderance of the evidence. 35 U.S.C. § 316(e).

2. Objective Indicia of Nonobviousness

The parties have not identified with specificity any objective evidence of nonobviousness that allegedly bears on the patentability of the challenged claims.

3. Ground 1: Alleged Obviousness of Claims 64 and 77 over DeLorme, either alone or in combination with Lefebvre

a. Overview of DeLorme

DeLorme is directed to a computer-aided map location system (“CAMLS”). Ex. 1004, Abstract. Figure 3 of DeLorme is reproduced below.

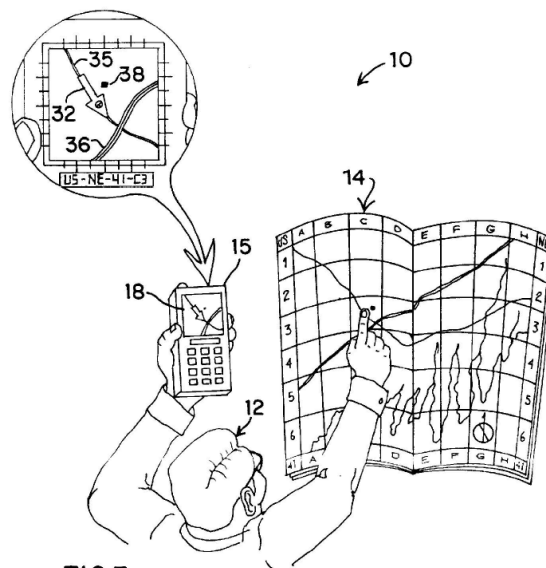


Figure 3 is a diagrammatic action view showing a user operating the CAMLS system 10, using personal digital assistant (“PDA”) 15. Ex. 1004, 18:24–25. PDA 15, which may incorporate a GPS receiver, includes display screen 18. *Id.* at 19:45–46, 23:51–52. Display screen 18 displays information that corresponds to surface features depicted in a grid quadrangle of paper map 14. *Id.* at 23:56–60. Display screen 18 displays

two major routes 35 and 36, as well as arrow 32, which shows the user's location. *Id.* at 23:52–54. Display screen 18 also displays latitude/longitude locatable object (“loc/object”) 38, which may be a well-known landmark. *Id.* at 8:2–4, 23:54–56. The CAMLS system may include communication links that allow it to receive information regarding loc/objects and routes from external databases, such as online mapping services. *Id.* at 8:35–39.

b. Overview of Lefebvre

Lefebvre is directed to a land navigation apparatus with a visual display. Ex. 1005, Abstract. Figure 2 of Lefebvre is reproduced below.

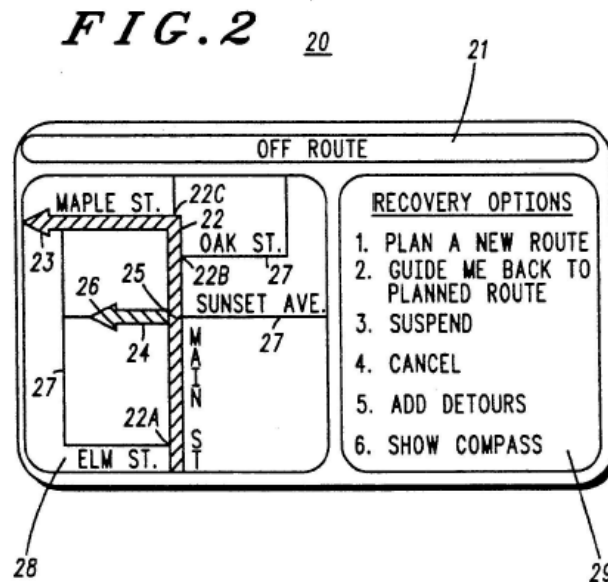


Figure 2 depicts a typical graphic visual display produced by the disclosed land navigation apparatus in a scenario where the user has departed from the route of travel calculated by the system. Ex. 1005, 2:48–50, 4:62–5:1. The calculated navigation route 22 (which includes road path intersections 22A, 22B, and 22C, and arrowhead 23 to indicate the desired direction of travel) is displayed in one color. *Id.* at 5:5–11. The actual route of the vehicle 24

(from point 25 at which the vehicle departed from the calculated route, to arrowhead 26, which indicates the current location and travel direction of the vehicle) is displayed “in a contrasting color.” *Id.* at 5:11–19.

c. Analysis

Claim 64 recites “a receiver for receiving an RII(route indication information) including a map identification.” Claim 77 similarly recites the step of “receiving a RII(route indication information) including a map identification.” Petitioner contends that the received route information of DeLorme (which may be received by way of wired or wireless broadcast or communication links and networks) corresponds to the “RII(route indication information)” recited in the claims. Pet. 18, 26. Petitioner asserts that DeLorme’s route information includes loc/objects that are stored in a CAMLS data structure, and that “each CAMLS ‘loc/object’ (which includes routing information) includes a gridname . . . to identify a particular grid quadrangle that corresponds to the route.” *Id.* at 19. Petitioner contends that the gridname associated with each loc/object of DeLorme’s route information is a “map identification” of the type recited in the claims. *Id.* at 14, 19, 21, 23, 27.

Claim 64 also recites a “means for selecting a basic map in accordance with said map identification of the RII.” As discussed in Section III.C.2.a, *supra*, the recited function of this means-plus-function limitation is “selecting a basic map in accordance with the map identification of the RII.” Claim 77 similarly recites the step of “selecting a basic map in accordance with said map identification of the RII.” Accordingly, both claims 64 and 77 require “selecting a basic map in accordance with the map identification of

the [received] RII.” Claim 64 and 77 also require the function/step of “producing a route-information containing image [] in accordance with said BM and said [selected] BM and said [received] RII.” See § III.C.2.b, *supra*.

Petitioner asserts that DeLorme’s internal memory stores grid quadrangle maps that include “time-invariant components such as ‘landmarks’ and ‘street layout or other infrastructure layout of the municipality.’” Pet. 22. Petitioner contends that DeLorme’s stored grid quadrangle maps correspond to the “basic map”/“BM” recited in the claims. See *id.* at 22, 28–29. Petitioner also contends that DeLorme’s system performs the function/step of “selecting a basic map in accordance with said map identification of the [received] RII” (see *id.* at 23–24, 28–29), and then produces a route-information containing image in which that RII (i.e., the received route information) is superimposed over the selected BM (i.e., the selected grid quadrangle map) (see *id.* at 24–25, 29–30). However, as discussed below, the Petition never clearly identifies a disclosure in DeLorme that corresponds to the function/step of “selecting a basic map in accordance with said map identification of the [received] RII.”

Petitioner points to language in DeLorme indicating that route data is displayed on an appropriate grid quadrangle map that is “**selected** at an appropriate grid level,” and cites without explanation to numerous other portions of DeLorme. Pet. 23, 28–29 (citing Ex. 1004, 22:60–23:20, 51:26–40, 23:40–67, 6:17–29, 27:51–63, 51:26–41, 28:62–67, 29:29–31, 62:43–58, 52:2–10, 8:6–9:2, Fig. 7; Ex. 1013 pp. 6–7, 18; Ex. 1003 ¶¶ 46–49, 52, 64). Petitioner also argues that Patent Owner admitted in its infringement contentions in underlying litigation that “selecting a basic map in accordance with said map identification of the RII” occurs whenever a map tile (such as

one of DeLorme’s grid quadrangle maps) that corresponds to route data is selected. Pet. 23. We have reviewed the portions of DeLorme cited by Petitioner, however, and none of these citations identifies an embodiment in which a map identifier in received RII (i.e., the gridname associated with a loc/object of DeLorme’s received route information) is used to select the BM (i.e., grid quadrangle map) that is subsequently displayed. *See, e.g.*, Ex. 1004, 22:60–23:20 (disclosing an embodiment in which local GPS data and user input specifying a destination are used to select the displayed grid quadrangle map); *id.* at 28:62–67, 62:43–58 (discussing a query function that Petitioner does not contend generates route information); *id.* at 51:26–40, 23:40–67, 6:17–29, 27:51–63, 51:26–41, 29:29–31, 52:2–10, 8:6–9:2, Fig. 7 (not clearly identifying what data is used to select the displayed grid quadrangle map).

Dr. Michalson testifies that DeLorme’s system uses “the gridname of the CAMLS loc/object . . . to select ‘an appropriate grid quadrangle on the graphics display window.’” Ex. 1003 ¶ 46. However, this testimony is based on column 22 line 66 thorough column 23 line 20 of DeLorme. *See* Ex. 1003 ¶ 46. As discussed above, this portion of DeLorme describes an embodiment in which local GPS data and user input are used to select a grid quadrangle map for display; it *does not* describe the use of a gridname in a received CAMLS loc/object to select a grid quadrangle map for display. *See* Ex. 1004, 22:66–23:20. We have reviewed the cited portions of Dr. Michalson’s declaration (paragraphs 46–49, 52, and 64), and the evidence cited therein. These materials do not persuasively identify any disclosure in DeLorme of the use of a gridname in a received CAMLS loc/object to select a grid quadrangle map for display. Accordingly, we are not persuaded by

Dr. Michalson’s testimony that DeLorme discloses “selecting” function/step of claims 64 and 77.

During the oral hearing, Petitioner’s counsel conceded that DeLorme’s system may not use the gridname in a received CAMLS loc/object to select the grid quadrangle map that is displayed. *See* Tr. 65:22–68:11. Petitioner’s counsel then argued in the alternative that the “selecting” function/step of claims 64 and 77 is performed *after* a grid quadrangle map has been selected for display, when DeLorme’s system determines where to superimpose the received loc/objects relative to the previously displayed grid quadrangle map. *See id.* However, the Petition and Reply do not clearly set forth this alternative argument. Our Rules require that Petitioner identify in its Petition “where each element of the claim is found in the prior art . . . relied upon” (*see* 37 C.F.R. § 42.104(b)(4)), and do not permit the parties to raise new evidence or arguments at the oral hearing (*see* Office Trial Practice Guide, 77 Fed. Reg. 48756, 48768 (Aug. 14, 2012) (“No new evidence or arguments may be presented at the oral argument.”)). It also would be unfair to permit Petitioner to raise this new argument during the oral hearing because Patent Owner was not afforded a fair opportunity to respond. Accordingly, we find that Petitioner has waived this alternative argument.

Moreover, even if this alternative argument had not been waived, we would still find it unpersuasive because Petitioner has not cited sufficient record evidence that DeLorme’s system “select[s] a basic map in accordance with said map identification of the [received] RII” when it determines where to display received loc/objects relative to a previously displayed grid quadrangle map. *See* Pet. 22–23, 28–29. Paragraphs 46 and 47 of Dr.

Michalson’s declaration, which Petitioner’s counsel cited during oral arguments (*see* Tr. 66:15–21), are vague, and do not specifically or persuasively argue that the “selecting” function/step of claims 64 and 77 is performed when DeLorme’s system decides where to display received loc/objects on a previously displayed grid quadrangle map. *See* Ex. 1003 ¶¶ 46–47.

On this record, and viewing the evidence through the lens of the evidentiary burden that applies at this stage of the proceeding, we find that Petitioner has not made an adequate showing to demonstrate by a preponderance of the evidence that claims 64 and 77 are unpatentable as obvious over DeLorme, either alone or in combination with Lefebvre.

4. Ground 2: Alleged Obviousness of Claims 64 and 77 over Israni, either Alone or in Combination with Kakihara

a. Overview of Israni

Israni is directed to an improved method and system for storage of geographic data on physical storage media. Ex. 1006, Abstract. Figure 1 of Israni is reproduced below.

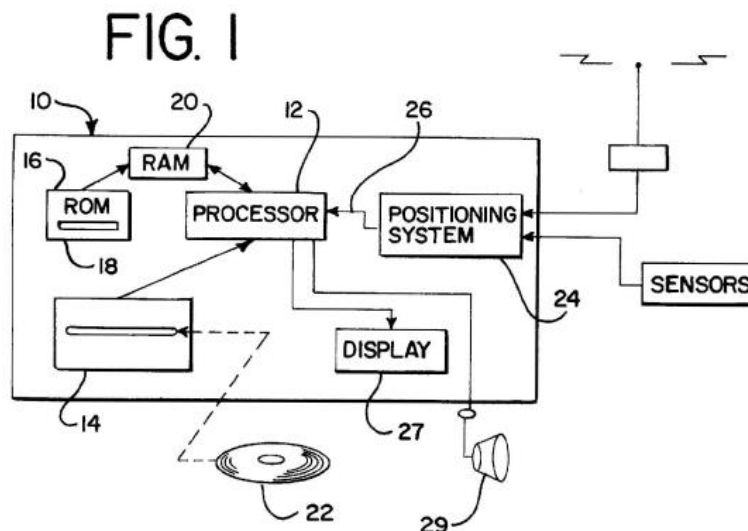


Figure 1 depicts navigation system 10, which may include positioning system 24. Ex. 1006, 4:64–65. Positioning system 24 outputs signal 26 to processor 12. *Id.* at 5:1–2. This signal may be used by application program 18 to determine the location, direction, and speed of the navigation system. *Id.* at 5:2–5. Navigation system 10 also uses geographic information stored on storage medium 22. *Id.* at 5:5–8. Navigation information is provided to the user by way of display 27 and speakers 29. *Id.* at 5:15–17.

b. Overview of Kakihara

Kakihara is directed to a navigation apparatus for vehicles that includes a display device for displaying map information, the current position of a vehicle, and a route to a preset destination. Ex. 1007, Abstract. In one embodiment, the disclosed system determines the shortest route to a designation, and displays the roads along the shortest route in a different color from that of other roads. *Id.* at 4:55–61.

c. Analysis

Petitioner contends that Israni discloses all elements of claims 64 and 77. *See* Pet. 30–45. Petitioner contends in the alternative that if Israni is found to not disclose graphic vectors “including an attribute designating statement . . . said attribute designating statement being composed of an attribute designating command and at least one attribute value,” Kakihara discloses these limitations of claims 64 and 67. *See id.* at 31, 36, 37, 43–44.

Patent Owner, in its Response, argues that the cited references do not disclose, teach, or suggest an “attribute designating statement,” a “shape designating statement,” a “position designating statement,” or “receiving a RII(route indication information) including a map identification and a

plurality of graphic vectors.” PO Resp. 34–44. Patent Owner, however, does not dispute with specificity Petitioner’s arguments that Israni discloses all other limitations of claims 64 and 77. We find Petitioner’s evidence and arguments regarding the non-disputed limitations of claims 64 and 77 to be persuasive, and adopt Petitioner’s reasoning as to why Israni discloses these claim limitations. See Pet. 30–45; Ex. 1003 ¶¶ 68–105. We now turn to the disputed limitations of claims 64 and 77.

Petitioner alleges that the routing information of Israni is stored and displayed as graphic vectors. See Pet. 35–36. In support of this allegation, Petitioner cites disclosures that the “route calculation subset of geographic data” used by the Israni system is stored as “feature entities for nodes, conditions and segments,” that node entities may store positional information about “the end points of a segment” (Ex. 1006, 25:63–26:9; Pet. 35–36); and that segments of a calculated route are stored as “segment entities” (Ex. 1006, 44:32–35; Pet. 35–36; Ex. 1003 ¶ 74).

Petitioner contends that Israni’s segments (i.e., graphic vectors) are associated with attribute designating statements (i.e., attributes that define the characteristics of a segment, such as the number of lanes or the speed limit). Pet. 37 (citing Ex. 1006 25:63–26:9, 28:33–42, 11:63–12:15, 44:32–35). The Petition, however, does not identify with specificity any disclosure, teaching, or suggestion in Israni of an attribute designating command or an attribute value. See Pet. 37; Ex. 1003 ¶¶ 81–85; *see also* Reply 23 (conceding that “the Petition identifies distinct[ive] attribute designating commands and attribute values as [being] disclosed by Kakihara, not Israni”). Accordingly, we are not persuaded on this record that Israni by itself teaches or suggests an attribute designating statement that includes an

attribute designating command and at least one attribute value, as recited in claims 64 and 77.

As discussed above, Petitioner contends in the alternative that Kakihara discloses an attribute designating statement that includes an attribute designating command and at least one attribute value. In Kakihara's system, the outlines of roads are stored as vector data (Ex. 1007, 5:17–19, 7:63–8:2) (hereinafter, “road vectors”), and the road vectors that correspond to a selected route of travel may be displayed in a color different from that of other roads (*see id.* 4:52–61). Petitioner contends that the computer data that defines the color of Kakihara's road vectors is an “attribute designating statement.” *See* Pet. 37–38 (citing Ex. 1007 4:55–61, Ex. 1003 ¶¶ 81, 85). Given Kakihara's ability to change the color of a road vector, Petitioner reasons that the data that defines the color of Kakihara's road vectors must include a data structure that can be altered to cause a road vector to be displayed in a different color (i.e., an “attribute designating command”), and data that specifies the new color of the road vector (i.e., an “attribute value”). *See* Pet. 37–38, Ex. 1003 ¶¶ 81, 85.

Patent Owner argues in response that there is “no inherent or explicit disclosure in Kakihara that any color attribute is accompanied by an instruction or command to ‘set’ that attribute.” PO Resp. 36 (citing Ex. 2010 ¶ 90). As discussed above, however, Kakihara's system is capable of changing the color of road vectors that correspond to a selected route. We are persuaded by Petitioner's arguments and evidence that Kakihara teaches, or at least suggests, that the data that defines the color of Kakihara's road vectors (i.e., the “attribute designating statement”) must include a data structure that can be altered to cause a road vector to be displayed in a

different color (i.e., an “attribute designating command”), and associated data that specifies the new color of the road vector (i.e., an “attribute value”). See Pet. 37–38, Ex. 1003 ¶¶ 81, 85. The responsive testimony of Patent Owner’s declarant, Mr. Cole, is not persuasive because it is conclusory (e.g., it does not explain why information that “designates” the color of a road vector would not constitute a “command”), and because it is based on Patent Owner’s unduly narrow construction of “attribute designating command,” which we did not adopt. See § III.C.3.b, *supra*.

Patent Owner also argues that Petitioner “did not explicitly invoke the doctrine of inherency for obviousness,” and that “[e]ven if it were invoked . . . Petitioner would not meet the high standard required to invoke the doctrine of inherency.” PO Resp. 36. This argument is not persuasive because there is no legal requirement that Petitioner identify an explicit or inherent disclosure of each claim element in order to demonstrate obviousness. Rather, obviousness may be shown by pointing to teachings or suggestions in the art, as Petitioner has done here. For the above reasons, we are persuaded on this record that Kakihara teaches or suggests the display of route information in which routes are represented by graphic vectors, wherein graphic vectors include “an attribute designating statement . . . said attribute designating statement being composed of an attribute designating command and at least one attribute value,” as recited in claims 64 and 77.

Petitioner contends that the “shape designating statement” limitation of claim 64 and 67 is disclosed by portions of Israni that discuss “shape points.” See Pet. 36. In particular, Petitioner points to disclosures in Israni that a segment (i.e., “graphic vector”) may be associated with “one or more shape points between its end points that are used to identify a bend (or

physical position) in the segment.” *See id.* (citing Ex. 1006, 11:63–12:15); *see also* Ex. 1003, ¶ 82. In response, Patent Owner points to an excerpt from Dr. Michalson’s deposition in which he testifies that Israni would likely have generated the displayed information using raster information, rather than vector-based information. PO Resp. 41 (citing Ex. 2011, 67:6–15). However, Dr. Michalson subsequently explained that this testimony was referring to “the display hardware, not to the underlying data structures that are used to render an image on a particular display.” Ex. 1016 ¶ 82. For the reasons below, we find this explanation persuasive.

As Patent Owner’s declarant, Mr. Cole, testified, there are two main formats of computer graphics: raster graphics and vector graphics. Ex. 1018, 132:10–133:1. In raster graphics, graphic objects are stored as individual pixels. *Id.* at 132:13–17. In vector graphics, graphics are stored as vector information, such as vector primitives, rather than as individual pixels. *Id.* at 105:23–106:9. For example, in vector graphics, a circle might be designated by information that specifies a center point and a radius. *See id.* at 105:23–106:9, 103:21–104:10. Similarly, in vector graphics, a line may be represented by the coordinates of its end points. *See id.* at 105:23–106:9, 105:3–105:9. In Israni’s system, graphics are stored as “feature entities for nodes, conditions and segments,” and node entities are used to store positional information about “the end points of a segment.” *See* Ex. 1006, 25:63–26:9; Pet. 35–36. This description is consistent with Dr. Michalson’s testimony that Israni’s graphics are stored as vector entities, and is inconsistent with Patent Owner’s assertion that Israni’s graphics are stored as raster data. Accordingly, on this record, we credit Dr. Michalson’s testimony that Israni’s system employs vector graphics. Ex. 1003 ¶ 75.

Patent Owner also argues that Israni's road segments (i.e., "graphic vectors") do not include "shape designating statements" because "Israni does not teach the feature of transmitting and receiving the RII and graphic vectors in real time to be processed by a software program." PO Resp. 42. This argument is not persuasive because it is based on Patent Owner's unduly narrow proposed construction for "shape designating statement," which we did not adopt. *See* § III.C.3.c, *supra*. On this record, we are persuaded that Israni teaches the "shape designating statement" limitation of claims 64 and 77. *See* Pet. 36, 43; Ex. 1003 ¶¶ 82, 99; *see also* Ex. 1006, 12:2–4 ("a may include one or more shape points between its end points that are used to identify a bend (or physical position) in the segment").

With respect to the "position designating statement" limitation of claims 64 and 77, Petitioner points to the data that defines the position of Israni's road segments (i.e., "graphic vectors"). *See* Pet. 36. In particular, Petitioner points to disclosures in Israni that the end points of segments are "identified by nodes," and that these nodes each "have a unique latitude and longitude." *See id.* (citing Ex. 1006 11:65–12:7); *see* Ex. 1003, ¶ 83.

Patent Owner argues in response that Israni does not teach or suggest the "position designating statement" limitation because Israni "does not teach or suggest 'a position designating statement to be processed by a software program to draw a route at the designated position,'" or a "[position] designating statement which is transmitted or received through a communications network in real time" PO Resp. 42–43. These arguments are not persuasive because they are based on claim construction arguments that we rejected. *See* § III.C.3.d, *supra*. On this record, we are persuaded that Israni's road segments (i.e., "graphic vectors") include

“position designating statements” because each road segment “can be identified by nodes located at the end points of the segment,” and each node has “a unique latitude and longitude.” Ex. 1006, 11:63–12:7; *see* Pet. 36, 44; Ex. 1003 ¶¶ 83, 100.

Petitioner contends that Israni teaches or suggests “receiving a RII(route indication information) including a map identification and a plurality of graphic vectors,” as recited in claims 64 and 77. Pet. 34–36, 42–44. In support of this contention, Petitioner notes that Israni’s navigation system may utilize wireless communication (i.e., a receiver) “to obtain some or all of the data it uses from remote or central locations,” including routing information. *See* Pet. 34 (citing Ex. 1006, 52:25–53). Petitioner also argues that Israni’s routing information includes pointers that identify portions of a cartographic map that correspond to a given route (i.e., map identifications). Pet. 35 (citing Ex. 1006, 44:32–35, Ex. 1003 ¶ 74.). As discussed above, Petitioner alleges that the routing information of Israni comprises graphic vectors. *See* Pet. 35–36; Ex. 1006, 25:63–26:9, 44:32–35; Ex. 1003 ¶ 74.

Patent Owner argues in response that Petitioner has failed to cite evidence that Israni’s routing information transmitted and received “in real time.” PO Resp. 43–44. This argument is not persuasive because it is based on a claim construction argument that we rejected. *See* § III.C.3.e, *supra*. On this record, we are persuaded that Israni teaches, or at least suggests, “receiving a RII(route indication information) including a map identification and a plurality of graphic vectors.” *See* Pet. 34–36, 42–43; Ex. 1003 ¶¶ 73–79, 90–96. For example, as discussed above, Israni’s navigation system 10 employs a “route calculation subset of geographic data” in which segments of a calculated route are stored as segment entities (i.e., graphic vectors).

Ex. 1006, 11:56–67, 25:63–27:9; *see* Pet. 35–36. Israni teaches that navigation system 10 may “incorporate wireless communication to obtain some or all of the data it uses,” including “the geographic data,” from “remote or central locations.” Ex. 1006, 52:25–39; Pet. 34; Ex. 1003 ¶ 73.

Petitioner sets forth several rationales for why a person of ordinary skill in the art would have had reason to incorporate Kakihara’s feature of designating a selected route of travel in a color different from that of other roads into Israni’s navigation system. *See* Pet. 31–33. For example, Petitioner alleges that one of ordinary skill would have realized that displaying the shortest route to a destination in a color different from that of other roads, as taught by Kakihara, would have allowed a driver to better recognize the information on Israni’s display required for driving. *See id.* at 31–32 (citing Ex. 1007, 2:25–34; Ex. 1003 ¶ 77). Petitioner points out that Israni contemplates “highlight[ing] a route” on the map display (*see* Pet. 32 (citing Ex. 1006, 44:32–35)), and argues that using a different color to designate a selected route, as taught by Kakihara, would have been a “readily implementable” way of highlighting such a route (*see* Pet. 32 (citing Ex. 1006, 44:32–35; Ex. 1003 ¶ 78)).

Patent Owner argues in response that an important objective of the ’413 patent was to reduce the quantity of the transmitted and received data, and that the ’413 patent accomplishes this objective by providing route data in the form of graphic vectors. PO Resp. 44. Patent Owner asserts that Israni’s inventor was not concerned with this objective of the ’413 patent, and that Israni “does not mention anything pertaining to reducing a data quantity for efficient transmission of such data through a communications network.” *Id.* at 45. Patent Owner similarly asserts that Kakihara is not

pertinent to this objective of the '413 patent. *Id.* at 47. These arguments are not persuasive because they do not address the specific rationales set forth by Petitioner for why it would have been obvious to combine the teachings of Israni and Kakihara. Furthermore, there is no requirement that Petitioner's rationale for combining references be the same as a stated objective of the challenged patent.

Patent Owner also attempts to incorporate by reference arguments set forth in Paragraphs 118–123 of the Cole declaration. PO Resp. 48 (citing Ex. 2010 ¶¶ 118–123). However, our Rules prohibit Patent Owner from incorporating arguments by reference from a declaration (37 C.F.R. 42.6(a)(3)), and our Scheduling Order made clear that any arguments for patentability not set forth in the Patent Owner Response would be deemed waived (*see* Paper 9, 3). Thus, we decline to consider any arguments for patentability that Patent Owner failed to set forth in its Response.

On this record, we are persuaded that a person of ordinary skill in the art would have realized that incorporating Kakihara's feature of designating a selected route of travel in a different color than other roads (accomplished by the use of graphic vectors with "attribute designating statements" that are composed of "attribute commands" and "attribute values"), into Israni's navigation system, would advantageously have allowed a driver to better recognize the selected route on the display. *See* Pet. 31–32; Ex. 1007, 2:25–34; Ex. 1003 ¶ 77. Such a combination also would have been a predictable use of prior art elements according to their established functions. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). We also find that a person of ordinary skill in the art would have realized that using Kakihara's feature of designating a route of travel in a different color would have been a

predictable and easily implementable way to “highlight[ing] a route,” as disclosed in Israni. *See* Pet. 32; Ex. 1006, 44:32–35; Ex. 1003 ¶ 78; *KSR*, 550 U.S. at 421.

Based on the arguments and evidence presented in the Petition and having considered the arguments and evidence presented by both parties during the trial, we are persuaded that Israni in view of Kakihara teaches or suggests all limitations of claims 64 and 77, and that Petitioner has articulated persuasive reasoning having a rational underpinning to support the legal conclusion of obviousness with respect to these claims. *See KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Petitioner has established by a preponderance of the evidence that claims 64 and 77 of the ’413 patent are unpatentable as obvious over Israni and Kakihara.

5. Ground 3: Alleged Obviousness of Claim 79 over Degawa, Alone or in Combination with Maruoka

a. Overview of Degawa

Degawa is directed to a road traffic information device “having the function of receiving road traffic information that continually varies.” Ex. 1009 ¶ 1. Degawa discloses a vehicle-mounted device that receives traffic data over a car phone network. *Id.* ¶ 20. The vehicle-mounted device includes navigation device 10, which detects the current vehicle position and also receives the road traffic information that was received over the car phone network. *Id.* Navigation device 10 displays the current position of the vehicle on a map. *Id.*

Figure 1(a) of Degawa is reproduced below.

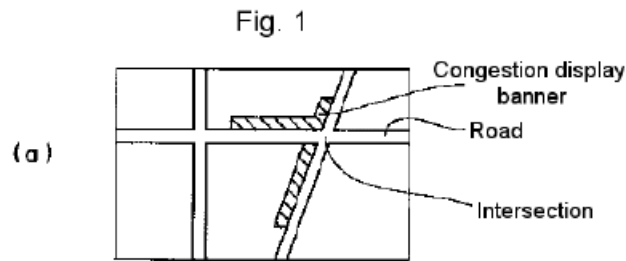


Figure 1(a) depicts an example of a display that incorporates road traffic information. *See* Ex. 1009 ¶ 29. Traffic congestion is indicated by banners that are displayed beside congested sections of roads. *Id.* ¶¶ 29–30.

b. Overview of Maruoka

Maruoka is directed to a navigational device that is capable of displaying traffic information, such as traffic jams, superimposed on a map. Ex. 1011 ¶ 1. Maruoka discloses that navigation devices may use colors to depict different levels of traffic congestion. *See id.* ¶ 3. For example, traffic jams may be depicted in red on corresponding roads, and areas of congested traffic may be depicted in orange. *Id.*

c. Analysis

Petitioner contends that Degawa’s vehicle-mounted navigation device receives road segment-specific traffic information (i.e., the “time-variant information” recited in claim 79), and stores this traffic information in storage buffer 17. Pet. 49; Ex. 1003 ¶ 110. Petitioner alleges that Degawa’s traffic information includes mesh number J3 (i.e., a “map identifier”) for identifying the mesh map number (i.e., the section map) to which the traffic data pertains. *Id.* at 49–50.

Claim 79 of the '413 patent recites the step of “selecting at least one section map based on the map identifier of said TVI.” Petitioner contends that this step is performed when Degawa’s navigation device uses the mesh map number J3 of the traffic data (i.e., the recited “map identifier”) to display the correct “rectangular division” of the road map (i.e., the recited “section map”) under the received traffic data. Pet. 50. However, the Petition never clearly identifies a disclosure in Degawa in which mesh map identifier J3 is used to select a division of a road map for display.

Petitioner cites to paragraphs 3 and 19–21 and table 1 of Degawa, pages 25 and 26 of Patent Owner’s infringement contentions in underlying litigation (Ex. 1013), and paragraph 111 of Dr. Michalson’s declaration. See Pet. 50–51. Paragraph 3 of Degawa states that road traffic information is displayed on a display device superimposed over a road map, but does not indicate how the road map is selected. See Ex. 1009 ¶ 3. Paragraph 19 of Degawa discloses that mesh map number J3 identifies a mesh map (i.e., road map), but does not indicate that this mesh map number is used to select the road map that is displayed. See *id.* ¶ 19. Paragraph 20 describes a “link number J5” in Degawa’s road traffic information that identifies a corresponding road section, but paragraph 20 also indicates that Degawa’s system “detects the current vehicle position and displays this current vehicle position and the like together with a road map.” *Id.* ¶ 20. Thus, Paragraph 20 implies that vehicle position data, and not mesh map number J3 or link number J5, is used to select the road map data that is displayed. See *id.* Paragraph 21 of Degawa indicates that road map data is stored in map memory 14, but does not indicate how a road map is selected for display. See *id.* ¶ 21. Table 1 of Degawa indicates that Degawa’s road traffic

information includes mesh map number J3 and link number J5, but does not indicate how this mesh map number and link number are used. *See id.* ¶ 18. Thus, the cited portions of Degawa do not support Petitioner’s argument that Degawa uses mesh map number J3 to select a road map for display under the received traffic data.

Petitioner’s citations to pages 25 and 26 of Patent Owner’s infringement contentions do not support its contentions because these materials do not bear on the issue of whether Degawa operates in the manner that Petitioner has alleged satisfies the “selecting at least one section map based on the map identifier of said TVI” claim limitation.

Dr. Michalson bases the testimony in paragraph 111 of his declaration on the same materials discussed above, as well as paragraphs 17 and 18 of Degawa. Paragraph 17 of Degawa does not indicate how Degawa’s system selects a road map for display, and paragraph 18 of Degawa is just a reference to table 1, which is discussed above. *See Ex. 1009* ¶¶ 17, 18. The other cited materials do not support Petitioner’s argument for the reasons explained above. Accordingly, we are not persuaded by Dr. Michalson’s testimony that Degawa uses mesh map number J3 in this way. *See Ex. 1003* ¶ 111.

During the oral hearing, Petitioner’s counsel conceded that Degawa’s system may not use mesh map number J3 to select the displayed road map data. *See Tr. 69:5–70:5*. Petitioner’s counsel then argued in the alternative that Degawa performs the “selecting at least one section map based on the map identifier of said TVI” limitation when it superimposes traffic data over the already displayed road map. *See id. 70:6–71:8*. However, the Petition and Reply do not clearly set forth this alternative argument, and it would

violate our rules, and be unfair to Patent Owner, to allow Petitioner to raise such a new argument for the first time during oral arguments. See 37 C.F.R. § 42.104(b)(4) (requiring that the Petition identify “where each element of the claim is found in the prior art . . . relied upon”); 77 Fed. Reg. at 48768 (“No new evidence or arguments may be presented at the oral argument.”). Accordingly, we find that Petitioner has waived this alternative argument. Even if this alternative argument had not been waived, we would still find it unpersuasive because Petitioner has not cited any persuasive record evidence that Degawa’s system selects “at least one section map based on [a] map identifier” when it uses mesh map number J3 to superimpose traffic data at the correct location on a previously displayed road map. See, e.g., Ex. 1003 ¶¶ 110–111 (not specifically identifying or addressing this alternative argument).

On this record, and viewing the evidence through the lens of the evidentiary burden that applies at this stage of the proceeding, we find that Petitioner has not made an adequate showing to demonstrate by a preponderance of the evidence that claims 79 is unpatentable as obvious over Degawa, either alone or in combination with Maruoka.

IV. ORDER

Accordingly, it is

ORDERED that claims 64 and 77 of the ’413 patent have been shown to be unpatentable;

FURTHER ORDERED that claim 79 of the ’413 patent has not been shown to be unpatentable;

FURTHER ORDERED that Exhibit 2012 is *expunged*; and

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

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