

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS INC.,
Petitioner,

v.

LOCATION BASED SERVICES, LLC,
Patent Owner.

Case IPR2017-01965
Patent 7,860,648 B2

Before LINDA E. HORNER, PATRICK R. SCANLON, and
GEORGE R. HOSKINS, *Administrative Patent Judges*.

HOSKINS, *Administrative Patent Judge*.

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

DECISION AND ORDER ON MOTION TO AMEND
35 U.S.C. § 316(d) and 37 C.F.R. § 42.121

I. INTRODUCTION

Unified Patents Inc. (“Petitioner”) filed a Petition (Paper 1) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–4, 6, 7, 9, 10, 13, and 14 of U.S. Patent No. 7,860,648 B2 (“the ’648 patent”). Later, with prior leave of the Board (*see* Paper 6), Petitioner filed a Corrected Petition (Paper 7, “Corr. Pet.”).

We instituted a trial to determine whether claims 1–4, 6, 7, 9, 10, 13, and 14 are unpatentable on all of the Corrected Petition’s challenges. Paper 9 (“Institution Decision” or “Inst. Dec.”), 5 & 34. Thus, the decision in *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018), which issued while the present trial was ongoing, did not materially impact this proceeding.

Location Based Services, LLC (“Patent Owner”) elected not to file a Patent Owner Response to the Corrected Petition. *See, e.g.*, 35 U.S.C. § 316(a)(8); 37 C.F.R. § 42.120; Paper 10 (setting a due date of May 18, 2018, for the filing of a Patent Owner Response). Instead, Patent Owner filed a Motion to Amend the ’648 patent (Paper 13, “Motion to Amend” or “Mot.”). *See, e.g.*, 35 U.S.C. § 316(a)(9), (d); 37 C.F.R. § 42.121. The Motion to Amend indicates it “is not contingent on a determination that the original claims are unpatentable and is made in lieu of a [Patent Owner Response] under 37 C.F.R. § 42.120.” Mot. 1. The Motion to Amend further “seeks to cancel” all of the ’648 patent claims challenged in the Corrected Petition, and to substitute new claims 16–21 for, respectively, challenged claims 1–4, 9, and 13. *Id.*

Petitioner filed an Opposition to the Motion to Amend (Paper 16, “Opp.”). Patent Owner filed a Reply to the Opposition (Paper 19, “Reply”). Petitioner requested, and was granted, leave to file a Sur-Reply (Paper 24,

“Sur-Reply”). *See* Paper 22. Patent Owner requested, but was denied, leave to file a Sur-Sur-Reply. *See id.*

An oral hearing was held, for which the transcript was entered into the record (Paper 30, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b)(4). This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to claims 1–4, 6, 7, 9, 10, 13, and 14 of the ’648 patent, and as to claims 16–21 that Patent Owner proposes to add to the ’648 patent. Based on the record before us, we *grant* the Motion to Amend as to canceling existing claims 1–4, 6, 7, 9, 10, 13, and 14, and we *deny* the Motion to Amend as to adding proposed claims 16–21.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies itself as the real party in interest. Corr. Pet. 77. Patent Owner identifies itself as the real party in interest. Paper 4, 2.

B. *Related Proceedings*

The parties identify several U.S. District Court litigations as matters that would affect, or be affected by, a decision in this proceeding. Corr. Pet. 77; Paper 4, 2; Paper 8, 2–3; Paper 27, 2–3; 37 C.F.R. § 42.8(b)(2). It appears that all of these litigations, except for one, have been dismissed. Paper 8, 2–3; Paper 27, 2–3; Tr. 40:12–41:10.

The one exception is particularly important here: *Location Based Services, LLC v. Niantic, Inc.*, Case No. 5:17-cv-04413 in the U.S. District Court for the Northern District of California. In that case, Patent Owner filed a complaint against Niantic, Inc. (“Niantic”) asserting infringement of

four patents. Ex. 1011, 2:13–3:16, 6:18–24. The four patents are the '648 patent and U.S. Patent Nos. 7,522,996 B2 (“the '996 patent”), 8,392,114 B2 (“the '114 patent”), and 8,768,610 B2 (“the '610 patent”). *Id.* at 2:14–15. On December 19, 2017, the District Court granted Niantic’s Motion to Dismiss the Complaint with prejudice, on the basis that all four asserted patents are invalid under 35 U.S.C. § 101. *Id.* at 1:23–2:6, 6:22–24, 37:24–38:4. We refer to that Order (Ex. 1011) as “the District Court Dismissal.”

Patent Owner appealed the District Court Dismissal to the U.S. Court of Appeals for the Federal Circuit, Case No. 18-1464. Paper 8, 2; Reply 4 n.1. The Federal Circuit heard oral arguments on November 8, 2018, and entered judgment on November 9, 2018, affirming the District Court Dismissal per Federal Circuit Rule 36. *See Location Based Services, LLC v. Niantic, Inc.*, Case No. 18-1464 (Fed. Cir.), ECF Nos. 32 (reflecting date of oral arguments) & 33 (Rule 36 judgment). The Federal Circuit issued its mandate to the District Court on December 17, 2018. *Id.* at ECF No. 34.

C. The '648 Patent

The '648 patent discloses a map display system and method. Ex. 1001, (54). Figure 2 of the '648 patent is reproduced below.

FIGURE 2

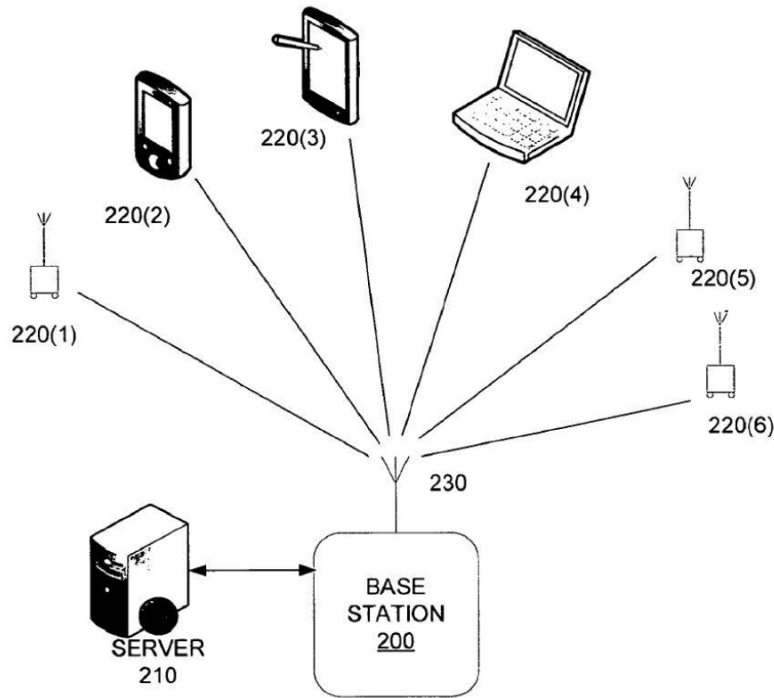


Figure 2 illustrates several components 220(1) to 220(6) wirelessly communicating with server 210 via base station 200. *Id.* at 5:42–49.

Components 220 may be personal electronic assistants, tablet computers, laptop computers, cellular telephones, or pagers. *Id.* at 5:63–6:14.

As illustrated in the process flow of Figure 5A, in step 510, component 220 transmits a request to server 210 for a map including one or more locations. *Id.* at 11:44–52. The request includes an identifier associated with a user of component 220. *Id.* In step 520, component 220 receives a map from server 210. *Id.* at 11:57–58.

At least one of the locations on the map is “associated with one or more location interaction rules.” *Id.* at 11:58–60. As an example, a location interaction rule may specify “the amount of time or number of visits any user is permitted for a location.” *Id.* at 7:67–8:2. User compliance with a

location interaction rule is verifiable via one or more monitoring devices, such as cameras monitoring the user's interactions at the location. *Id.* at 7:40–46, 11:60–61.

In step 530, based on information received from the monitoring devices, component 220 alters the map displayed to the user as a function of the location interaction rule. *Id.* at 11:61–12:4. For example, component 220 “receives indications that one or more locations on the map have been visited, checks to determine a limit on visits by the user, and, if the number of visits has been reached, dims or highlights the location to provide an indicator to the user.” *Id.* at 12:13–18. A user interaction rule, which is “a user specific rule that applies to a user and not to a location,” “may nullify” a violation of a location interaction rule by the specific user. *Id.* at 7:47–8:52.

D. The Challenged Patent Claims

The '648 patent contains fifteen claims. Petitioner challenges claims 1–4, 6, 7, 9, 10, 13, and 14. Patent Owner seeks to cancel these claims. Mot. 1.

Claim 1 illustratively recites:

1. A method for a display device to receive a map through a predefined area, the method comprising:
transmitting a request for the map including one or more locations, the request including an identifier associated with a user of the display device;
receiving the map at the display device, the map including one or more locations, at least one location of the one or more locations associated with one or more location interaction rules verifiable via one or more monitoring devices; and

interacting with the one or more monitoring devices to alter the map on the display device as a function of the one or more location interaction rules.

Ex. 1001, 17:17–29. Claims 2–4, 6, and 7 each depend directly or indirectly from claim 1. *Id.* at 17:30–45, 17:56–67.

Claim 9 is an independent claim, and recites a computer program product comprising instructions for implementing steps similar to the steps recited in claim 1. *Id.* at 18:5–19. Claims 10, 13, and 14 each depend directly or indirectly from claim 9. *Id.* at 18:20–22, 18:44–57.

E. The Proposed New Claims

Patent Owner proposes to amend the '648 patent by adding new claims 16–21. Mot. 1. Claim 16 is an independent claim, proposed as a substitute for existing independent claim 1. *Id.* at 1, App. A (pgs. 2–3). Claim 20 is an independent claim, proposed as a substitute for existing independent claim 9. *Id.* at 1, App. A (pg. 4). Claims 17–19 and 21 are dependent claims, proposed respectively as substitutes for existing dependent claims 2–4 and 13. *Id.* at 1, App. A (pgs. 3–4).

We reproduce proposed claims 16–21 here, with square bracketed verbiage reflecting subject matter omitted from the substituted claim as compared to the existing claim of the '648 patent, and underlined verbiage reflecting subject matter added to the substituted claim as compared to the existing claim of the '648 patent.¹

¹ The Motion to Amend, Appendix A (pgs. 2–4), appears to use brackets and underling in the same fashion. However, Appendix A contains errors in this regard, which are corrected in our listing.

16. {substitute for claim 1} A method for a display device to receive a map through a predefined area, the method comprising:
- transmitting a request for the map including one or more locations, the request including an identifier associated with a user of the display device;
- receiving the map at the display device, the map including one or more locations, at least one location of the one or more locations associated with one or more location interaction rules verifiable via one or more monitoring devices; [and]
- interacting with the one or more monitoring devices to alter the map on the display device as a function of the one or more location interaction rules; and
- modifying said one or more location interaction rules via one or more user interaction rules to determine if access to a location is permitted.
17. {substitute for claim 2} The method of claim [1] 16 further comprising:
- receiving a status associated with the at least one of the one or more locations on the map the status being a function of one or more location interaction rules associated with the at least one of the one or more locations on the map;
- receiving data related to illustrating location detail for the at least one of the one or more locations, the location detail shown being a function of the status; and
- wherein the status indicates whether a permitted amount of time at a location has been exceeded.
18. {substitute for claim 3} The method of claim [2] 16 [wherein the receiving a status associated with the at least one of the one or more locations on the map includes] further comprising:
- receiving a status associated with the at least one of the one or more locations on the map the status being a function of

one or more location interaction rules associated with the at least one of the one or more locations on the map;

receiving data related to illustrating location detail for the at least one of the one or more locations, the location detail shown being a function of the status; and

wherein the status indicates whether a permitted number of visits to a location has been exceeded.

19. {substitute for claim 4} The method of claim [2] 16 [wherein the receiving a status associated with the at least one of the one or more locations on the map includes] further comprising:

[periodically updating the status in accordance with the location interaction rule associated with the at least one of the one or more locations]

the map display showing a visual incentive in the form of a prize for being the first to visit all of a number of specified locations on the map.

20. {substitute for claim 9} A computer program product comprising:

a computer-readable medium bearing

one or more instructions for transmitting a request for the map including one or more locations, the request including an identifier associated with a user of the display device;

one or more instructions for receiving the map including one or more locations, at least one location of the one or more locations associated with one or more location interaction rules verifiable via one or more monitoring devices; [and]

one or more instructions for interacting with the one or more monitoring devices to alter the map on the display device as a function of the one or more location interaction rules; and

instructions for modifying said one or more location interaction rules via one or more user interaction rules to determine if access to a location is permitted.

21. {substitute for claim 13} The computer program product of claim [9] 20 wherein the one or more instructions for

transmitting a request for the map including one or more locations, the request including an identifier associated with a user of the display device includes:

[one or more instructions for wirelessly transmitting the request to a server over a wireless network]

the map display showing a visual incentive in the form of a prize for being the first to visit all of a number of specified locations on the map.

Mot. App. A (pgs. 2–4).

F. Instituted Grounds of Unpatentability

The Corrected Petition presents the following four challenges to the patentability of the '648 patent claims. See Corr. Pet. 2. We instituted trial on all four proposed grounds, and for all claims subject to each proposed ground. Inst. Dec. 5 & 34.

Statutory Basis	Reference(s)	Claims Challenged
§ 102(b)	Gellberg ²	1–4, 6, 9, 10, and 13
§ 103(a)	Gellberg	1–4, 6, 9, 10, and 13
§ 103(a)	Gellberg and Schroeder ³	7 and 14
§ 103(a)	DeKock ⁴	1–4, 6, 7, 9, 10, 13, and 14

² Ex. 1005, International Patent App. Pub. No. WO 01/55994 A1, pub. Aug. 2, 2001.

³ Ex. 1006, U.S. Patent App. Pub. No. 2003/0069691 A1, pub. Apr. 10, 2003.

⁴ Ex. 1007, U.S. Patent No. 6,574,548 B2, iss. June 3, 2003.

III. ANALYSIS

A. *Claims 1–15 of the '648 patent*

We discuss the existing claims 1–15 of the '648 patent in two groups. We first discuss the challenged claims (i.e., claims 1–4, 6, 7, 9, 10, 13, and 14) as a first group, then we discuss the non-challenged claims (i.e., claims 5, 8, 11, 12, and 15) as a second group.

1. *The Challenged Claims of the '648 Patent*

The Motion to Amend requests that we cancel the challenged '648 patent claims 1–4, 6, 7, 9, 10, 13, and 14. Mot. 1, App. A (pgs. 1–2). Petitioner does not oppose this aspect of the Motion to Amend. Opp. 1 (“the Board should cancel claims 1–14”). Pursuant to 35 U.S.C. § 316(d)(1):

During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

- (A) Cancel any challenged patent claim.
- (B) For each challenged claim, propose a reasonable number of substitute claims.

See also 37 C.F.R. § 42.121 (implementing regulation). Because all of the claims for which cancellation is requested are challenged in the Corrected Petition, and because the Motion to Amend is unopposed in this regard, we grant the Motion to Amend as to its request to cancel the challenged claims 1–4, 6, 7, 9, 10, 13, and 14 of the '648 patent.

2. *The Non-Challenged Claims of the '648 Patent*

Claims 5, 8, 11, 12, and 15 of the '648 patent are not challenged in the Corrected Petition. Petitioner's Opposition to the Motion to Amend, nonetheless, suggests that the Motion to Amend “cancels claims 1–14,” so

“the Board should cancel claims 1–14.” Opp. 1. We disagree. We can find no indication in the Motion to Amend that Patent Owner requests cancellation of claims 5, 8, 11, 12, and 15 of the ’648 patent. The Motion to Amend requests cancellation only of the challenged claims. See Mot. 1, App. A (pgs. 1–2). When asked about this issue at the oral hearing, Petitioner’s counsel agreed with that reading of the Motion to Amend. Tr. 17:18–19:4. Thus, we reach no conclusions, and take no action, concerning the non-challenged claims 5, 8, 11, 12, and 15 of the ’648 patent in this proceeding.

B. Proposed Claims 16–21

1. Claim Construction

In this proceeding, when construing proposed claims 16–21, we use the broadest reasonable construction in light of the ’648 patent specification. See 37 C.F.R. § 42.100(b) (2016)⁵; *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the broadest reasonable construction standard); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012).

⁵ A recent amendment to this rule does not apply here, because the Petition was filed before November 13, 2018. See “Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board,” 83 Fed. Reg. 51340, 51340 (Oct. 11, 2018).

a) “*modifying said one or more location interaction rules via one or more user interaction rules to determine if access to a location is permitted*”
(*proposed claims 16 and 20*)

Proposed claim 16 recites “at least one location . . . associated with one or more *location interaction rules*,” and “*modifying said one or more location interaction rules via one or more user interaction rules* to determine if access to a location is permitted.” Mot. App. A (pgs. 2–3) (emphases added). Proposed claim 20 recites substantially identical limitations. *Id.* (pg. 4).

Petitioner contends the claim term “‘location interaction rules’ should be construed to mean rules for interacting with a location.” Corr. Pet. 9 (citing Ex. 1001, 7:57–61, 7:67–8:2). Petitioner contends the claim term “‘user interaction rules’” should be construed as “rules attached to a user.” Sur-Reply 7 (citing Ex. 1001, 7:57–61).

Patent Owner contends the claim term “‘location interaction rules’” should be construed as “rules attached to a location for determining a status associated with one more locations on the map.” Mot. 4–5 (citing Ex. 1001, 2:16–20, 6:35–37, 7:58–59, 8:1–2, 9:3–4, 10:31–33, 10:45–47); Reply 6. Patent Owner asserts the claim term “‘user interaction rules’” should be construed as “any user specific rule that applies to a user and not to a location” and which is “attached to a user.” Mot. 5–6 (citing Ex. 1001, 7:58–59, 8:10–12); Reply 5 (citing Ex. 1001, 8:2–12). Patent Owner faults Petitioner’s proposals as “fail[ing] to account for the fact that the [location interaction] rules must be ‘attached to a location’” and as “incorrectly attempt[ing] to conflate ‘user interaction rules’ with ‘location interaction rules.’” Mot. 5 (quoting Ex. 1001, 7:57–61).

Petitioner responds that Patent Owner’s construction of “user interaction rules” is overly narrow, and incorporates several unrecited requirements or negative limitations. Sur-Reply 6. According to Petitioner, Patent Owner’s construction would improperly exclude “a rule entered by/attached to” a specific user from the claim. *Id.* at 7. Petitioner further asserts Patent Owner’s construction would improperly require the “user interaction rules” to “relate *solely* to the user,” without “*any* relation to location.” *Id.* at 7–8 (citing Ex. 1001, 8:2–10, 14:13–15).

In considering the foregoing arguments, we start with the claim language: “modifying said one or more location interaction rules via one or more user interaction rules to determine if access to a location is permitted.” We concur with the position taken by both parties that location interaction rules and user interaction rules must be different types of rules, in order for the latter to “modify[]” the former, as claimed. *See* Corr. Pet. 9 (“the ’648 patent describes two types of interaction rules (i.e., location and user interaction rules)”; Mot. 5–6. However, the demarcation between the two is somewhat muddled, because a *location* interaction rule defines how *users* may interact with the ruled location (Ex. 1001, 6:35–58, 7:35–46, 7:52–8:17, 10:31–47), and a *user* interaction rule similarly defines how the ruled user may interact with a *location* (*id.* at 7:47–8:17, 14:9–15).

Thus, we disagree with Patent Owner’s assertion that user interaction rules are divorced entirely from locations. In this regard, we acknowledge that the ’648 patent specification states “user interaction rules can be any user specific rule that *applies to* a user and not to a location.” Ex. 1001, 8:10–12 (emphasis added). However, that statement must be read in the context of the claim term “user interaction rule,” wherein the recited

interaction refers to the user's interaction with a location. *See id.* at 7:47–9:18 (stating, in part, that “[i]nteraction rules for a user can mean rules of engagement for a location”). This is made clear by the claim language itself, which recites that the location interaction rules are “modif[ied]” via the user interaction rules.

We next look to the '648 patent specification for further guidance. The '648 patent describes how a request for a map may include “an identifier” that is both “associated with a user” and “associated with one or more user interaction rules” that are “attached to a user.” *Id.* at 7:47–59. Thus, “[a]n *identifier* associated with a *user* that links to user interaction rules can provide *appropriate user interaction rules for a particular user.*” *Id.* at 7:61–64 (emphases added). As one example, a particular user who is deaf may be permitted to interact with locations in a different way than users who are not deaf, having “special permissions if needed” to account for the user's deafness. *Id.* at 7:64–8:8, 8:25–34, 8:44–47. As another example, “[a] user interaction rule can also be a function of *the amount a user has paid* to visit a park.” *Id.* at 8:8–10, 8:25–34. In short, “user interaction rules can be *any user specific rule* that applies to a user and not to a location.” *Id.* at 8:10–12 (emphasis added).

Based on the foregoing, we construe the claim term “user interaction rule” to mean a rule governing how a specific user may interact with a location, based on a characteristic of the specific user that may differentiate the specific user from other users. Exemplary user-differentiating characteristics include physical characteristics such as the user being deaf, as well as non-physical characteristics such as how much money the user has paid to access the location.

Viewed in this light, the claim limitation reciting “modifying said one or more location interaction rules via one or more user interaction rules” requires that a specific user’s interaction with a location is governed by rules based on whether the specific user has a particular user characteristic, such that the specific user’s permitted interaction(s) with the location are modified with respect to other users’ permitted interaction(s) with the location. *See id.* at 14:36–40 (“an identifier associated with a user can provide user-specific rules for interacting with one or more locations that either modify location interaction rules by broadening interaction limitations or by limiting interaction limitations”). Thus, “a user interaction rule could operate to *nullify* location interaction rules.” *Id.* at 9:17–18 (emphasis added). Such nullification occurs when the specific user is a deaf child, who is allowed twice as much time at each location as non-deaf children. *Id.* at 8:42–47. Such nullification also occurs when the specific user has been granted “carte blanche to all locations,” despite other users being prohibited from visiting a location beyond a specified number of visits. *Id.* at 9:9–18, 14:40–45. Conversely, nullification further occurs when the specific user is “persona non grata as to one or more locations” such that “all interactions could be disallowed,” despite other users being permitted to interact with those locations. *Id.* at 14:45–54.

There are other issues concerning the proper construction of the “modifying” limitation that are disputed between the parties. However, we determine no further construction of this limitation is required to resolve the patentability issues presented by the arguments and evidence of record. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (per curiam) (claim terms need to be construed

“only 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) Other Claim Terms

No explicit construction of any other claim term is needed to resolve the issues presented by the arguments and evidence of record. *See Nidec v. Zhongshan*, 868 F.3d at 1017. This includes the terms “map” (*see* Corr. Pet. 8–9), “monitoring device” (*see id.* at 10), and “receiving a status” (*see* Mot. 6–7).

*2. 35 U.S.C. § 316(d)(3) Threshold Criteria:
Prohibition Against Introducing New Matter*

Before the burdens of proof or persuasion regarding the patentability of proposed claims 16–21 come into play, “*the patent owner must satisfy the Board that the statutory criteria in [35 U.S.C.] § 316(d)(3) are met and that any reasonable procedural obligations imposed by the Director are satisfied.*” *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1305–06 (Fed. Cir. 2017) (en banc) (lead plurality opinion by J. O’Malley) (emphasis added); *see also id.* at 1341 (“There is no disagreement that the patent owner bears a burden of production in accordance [with] 35 U.S.C. § 316(d).”) (majority opinion by J. Reyna). Accordingly, “a patent owner still must meet the requirements for a motion to amend under 37 C.F.R. § 42.121.”

PTAB Memorandum, *Guidance on Motions to Amend in view of Aqua Products*, at 2 (Nov. 21, 2017) (“PTAB Aqua Products Memorandum”).⁶

⁶ This Memorandum is available at https://www.uspto.gov/sites/default/files/documents/guidance_on_motions_to_amend_11_2017.pdf.

A motion to amend “may not . . . introduce new matter.” 35 U.S.C. § 316(d)(3). Thus, “[a] motion to amend claims must . . . set forth: (1) The support in the original disclosure of the patent for each claim that is added or amended; and (2) The support in an earlier-filed disclosure for each claim for which benefit of the filing date of the earlier filed disclosure is sought.” 37 C.F.R. § 42.121(b).

Patent Owner asserts proposed claims 16–21 do not introduce new matter to the ’648 patent. *See* Mot. 2, 3, 11–14. In support, Patent Owner cites various disclosures of the ’648 patent, and its parent application (App. No. 11/124,626), that Patent Owner contends support the various newly added limitations in proposed claims 16–21. *Id.*

We conclude Patent Owner has not met its burden of production in asserting that proposed claims 16–21 have written description support in the ’648 patent. Prior to Patent Owner’s filing of the Motion to Amend, we directed the parties to the Board’s decision in *Western Digital Corp. v. SPEX Techs., Inc.*, Case IPR2018-00082, Paper 13 (PTAB Apr. 25, 2018) (informative), for guidance regarding motions to amend. *See* Paper 12. That decision states a motion to amend “must set forth written description support for each proposed substitute claim as a whole, and not just the features added by the amendment.” *Western Digital*, Paper 13, at 8. This requirement “applies equally to independent claims and dependent claims.” *Id.* Patent Owner does not address, in any fashion, the limitations of the existing claims that are carried forward in the proposed claims. *See* Mot. 2, 3, 11–14. Therefore, we deny the Motion to Amend as to adding claims 16–21 to the ’648 patent, because Patent Owner has not met its burden of production under 35 U.S.C. § 316(d)(3) in this regard.

3. *Patentability of Proposed Claims 16–21*

Petitioner contends the Motion to Amend should be denied because proposed claims 16–21 are unpatentable under 35 U.S.C. § 101, § 102, and/or § 103. Patent Owner disagrees.

In considering the patentability arguments presented by the parties, the burden of persuasion lies with Petitioner to show that proposed claims 16–21 are unpatentable by a preponderance of the evidence. *See Bosch Auto. Serv. Sols., LLC v. Matal*, 878 F.3d 1027, 1040 (Fed. Cir. 2018) (“the petitioner bears the burden of proving that the proposed amended claims are unpatentable by a preponderance of the evidence”) (as amended on rehearing); *Western Digital*, Paper 13, at 3–4 (discussing *Aqua Products, supra*).

a) *Petitioner’s Asserted Grounds of Unpatentability*

Petitioner presents the following five challenges to the patentability of proposed claims 16–21. *See Opp.* 3–25.

Statutory Basis	Reference(s)	Claims Challenged
§ 101	n/a	16–21
§ 102(b)	Gellberg	16, 19, 20, and 21
§ 103(a)	Gellberg	16, 19, 20, and 21
§ 103(a)	DeKock and Inoue ⁷	16 and 20

⁷ Ex. 1010, U.S. Patent No. 6,295,503 B1, iss. Sept. 25, 2001.

§ 103(a)	Chatterjee ⁸ and Hall ⁹	16, 17, and 20
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b) Patentability Under 35 U.S.C. § 101

Petitioner contends the Motion to Amend should be denied because claims 16–21 do not recite patent-eligible subject matter under 35 U.S.C. § 101. Opp. 2–11; Sur-Reply 1–6. Patent Owner disagrees. Reply 1–4.¹⁰

i) Law of Patent-Eligible Subject Matter

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.

However, the Supreme Court has long interpreted § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *E.g., Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See id.* at 219 (“On their face, the claims before us are drawn to the concept of

⁸ Ex. 1012, U.S. Patent App. Pub. No. 2004/0068433 A1, pub. Apr. 8, 2004.

⁹ Ex. 1013, International Patent App. Pub. No. WO 00/46068, pub. Aug. 10, 2000.

¹⁰ Patent Owner has not argued Petitioner is not permitted to raise § 101 in opposition to the Motion to Amend in this *inter partes* review. *See, e.g., Amazon.com, Inc. v. Uniloc Luxembourg S.A.*, Case IPR2017-00948, Paper 34 (PTAB Jan. 18, 2019) (holding a petitioner is not precluded from relying on § 101 in opposing a motion to amend in an IPR).

intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk[.]”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 183 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now

commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (some quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The USPTO recently published revised guidance on the application of § 101. See 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“USPTO § 101 Memorandum”). Under that guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human interactions such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (see MPEP § 2106.05(a)–(c), (e)–(h)).

See USPTO § 101 Memorandum, 84 Fed. Reg. at 51–55. Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds specific limitations beyond the judicial exception that are not “well-understood, routine, conventional” in the field (see MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See USPTO § 101 Memorandum, 84 Fed. Reg. at 56.

ii) *Alice Step 1: Whether Proposed Claims 16–21
are Directed to an Abstract Idea*

Proposed Independent Claims 16 and 20

Petitioner contends proposed claims 16 and 20 “are directed to the abstract idea of transmitting, receiving, and updating information, as well as actions that may be performed mentally,” for essentially the same reasons articulated in the District Court Dismissal regarding claims 1 and 9 of the ’648 patent. Opp. 1–6 (citing Ex. 1011, 17–20). Petitioner contends proposed claims 16 and 20 “are directed to the abstract idea of (1) transmitting a request for a map of certain locations, (2) receiving the map containing those locations and associated rules, and (3) interacting with other data sources to alter the map based on rules.” *Id.* at 3–4 (citing Ex. 1011, 20). The claimed location and user interaction rules, according to Petitioner, “are simply information that can be applied to other information by a generic computer or human brain.” *Id.* at 4 (citing Ex. 1011, 20). Petitioner contends the final, “modifying” limitation added in proposed claims 16 and 20 versus claims 1 and 9 of the ’648 patent “does not make the claims less abstract because it is not specific as to how to modify the location interaction rules, other than using the user interaction rules, which

are not specifically defined by the claims.” *Id.* at 4–5. Petitioner, finally, offers a brick and mortar analogy of proposed claim 16, based on a similar analogy presented by the District Court Dismissal of claim 1 of the ’648 patent. *Id.* at 5–6 (citing Ex. 1011, 21).

Patent Owner responds that “the crux of Petitioner’s argument is the faulty notion that the mere inclusion of terms like ‘collecting and analyzing information’ renders the claims abstract.” Reply 1. Patent Owner contends proposed claims 16 and 20 “require that the map is altered through interaction with monitoring devices and that the alteration is a function of location interaction rules as modified by user interaction rules,” which provides “the specificity required to transform [the claims] from ones only claiming a result to ones claiming a way of achieving it,” and thereby avoid abstractness. *Id.* at 1–2 (citing several Federal Circuit cases). Patent Owner also asserts Petitioner’s brick and mortar analogy is faulty because it lacks “modifying a location interaction rule — a rule attached to a location — via a user interaction rule — a rule attached to a user,” and instead “simply contemplates applying a rule that pertains to a location.” *Id.* at 2.

Petitioner replies that proposed claims 16 and 20 “do not require displaying any *result of the modification on the map* or otherwise recite any purported *result* of the invention.” Sur-Reply 1–2. In Petitioner’s view, “[t]he modifying limitation is just a manipulation of information in the processor/memory of the device that does not require displaying or otherwise providing a result,” so the claims remain directed to an abstract idea for the reasons provided in the District Court Dismissal as to claims 1 and 9 of the ’648 patent. *Id.* at 2–3 (citing Ex. 1011, 17–20).

Upon review of the foregoing arguments, we determine proposed claims 16 and 20 are each directed to an abstract idea. As noted in the District Court Dismissal:

[T]he Federal Circuit has considered abstract claims directed to the collection of information, even if the collection of information is limited to specific content. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (citations omitted). Along the same lines, the Federal Circuit treats “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.” *Id.* at 1354 (collecting cases). Thus, “the Federal Circuit has generally found claims abstract where they are directed to some combination of collecting information, analyzing information, and/or displaying the results of that analysis.” *Twilio[, Inc. v. Telesign Corp.]*, 249 F. Supp. 3d [1123,] 1137 [(N.D. Cal. 2017)] (citing *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1094–95 (Fed. Cir. 2016), *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016), and *Elec. Power Grp.*, 830 F.3d at 1354[]).

Ex. 1011, 9:16–27. This line of case law is one component of what the USPTO § 101 Memorandum describes as abstract “[m]ental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion).” USPTO § 101 Memorandum, 84 Fed. Reg. at 52 (footnotes 14 and 15 omitted). Thus, if proposed claims 16 and 20 fall under this line of case law, then “Revised Step 2A,” “Prong One” of the USPTO § 101 Memorandum has been addressed. *Id.* at 54.

For essentially the same reasons articulated in the District Court Dismissal in relation to claims 1 and 9 of the ’648 patent, we determine proposed claims 16 and 20 are directed to the abstract idea of receiving, processing, and displaying of data, which is a mental process that can be

performed in the human mind and using pen and paper. Ex. 1011, 11:11–16:11 (considering ’996 patent, claim 1), 17:19–20:27 (considering ’648 patent, claim 1). In particular, proposed claims 16 and 20 are directed to the abstract idea of: “(1) transmitting a request for a map of certain locations, (2) receiving the map containing those locations and associated rules, and (3) interacting with other data sources to alter the map based on rules.” *Id.* at 20:21–27; *see also id.* at 12:23–13:3 (referring to claim 1 of the ’996 patent as being directed, in part, to “making a determination based on . . . data (determining the status of the location based on rules)”).

Indeed, it is perhaps telling that Patent Owner’s Motion to Amend and Reply do not address, in any fashion, the substance of the District Court Dismissal. Instead, Patent Owner notes that proposed claims 16 and 20 were not at issue in the District Court litigation, and, at the time of Patent Owner’s Reply (September 14, 2018), the District Court Dismissal was on appeal to the Federal Circuit. *See* Reply 4 n.1. However, on November 9, 2018, the day after hearing oral arguments, the Federal Circuit affirmed the District Court Dismissal per Federal Circuit Rule 36.¹¹ *See Location Based Services, LLC v. Niantic, Inc.*, Case No. 18-1464 (Fed. Cir.), ECF Nos. 32 & 33. At the oral hearing in this proceeding on December 11, 2018, Patent Owner’s counsel was asked for comments concerning the District Court Dismissal.

¹¹ Rule 36 pertinently provides: “The court may enter a judgment of affirmance without opinion, citing this rule, when it determines that any of the following conditions exist and an opinion would have no precedential value: (a) the judgment, decision, or order of the trial court appealed from is based on findings that are not clearly erroneous; . . . (c) the record supports summary judgment, directed verdict, or judgment on the pleadings; . . . or (e) a judgment or decision has been entered without an error of law.”

Tr. 39:3–40:11. Patent Owner’s counsel asserted simply that “the additional limitations” in proposed claims 16 and 20, versus claims 1 and 9 of the ’648 patent directly at issue in the District Court Dismissal, make the claims at issue here non-abstract. *Id.*

We disagree with that assertion. In considering the “location interaction rules” recited in claims 1 and 9 of the ’648 patent and in the proposed claims 16 and 20 at issue here, the District Court Dismissal stated “‘rules’ in practice are nothing more [than] information that can be analyzed by a generic computer, or by the human brain” (Ex. 1011, 15:5–8), and “[r]ules’ are information that can be analyzed by a computer or the human brain” (*id.* at 20:24–25). Thus, the District Court concluded claims 1 and 9 of the ’648 patent are directed to “the abstract idea of transmitting, receiving, and updating information, as well as actions that may be performed mentally,” including the use of location interaction rules. *Id.* at 15:7–8, 20:25–27. The modification of location interaction rules via user interaction rules as recited in proposed claims 16 and 20 falls under the foregoing characterization and analysis of the location interaction rules by the District Court, and do not save proposed claims 16 and 20 from being abstract.

The District Court Dismissal even considered “user”-specific claim limitations, similar to the final, modifying limitation of proposed claims 16 and 20, and still determined the claims are directed to abstract ideas. *Id.* at 15 n.5, 16:25–17:18. The pertinent claims were in the ’996 patent, the ’114 patent, and the ’610 patent, not the ’648 patent. Nonetheless, the District Court Dismissal noted “the four patents share the same abstract, detailed description and figures,” with the ’996 patent being the earliest filed

patent, the '648 patent being a continuation of the '996 patent, the '114 patent being a continuation of the '648 patent, and the '610 patent being a continuation-in-part of the '114 patent. *Id.* at 2:13–21. We, therefore, determine the District Court Dismissal's consideration of claims in the other three patents is pertinent to claims 16 and 20 presently proposed for the '648 patent.

For example, the District Court noted that claim 19 of the '996 patent recites “that when determining the information of the location, the ‘computer program product’ not only considers information about the locations, but also information about the user of the program,” and determined “this distinction is insufficient to take claim 19 out of abstractness.” Ex. 1011, 15 n.5; *see also id.* at 16:25–17:18 (“As to claim 19, even assuming that an interaction between user and location interaction rules were required in the penultimate clause, all this means is that there must be some ‘correlation’ between user and location ‘rules,’ so claim 19 is still directed to an abstract idea.”); Tr. 39:23–40:11 (Patent Owner's counsel stating that “a limitation in one of the claims of the '996 patent . . . is somewhat similar” to proposed claims 16 and 20, but not identifying any difference(s) that would distinguish the District Court Dismissal's analysis from applying here).

The District Court Dismissal also considered claim 1 of the '114 patent, which recites a “method for a display device to receive a map,” wherein the map includes “one or more locations associated with one or more location interactions rules verifiable via one or more monitoring devices,” and the method comprises “interacting with one or more monitoring devices to alter the map on the display device as a function of the one or more location interaction rules as modified by one or more user

interaction rules associated with the user of the display device.” Ex. 1011, 4:23–5:5. The District Court Dismissal held claim 1 of the ’114 patent to be directed to an abstract idea. *Id.* at 21:27–23:8. Indeed, the District Court Dismissal concluded “if one of [the ’648 patent and the ’114 patent] is abstract, so too is the other,” because “the language in claim 1 of both patents is nearly identical,” except that claim 1 of the ’114 patent refers to modifying location interaction rules with user interaction rules. *Id.* at 22:7–23:8. Addressing that difference, the District Court Dismissal concluded that “[a]ll this means is that the interaction with monitoring devices to alter the map not only takes into account rules about locations, but also rules about the person requesting the map,” and such “processing of additional information does not save claim 1” of the ’114 patent from being abstract like claim 1 of the ’648 patent. *Id.* at 23:1–8. This analysis and conclusion as to claim 1 of the ’114 patent applies equally well to the proposed claims 16 and 20 at issue here.¹²

Having concluded that claims 16 and 20 are directed to an abstract idea, we next consider whether the abstract idea is integrated into a practical application, pursuant to the USPTO § 101 Memorandum, “Revised Step 2A,” “Prong Two” (84 Fed. Reg. at 54–55).

A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception,

¹² Without belaboring the point, the District Court Dismissal’s analysis of claim 7 of the ’610 patent, which recites a “system for receiving a map” akin to the “computer program product” of proposed claim 20 at issue here, further supports our conclusion that claim 20 is directed to an abstract idea. Ex. 1011, 5:5–16, 23:9–24:25.

such that the claim is more than a drafting effort designed to monopolize the judicial exception.

Id. at 54. We conclude proposed claims 16 and 20 do not integrate the abstract idea into a practical application. Viewing this issue in a light most favorable to patentability, we note the claims recite that compliance with the location interaction rules is “verifiable via one or more monitoring devices.” However, as noted by the District Court Dismissal, the claims do not recite the affirmative step of actually verifying such compliance. Ex. 1011, 19:9–20. Indeed, the District Court Dismissal effectively, and persuasively, addresses the substance of the “practical application” prong of the USPTO § 101 Memorandum in determining that claims 1 and 9 of the ’648 patent were not established to be directed to improving an existing technological process, or overcoming deficiencies in the prior art. *Id.* at 14:3–15:1, 18:16–20:15; USPTO § 101 Memorandum, 84 Fed. Reg. at 55 (one consideration indicative of integrating into a practical application is that “an additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field”).

We have considered Petitioner’s proposed modification of the District Court Dismissal’s brick-and-mortar analogy for claims 1 and 9 of the ’648 patent (Ex. 1011, 21:1–26) to the proposed claims 16 and 20 at issue here. See Opp. 5–6; Reply 2; Sur-Reply 3–4. We conclude that the analogy’s treatment of the claimed modifying of a location interaction rule via a user interaction rule to be, at best, strained. Therefore, we do not rely on the analogy to support our decision.

For all of the foregoing reasons, we conclude proposed claims 16 and 20 are both directed to an abstract idea.

Proposed Dependent Claims 17–19 and 21

Petitioner contends the additional limitations of dependent claims 17 and 18 do not make the claims any less abstract, because they simply specify (i) particular examples of location interaction rules (a permitted amount of time, or a permitted number of visits), and (ii) receiving a status associated with those rules to be displayed to the user. Opp. 10; Sur-Reply 5–6.

Patent Owner asserts Petitioner fails to address the recited “receiving a status” which is “a function of one or more location interaction rules” for display to the user. Reply 3–4. We disagree. Petitioner addresses the “receiving a status” limitations. Compare Opp. 10 (“Claims 17 and 18 are directed to *receiving additional information . . .*”), with Mot. App. A (pg. 3) (claims recite “*receiving a status*”) (respective emphases added); Sur-Reply 5–6.

Patent Owner, further, does not present any argument seeking to establish that the “status” limitations save claims 17 and 18 from being abstract. See Reply 3–4; Tr. 38:24–40:11. Indeed, the District Court Dismissal considered similar limitations in a similar claim, and concluded such limitations did not save the claim from being abstract. Ex. 1011, 12:1–16:11 (discussing claim 1 of the ’996 patent). We agree with the conclusion reached in the District Court Dismissal, for the reasons provided therein. See *id.* Moreover, claims 17 and 18 do not integrate the judicial exception into a practical application.

Petitioner contends, concerning the additional limitations in dependent claims 19 and 21 reciting the display of a visual incentive in the form of a prize for being the first to visit specified locations on the map, that “merely displaying information does not make the claims less abstract for purpose of

Alice Step 1.” Opp. 10–11; Sur-Reply 6. Patent Owner asserts Petitioner “incorrectly presumes that the use of words such as ‘displaying’ renders claims abstract,” and “[t]his is not so where — as here — claims are directed to more than just a result, but a way of achieving it.” Reply 4.

We agree with Petitioner’s premise that the limitation recited in claims 19 and 21 simply recites the display of information. That is, the claims do not recite any result achieved by using the displayed visual incentive information. Patent Owner does not explain, much less cite to any disclosures of the ’648 patent which reflect, what the result might be, or how it is achieved by the claimed invention. See Reply 4. It appears that the District Court Dismissal did not consider any claims containing an analogous limitation to the visual incentive display limitation of claims 19 and 21. Nonetheless, we conclude that claims 19 and 21, like the claims that were at issue in the District Court Dismissal, are directed to an abstract idea because they concern requesting and receiving information, making a determination based on the information, and communicating the result to a user, all of which can be performed mentally or on pen and paper. See Ex. 1011, 8:24–9:27 (statement of law), 11:11–16:11 (considering ’996 patent, claim 1), 17:19–20:27 (considering ’648 patent, claim 1). Moreover, claims 19 and 21 do not integrate the judicial exception into a practical application.

For all of the foregoing reasons, we conclude proposed claims 17–19 and 21 are each directed to an abstract idea.

iii) *Alice Step 2: Whether Proposed Claims 16–21
Contain an Inventive Concept*

Proposed Independent Claims 16 and 20

Petitioner contends proposed claims 16 and 20 do not contain an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application. Opp. 6–9. According to Petitioner, the claimed elements are well-understood, routine, and conventional, and are performed using generic computer equipment, as the District Court Dismissal found in connection with claims 1 and 9 of the '648 patent. *Id.* at 6–7 (citing Ex. 1011, 28–29). In addressing the final, modifying step of proposed claims 16 and 20, Petitioner contends that “step is well-understood, routine, and conventional,” as established by Gellberg and Inoue. *Id.* at 7 (citing Ex. 1005, 8:23–9:8; Ex. 1010, 7:11–52; Ex. 1009 ¶ 12); Sur-Reply 4–5.¹³ Petitioner also carries forward its brick-and-mortar analogy from *Alice* step 1. Opp. 7–8.

Patent Owner responds that the evidence does not support Petitioner’s contention that the claimed elements are well-understood, routine, and conventional, and are performed using generic computer equipment. Reply 2–3. Patent Owner does not address the District Court Dismissal in this regard. *Id.* at 3. Instead, Patent Owner focuses on Petitioner’s reliance

¹³ The Sur-Reply cites, in addition to Gellberg and Inoue, to Chatterjee, Hall, and DeKock. Sur-Reply 4–5. We decline to consider these additional references in relation to Petitioner’s § 101 challenge to the proposed claims, because Petitioner did not rely on them in that regard in the initial Opposition. See 37 C.F.R. § 42.23(b); Paper 22 (“The Sur-Reply . . . should only respond to arguments made in Patent Owner’s Reply (Paper 19)”); Trial Practice Guide Update (Aug. 2018), at 14–15; Reply 3 (addressing only Gellberg and Inoue).

on Gellberg and Inoue, and argues that the disclosures therein cited by Petitioner do not disclose the final, modification step of claims 16 and 20. *Id.* Patent Owner, also, continues its objections to Petitioner's brick-and-mortar analogy. *Id.*

For essentially the same reasons articulated in the District Court Dismissal in relation to claims 1 and 9 of the '648 patent, we determine proposed claims 16 and 20 do not contain an inventive concept, because the individual and ordered combination of the claimed elements additional to the abstract idea recite merely well-understood, routine, and conventional activity. Ex. 1011, 25:2–26:23 (considering individual limitations of '996 patent, claims 1 and 19), 28:19–29:10 (considering individual limitations of '648 patent, claims 1 and 9), 30:23–31:10 (considering individual limitations of '114 patent, claim 1), 34:23–37:23 (considering ordered combination of claim limitations).

The '648 patent itself further evidences this conventionality. The '648 patent contains an extended discussion of the hardware and software components used to perform the claimed methods, including the claimed “display device.” Ex. 1001, 2:60–3:2, 3:3–5:41 (describing Fig. 1). That discussion presumes a substantial level of familiarity with such components by “[t]hose with skill in the computing arts.” *Id.* at 2:60. Indeed, even the claimed monitoring device may be a simple networked camera. *Id.* at 6:37–48, 7:41–46. Thus, the '648 patent concludes that the claimed methods may be implemented by “virtually any combination of hardware, software, and/or firmware . . . depending upon the design choices of the system designer.” *Id.* at 2:3–9.

As with *Alice* step 1, we do not rely on Petitioner’s proposed modification of the District Court Dismissal’s brick-and-mortar analogy to support our decision in relation to *Alice* step 2. Nor do we rely on Gellberg or Inoue as establishing the conventionality of the final, modifying step of proposed claims 16 and 20. That modifying step is part of the abstract idea recited in claims 16 and 20, so conventionality does not come into play in *Alice* step 2. See *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290–91 (Fed. Cir. 2018) (“It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.”).

For all of the foregoing reasons, we conclude proposed claims 16 and 20 do not contain an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application. Therefore, proposed claims 16 and 20 are not patentable under 35 U.S.C. § 101. We, accordingly, deny the Motion to Amend, insofar as it seeks to add proposed claims 16 and 20 to the ’648 patent.

Proposed Dependent Claims 17–19 and 21

Petitioner contends, in relation to proposed dependent claims 17 and 18, that the claims “do not recite anything that is non-routine, or un-conventional, or that would require something more than generic computer components (e.g., a server and display device) performing known computer functions of transmitting, receiving, and displaying data.”
Opp. 10.

Patent Owner asserts Petitioner fails to address the recited “receiving a status” which is “a function of one or more location interaction rules” for display to the user. Reply 3–4. We disagree.

As discussed in Section III.B.3.b.ii above, the receiving of a status is part of the abstract idea recited in claims 17 and 18. See Ex. 1011, 12:1–16:11 (discussing ’996 patent, claim 1). As pertinent to *Alice* step 2, we agree with Petitioner’s contention that the claims recite only routine and conventional computer components for implementing the abstract idea. Indeed, the District Court Dismissal considered similar limitations in a similar claim, and concluded the claim did not contain an inventive concept, because the individual and ordered combination of the claimed elements additional to the abstract idea recite merely well-understood, routine, and conventional activity. Ex. 1011, 25:2–26:19 (considering individual limitations of ’996 patent, claim 1), 34:23–37:23 (considering ordered combination of claim limitations). We agree with the District Court in that regard, and conclude further that the ’648 patent itself evidences this conventionality. See *id.*; Ex. 1001, 2:3–9, 2:60–5:41, 6:37–48, 7:41–46.

Petitioner contends, in relation to proposed dependent claims 19 and 21, that “the map display is still nothing more than a conventional and routine function of a computer component, and the displayed ‘visual incentive,’ albeit ‘in the form of a prize for being the first to visit all of a number of specified locations on the map’ was conventional in the prior art,” as established by Gellberg. Opp. 11 (citing Ex. 1005, 7:3–11, 8:11–22; Ex. 1009 ¶ 16). Patent Owner asserts “Petitioner’s argument regarding [Gellberg] purportedly disclosing a visual incentive is, essentially, bogus.” Reply 4.

As discussed above in connection with *Alice* step 1, the limitation recited in claims 19 and 21 simply recites the display of information, and is thereby directed to an abstract idea. Therefore, conventionality of that limitation does not come into play in *Alice* step 2 (*see BSG Tech, supra*), and we do not rely on Gellberg as establishing the conventionality of the visual incentive display limitation. We agree with Petitioner’s contention that claims 19 and 21, otherwise, recite only routine and conventional computer components for implementing the abstract idea — that is, the “display device” recited in proposed claims 16 and 20. *See* Ex. 1001, 2:3–9, 4:39–46.

For all of the foregoing reasons, we conclude proposed claims 17–19 and 21 do not contain an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application. Therefore, proposed claims 17–19 and 21 are not patentable under 35 U.S.C. § 101. We, accordingly, deny the Motion to Amend, insofar as it seeks to add proposed claims 17–19 and 21 to the ’648 patent.

iv) *Patent Owner’s Duty of Candor*

Petitioner contends the Motion to Amend should be denied because Patent Owner violated the duty of candor under 37 C.F.R. § 42.11, in failing to disclose the District Court Dismissal to the Board, and in failing to explain how proposed claims 16–21 are patent-eligible in view of the District Court Dismissal. Opp. 2, 11. Patent Owner opposes, on the basis that proposed claims 16–21 “have not been found patent ineligible in any court, and they are distinct from” the ’648 patent claims found to be patent-ineligible in the District Court Dismissal. Reply 4 n.1. Patent Owner additionally relies on the fact that, at the time of the Motion to Amend

(May 2018) and the Reply (September 2018), the District Court Dismissal was on appeal to the Federal Circuit (instituted by a Notice of Appeal filed in January 2018¹⁴). *Id.*

Patent Owner is correct that the claims at issue in the District Court Dismissal and the proposed claims 16–21 at issue here are not identical. However, they are substantially similar to each other, especially when the entirety of the claims at issue in the District Court Dismissal are considered, as discussed in detail above in Section III.B.3.b.ii–iii. We are, therefore, troubled by the fact that Patent Owner’s counsel did not bring the District Court Dismissal to our attention at the time that the Motion to Amend was filed. *See, e.g.*, MPEP § 2001.06(c) (duty to disclose extends to information from related litigation that is material to a matter pending before the USPTO). In that regard, we note that the same law firm has represented Patent Owner during the District Court and Federal Circuit litigation, and in the present proceeding.

Nevertheless, the only issue presented to us on this record is whether we should grant Petitioner’s request to deny the Motion to Amend, as a result of Patent Owner’s failure to disclose the District Court Dismissal to the Board. *Opp.* 2, 11. In other words, Petitioner asks that we impose a sanction for Patent Owner’s alleged misconduct, pursuant to 37 C.F.R. § 42.11(d). *See id.* at 11. That Rule specifies several procedural prerequisites that must be satisfied for a party to request sanctions for an alleged violation of the duty of candor. Those prerequisites include that (i) a motion for sanctions be made separately from any other motion, (ii) the

¹⁴ *See Location Based Services, LLC v. Niantic, Inc.*, Case No. 5:17-cv-04413 (N.D. Cal. Jan. 18, 2018), ECF No. 67.

Board must authorize the motion prior to its filing, and (iii) the opposing party is given 21 days to cure the alleged violation. 37 C.F.R. § 42.11(d)(2). None of those prerequisites have been met here. *See, e.g.*, Tr. 19:10–20:1. We deny Petitioner’s request on that basis. We, therefore, need not reach a final determination as to whether any violation of the duty of candor has occurred here or, if so, what sanction to impose as a result.

c) Patentability Under 35 U.S.C. § 102 and § 103, based on Gellberg

Petitioner contends the Motion to Amend should be denied, in part, because proposed claims 16, 19, 20, and 21 are unpatentable under 35 U.S.C. § 102(b) or § 103 as anticipated by or obvious over Gellberg. Corr. Pet. 10–33, 37–39, 44–46 (addressing claims 1, 4, 9, and 13 of the ’648 patent, for which claims 16, 19, 20, and 21 are proposed as respective substitutes); Opp. 12–16. Petitioner cites the testimony of Mr. Christopher K. Wilson in support. Exs. 1004, 1009. Patent Owner opposes Petitioner’s assertions. Mot. 14–18, 24–25; Reply 4–9.

i) Law of Anticipation

“Anticipation requires that all of the claim elements and their limitations are shown in a single prior art reference.” *In re Skvorecz*, 580 F.3d 1262, 1266 (Fed. Cir. 2009).

ii) Law of Obviousness

A patent 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 said

subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness, if made available in the record. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

iii) Level of Ordinary Skill in the Art

Petitioner contends a person having ordinary skill in the art pertaining to the ’648 patent “would have a Bachelor’s of Science in electrical engineering or a related subject and two or more years of experience working with mapping and/or navigation systems,” and “[l]ess work experience may be compensated by a higher level of education, and vice versa.” Corr. Pet. 7–8 (citing Ex. 1004 ¶¶ 33–34). Patent Owner “does not contest this definition of a POSITA.” Mot. 4. We determine the level of ordinary skill proposed by Petitioner is consistent with the ’648 patent and the asserted prior art, and we adopt that level in deciding the patentability of Patent Owner’s proposed claims.

iv) Gellberg Disclosure

Gellberg discloses a method of “route registration” performed “in connection with transport of goods.” Ex. 1005, 1:5–9.¹⁵ Figure 1 of Gellberg is reproduced below.

¹⁵ When citing to Gellberg, we refer to the original page numbering at the top of each page. As noted in the Institution Decision, the parties have been inconsistent in this regard. See Inst. Dec. 10 n.4.

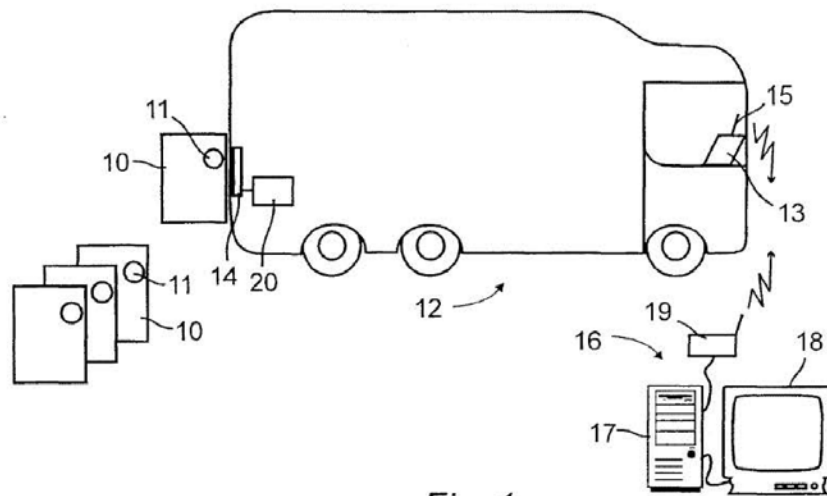


Fig. 1

Figure 1 illustrates a refuse disposal system, in which mobile unit 13 monitors the route of vehicle 12 as the vehicle follows an itinerary for collecting refuse from containers 10. *Id.* at 4:9–14, 7:3–11 (describing Fig. 4), 8:17–22 (describing Fig. 5). Each container 10 is provided with a transponder 11 that communicates with communication unit 20 on vehicle 12 via aerial means 14, as the container is placed in an emptying device of vehicle 12. *Id.* at 4:14–23. The communication range is “below a certain value” such that “mobile unit 13 receives a confirmation that the measure of emptying a certain refuse container [10] is performed.” *Id.* at 6:1–14, 4:21–23. In this way, mobile unit 13 is able to record the successful emptying of each container 10, at each visited location along the collection route itinerary. *Id.* at 7:31–8:4, 8:11–16.

Mobile unit 13 may store “routines for handling deviations in connection with emptyings.” *Id.* at 8:23–25. “Such deviations may, e.g., be that a refuse container is missing or that the measure could not be completed for some reason.” *Id.* at 8:25–27. “If a deviation is to be reported, the driver starts this program routine in the mobile unit.” *Id.* at 8:27–31.

v) *Proposed Independent Claims 16 and 20*

Proposed claim 16 recites a method including “modifying said one or more location interaction rules via one or more user interaction rules,” and proposed claim 20 recites a computer program product with instructions for performing the same modification. Mot. App. A (pgs. 2–4).

Petitioner’s Opposition to the Motion to Amend states Gellberg “discloses and/or renders obvious the *modifying* step.” Opp. 12. However, the Opposition offers no basis for concluding the modifying step would have been obvious over Gellberg if the modifying step is not, in fact, disclosed by Gellberg. *Id.* at 12–14. We, thus, understand the obviousness alternative of Petitioner’s proposed unpatentability based on Gellberg to refer to the obviousness theories outlined in the Corrected Petition for the ’648 patent claims (*see* Inst. Dec. 23), not to the modifying step added to those claims by proposed claims 16 and 20.

For the recited “location interaction rule[],” Petitioner contends Gellberg correspondingly discloses that the driver must empty a container at each visiting point location along the collection route. Corr. Pet. 26–27 (citing Ex. 1005,¹⁶ Abstract, 2:21–24, 4:11–12, 6:6–8, 7:12–8:27, 10:4–6). Patent Owner does not challenge this contention, which we find to be supported by a preponderance of the evidence cited by Petitioner. *See, e.g.*, Ex. 1005, 4:11–12, 6:6–8, 7:31–8:1, 8:10–27.

Petitioner next contends Gellberg discloses the claimed modifying “because the driver can input a ‘deviation report’ to the [mobile unit 13] that

¹⁶ This listing modifies the Gellberg citations in the Corrected Petition, for consistency with other citations in this Decision referring to the original page numbering at the top of each page.

overrides the [location] interaction rules requiring the user to visit each location and carry out a measure there.” Opp. 12 (citing Ex. 1005, 8:23–9:8). In Petitioner’s view, Gellberg’s deviation report is a “user interaction rule” as claimed, “because the report is entered by and attached to a specific driver.” *Id.* at 12–13. Petitioner cites Gellberg’s description of exemplary deviations being “that a refuse container is missing or that the measure could not be completed for some reason” (Ex. 1005, 8:25–27 (emphasis omitted)) as “indicat[ing] that the user will not be able to access the location and empty the refuse can for some reason,” “thereby negating the location interaction rules otherwise requiring the user to do this.” Opp. 13 (citing Ex. 1005, 8:25–27, 8:32–9:2; Ex. 1009 ¶ 20).

Patent Owner maintains, in part, that Gellberg does not disclose the claimed modifying step. Mot. 16; Reply 4–7. In particular, Patent Owner contends Gellberg’s deviation report “is in no way a ‘user interaction rule,’” because it “is not a ‘rule,’ but a statement of fact on the part of the driver . . . that ‘a refuse container is missing or that the measure could not be completed for some reason.’” Reply 5 (citing Ex. 1005, 8:25–27). In Patent Owner’s view, Gellberg’s deviation report is related to the location and not to the user, and therefore is not a user interaction rule. *Id.* at 5–6.

Petitioner replies that Gellberg’s deviation information is a “rule” because Gellberg’s “system uses *this information as a rule* to negate the location interaction rule requiring the driver to visit the location,” which is how the ’648 patent’s system works. Sur-Reply 9 (citing Ex. 1001, 8:44–47).

We find a preponderance of the evidence does not support Petitioner’s contention that Gellberg’s deviation report corresponds to the claimed

modifying of a location interaction rule via a user interaction rule. A user interaction rule is a rule governing how a specific user may interact with a location, based on a characteristic of the specific user that may differentiate the specific user from other users. *See supra* Section III.B.1.a (claim construction). By contrast, Gellberg describes its deviation report as indicating one of two things: “that a refuse container is missing,” or more broadly “that the [container-emptying] measure could not be completed *for some reason*.” Ex. 1005, 8:23–28 (emphasis added).

Concerning the first deviation, a missing refuse container is a characteristic of the location, and does not correspond to a characteristic of the specific driver attempting to empty the refuse container. The container would be missing regardless of which driver was assigned to empty the container(s) at the location.

Concerning the second deviation, Gellberg fails to disclose any specific examples of “some reason” why the container could not be emptied. Ex. 1005, 8:23–28. Petitioner’s declarant, Mr. Wilson, speculates that the reason might be that “the user cannot find the container, or will not be able to access the location and empty the refuse can for some reason (e.g., the owner placed it behind a locked gate to which the collector (user) is not provided access or did not put the can out for collection).” Ex. 1009 ¶ 20; Sur-Reply 8–9. Such specific scenarios are not disclosed in Gellberg. *See, e.g.*, Ex. 1005, 8:23–28. Moreover, the speculated scenarios do not correspond to a characteristic of the specific driver attempting to empty a refuse container. If a container is behind a locked gate, or was not put out for collection, then the container would be inaccessible regardless of which driver was assigned to empty the container at the location.

Petitioner’s counsel additionally speculates that the “some reason” might be that “the driver had an accident or injury and can no longer continue with the route.” Sur-Reply 9 (citing Ex. 1009 ¶ 20). However, Mr. Wilson’s testimony does not refer to a user accident or injury, and moreover such a specific scenario is not disclosed in Gellberg. See Ex. 1009 ¶ 20; Ex. 1005, 8:23–28.

For the foregoing reasons, we find a preponderance of the evidence fails to establish Gellberg’s deviation report corresponds to modifying a location interaction rule via a user interaction rule, as recited in proposed claims 16 and 20. We, therefore, do not rely on the alleged unpatentability of claims 16 and 20 as anticipated by or obvious over Gellberg as a basis to deny the Motion to Amend.

vi) *Proposed Dependent Claims 19 and 21*

Proposed claim 19 depends from proposed claim 16, and proposed claim 21 depends from proposed claim 20, each to recite that “the map display show[s] a visual incentive in the form of a prize for being the first to visit all of a number of specified locations on the map.” Mot. App. A (pgs. 3–4).

For the reasons provided above in Section III.B.3.c.v concerning the parent claims 16 and 20, we determine a preponderance of the evidence fails to establish claims 19 and 21 are unpatentable as anticipated by or obvious over Gellberg.

We determine, further, that a preponderance of the evidence fails to support Petitioner’s contention that Gellberg discloses the limitation of claims 19 and 21. See Opp. 14–16. Specifically, according to Petitioner,

Gellberg discloses displaying a visual incentive in the form of a prize because Gellberg's mobile unit 13 displays a map showing the locations to be visited along the driver's refuse collection route, and updates the map by filling in or changing the color of location-identifying circles on the map as each location is visited and the containers are emptied. *Id.* at 14–15 (citing Ex. 1005, Figs. 4 & 5, 7:3–11, 8:11–22; Ex. 1009 ¶ 23). In Petitioner's view, this marking "would create incentive to be the first [driver] to visit un-served locations," because a driver "cannot receive any payment if all the service locations have been served by other [drivers]." *Id.* at 15–16 (citing Ex. 1005, 7:31–8:16, 10:12–16, 10:32–33; Ex. 1009 ¶ 24).

We agree with Patent Owner's position that Gellberg does not disclose a "prize" for "being the first to visit" a location. Mot. 17; Reply 7–9. Petitioner's stretching of the term "prize" to encompass a visual indicator of the driver of vehicle 12 successfully completing his or her job is unreasonably broad, and is not supported by the '648 patent specification cited by Petitioner. *See* Opp. 14 (citing Ex. 1001, 10:58–65). That disclosure reflects that "prizes" such as a movie pass or a hamburger may be awarded to encourage users to visit every location on a map, such as part of a game, or while attending a trade show. Ex. 1001, 10:48–65. The immediately following disclosure reflects that visual incentives "can be provided to employees that must traverse an area for cleaning, visiting, security checks or the like to ensure compensation in accordance with user interaction rules," *without* suggesting that the visual incentive is a "prize" in such a context. *Id.* at 10:65–11:2. Gellberg's disclosure is more akin to the '648 patent's description of non-prize visual incentives than to the '648 patent's description of prize visual incentives.

Further, Mr. Wilson's notion that Gellberg's vehicle drivers somehow compete to be the first to visit a given location, to empty the refuse containers at that location and therefore be compensated, does not have any support in the Gellberg disclosure. See Ex. 1009 ¶¶ 23–24 (citing Ex. 1005, 7:3–8:22, 10:12–16, 10:32–33). In particular, none of the cited disclosures reflect how the drivers are compensated, much less indicate that the drivers are compensated on a location-by-location basis. The cited disclosures also do not reflect that a given location along one driver's route might also be assigned to another driver's route. Instead, Gellberg discloses that each location is assigned to one driver's itinerary of locations, and the assigned driver's progress along the assigned itinerary is monitored to ensure that the driver completes the itinerary, with corresponding reports being made to a base station. Ex. 1005, 7:3–8:22, 10:12–16, 10:32–33.

For the foregoing reasons, we conclude a preponderance of the evidence fails to establish that Gellberg discloses displaying a visual incentive in the form of a prize for being the first to visit all locations specified on a map, as recited in proposed claims 19 and 21. We, therefore, do not rely on the alleged unpatentability of claims 19 and 21 as anticipated by or obvious over Gellberg as a basis to deny the Motion to Amend.

d) Patentability Under 35 U.S.C. § 103, based on DeKock and Inoue

Petitioner contends the Motion to Amend should be denied, in part, because proposed claims 16 and 20 are unpatentable under 35 U.S.C. § 103 as obvious over DeKock and Inoue. Corr. Pet. 55–70, 74–76 (addressing claims 1 and 9 of the '648 patent, for which claims 16 and 20 are proposed as respective substitutes); Opp. 16–24. Petitioner cites the testimony of

Mr. Wilson in support. Exs. 1004, 1009. Patent Owner opposes Petitioner's assertions. Mot. 20–23, 24–25; Reply 9–11.

i) *DeKock Disclosure*

DeKock discloses a system for providing traffic information to a plurality of mobile users connected to a network. Ex. 1007, 1:12–15.

Figure 1 of DeKock is reproduced below.

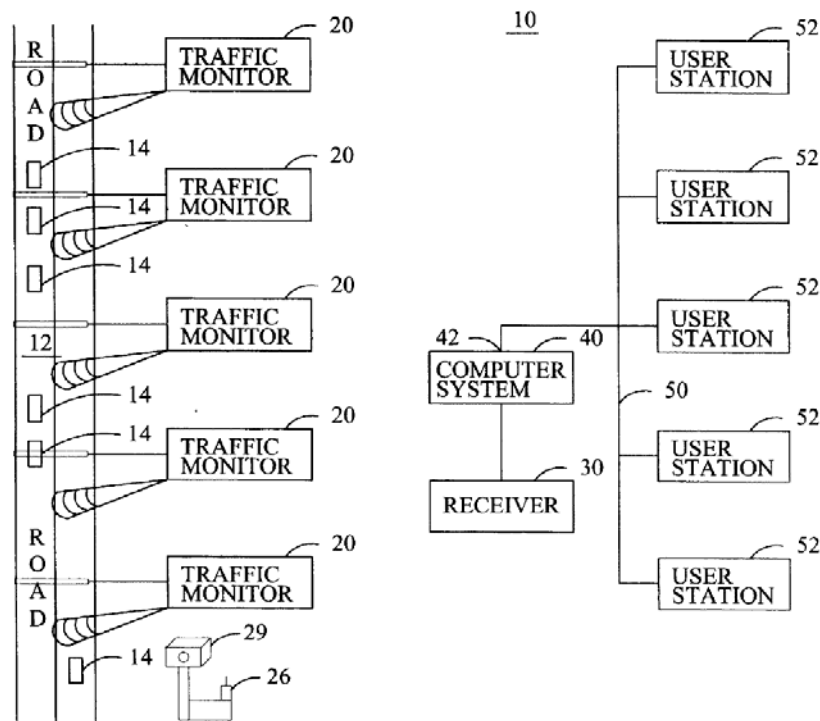


FIG. 1

Figure 1 illustrates system 10 for providing information to user stations 52 concerning traffic conditions on road 12. *Id.* at 6:13–25. Several traffic monitors 20 arranged along road 12 detect traffic conditions, such as the speed or frequency of vehicles 14 traveling along road 12. *Id.* at 6:16–23. The monitored information is wirelessly transmitted to computer system 40, which compiles and stores the information to provide to user stations 52 via network 50. *Id.* at 8:33–63, 9:7–9.

User station 52 may be “a mobile unit in a car 60” travelling along a road being monitored by computer system 40. *Id.* at Fig. 4, 11:65–12:1, 12:35–39. In that event, user station 52 may request traffic information from computer system 40, and include the location of the user’s car 60 along with the request, so computer system 40 may respond with traffic information based on the location of the user’s car 60. *Id.* at 12:4–14.

Computer system 40, additionally, monitors the velocity of each user station 52 in a car 60 as the car travels along roads, and uses “a unique identification code” for each user to develop a database tracking the location and velocity of each user over time. *Id.* at 12:58–13:5. Computer system 40 uses this information, either alone or in connection with additional information provided by traffic monitors 20, to generate traffic condition data to provide to user stations 52. *Id.* at 13:5–34.

Figure 8 of DeKock is reproduced below.

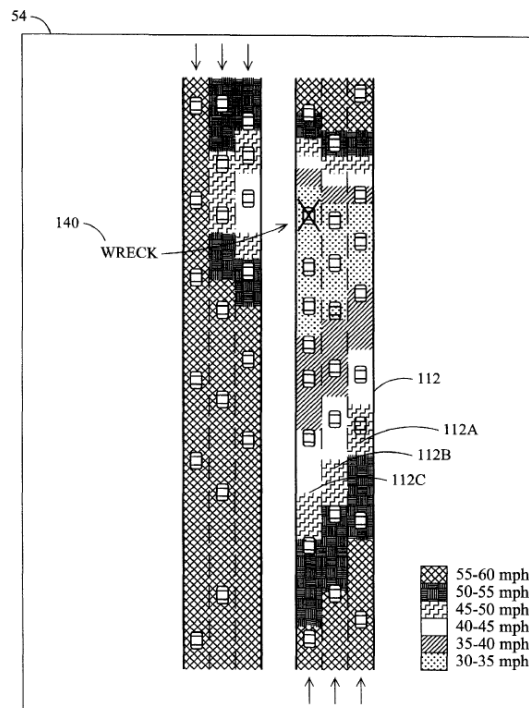


FIG. 8

Figure 8 illustrates display unit 54 of user station 52, showing traffic condition information provided by computer system 40 to a user of user station 52. *Id.* at 9:7–21, 11:54–56. The information reflects, via pattern coding, the average vehicle speed (or other traffic condition(s)) along various portions of each individual lane 112A–112C of divided freeway road 112. *Id.* at 9:35–46, 11:56–62.

ii) Inoue Disclosure

Inoue discloses a “route setting device,” disposed within a vehicle, to calculate a suitable route for the vehicle to travel from one location to another location. Ex. 1010, Abstract. The route setting device “consider[s] the number of passengers,” and “[w]hen the number is only one, that is only driver, . . . sets the destination route without including carpool lane,” or “when the number is two or more than two, . . . calculates the destination including the carpool lane.” *Id.*

iii) Analysis and Conclusion

Concerning the limitations of proposed claims 16 and 20 that are respectively carried forward from claims 1 and 9 of the ’648 patent, Petitioner contends the claimed subject matter is disclosed or rendered obvious by DeKock alone (that is, without consideration of Inoue). *See* Opp. 16–17; Corr. Pet. 55–70, 74–76. Patent Owner does not challenge these contentions, which we find to be supported by a preponderance of the evidence, as cited by Petitioner. We provide the following summary of our findings and determinations in this regard, to provide the appropriate context for the issues which are disputed between the parties.

We find DeKock discloses a display device (i.e., user station 52) that transmits a request for a map to computer system 40, and then receives the map for display to a user of user station 52. *See* Ex. 1007, 5:2–17, 9:14–21, 15:40–48, Figs. 3 & 8; Corr. Pet. 55–59, 63–64. We further find DeKock discloses using an identifier associated with the user of user station 52, corresponding to the “unique identification code” used by computer system 40, to monitor the velocity of users traveling along roads. Ex. 1007, 12:58–13:2; Corr. Pet. 59–60.

We determine it would have been obvious to modify DeKock’s system so that user station 52 would include the user’s unique identification code with each map request, because “the more often the user stations [52] provide their location and unique identification codes to the computer system [40], the more accurate and up-to-date the traffic database and map displays of the system would be.” *See* Corr. Pet. 61; Ex. 1004 ¶ 121. Including the user’s unique identification code in each map request would, further, “allow[] the computer system [40] to customize the returned map to preferences of the user (e.g., including certain points-of-interest).” *See* Corr. Pet. 61; Ex. 1004 ¶ 121. Given that DeKock already discloses sending the user’s location with each map request from user station 52, “simply adding the unique identification code to the request would enable the computer system to compute velocity from the map request . . . and thereby update the traffic information and map displays.” Corr. Pet. 61–62; Ex. 1004 ¶ 122; Ex. 1007, 11:65–12:20, 12:40–45, 12:58–13:3.

We find DeKock discloses location interaction rules, in that DeKock’s user stations 52 “highlight segments of a road [112] differently on the display depending on the particular traffic interactions within those

segments.” Corr. Pet. 64–67; Ex. 1007, Figs. 3 & 8, 9:7–21, 9:35–46, 11:54–62. We find the claimed locations correspond to DeKock’s road segments, and the claimed location interaction rules correspond to the “traffic interaction information” reported for each such location. *See, e.g.*, Inst. Dec. 6–7 (claim construction). In particular, each of DeKock’s patterns, identifying different traffic conditions on maps displayed by user stations 52, “reflects a rule for interacting” with the corresponding road segment. *See* Corr. Pet. 67. We find DeKock’s location interaction rules are verifiable via monitoring devices, corresponding to DeKock’s traffic monitors 20 and/or user stations 52. *See id.* at 68.

We further determine that DeKock discloses or renders obvious several computer system 40 interactions with traffic monitors 20 and user stations 52 to alter maps displayed by user stations 52, as a function of DeKock’s pattern-coding rules. *See* Corr. Pet. 69–70.

Thus, we turn to the final, “modifying” step of claims 16 and 20. Petitioner contends Inoue discloses the claimed modifying step. Opp. 17–18. For the recited “location interaction rule[],” Petitioner cites Inoue’s disclosure of a “carpool lane.” *Id.* at 18 (citing Ex. 1010, 7:37–55, Fig. 4). Patent Owner does not challenge Petitioner’s contention that carpool lane restrictions correspond to a location interaction rule being applied to the carpool lane’s location, and we find that contention to be supported by a preponderance of the evidence. In particular, Inoue describes a carpool lane as a freeway lane in which a “vehicle is allowed to travel . . . when plural passengers are riding together thereon, and is regulated (prohibited) when the passenger is only one (only driver).” Ex. 1010, 1:45–60.

Petitioner next contends Inoue discloses modifying Inoue's location interaction rule via a user interaction rule. In particular, according to Petitioner, Inoue's route setting device determines a suitable route for Inoue's vehicle based on "vehicle side data," which is information about the user's specific vehicle. Opp. 17 (citing Ex. 1010, Abstract). Inoue's vehicle side data, for example, includes the number of passengers in the user's vehicle. *Id.* (citing Ex. 1010, Abstract, 7:5–10). Petitioner contends Inoue discloses a user interaction rule, because Inoue's route setting device uses the number of passengers in the vehicle to compute a proposed route, including whether or not to include carpool lanes in the proposed route. *Id.* at 17–18 (citing Ex. 1010, 7:9–67). Petitioner concludes that "Inoue discloses the *modifying* step by including carpool lanes only if the user's vehicle has two or more passengers." *Id.* at 18.

Patent Owner maintains that Inoue does not disclose the claimed modifying step. Reply 9–11. This contention rests, in part, on Patent Owner's claim construction that "'location interaction rules' are associated with specific locations on a map, and therefore, not with a user," and that "the user interaction rules are rules which are associated with a specific user, and thus not with a location." *Id.* at 9. We have rejected that claim construction, for reasons provided above in Section III.B.1.a.

Patent Owner further asserts that "the 'location interaction rules' in Inoue would be whether a given section of road is designated as a HOV lane, thereby requiring a certain number of passengers in a vehicle, or not." Reply 10. Patent Owner contends that such rules are not user interaction rules, because they simply reflect "us[ing] vehicle data to determine if access is allowed, and data is not a rule." *Id.* Patent Owner concludes Inoue

also “fails to disclose ‘modifying’ the ‘location interaction rule,’” and in fact “[i]t would be antithetical to the purpose of *Inoue* to modify the location interaction rule, such [as] modifying the HOV lane rules to allow cars with fewer than 2 people access.” *Id.* at 10–11.

We conclude a preponderance of the evidence supports Petitioner’s contention that *Inoue* discloses the claimed modifying of a location interaction rule via a user interaction rule. A user interaction rule is a rule governing how a specific user may interact with a location, based on a characteristic of the specific user that may differentiate the specific user from other users. *See supra* Section III.B.1.a (claim construction). *Inoue* correspondingly discloses that the number of passengers in a vehicle — that is, the number of users in the vehicle — is used to determine whether the vehicle may use a carpool lane along a route calculated by *Inoue*’s route setting device. Ex. 1010, Abstract, 7:5–10, 7:38–55.

Concerning the claimed modification of a location interaction rule by a user interaction rule, we have construed that limitation to require that a specific user’s interaction with a location is governed by rules based on whether the specific user has a particular user characteristic, such that the specific user’s permitted interaction(s) with the location are modified with respect to other users’ permitted interaction(s) with the location. *See supra* Section III.B.1.a (claim construction). This occurs in *Inoue*, wherein the particular user characteristic is the number of users in the vehicle. When *Inoue*’s specific user includes at least two passengers in the vehicle, *Inoue*’s device may use carpool lanes in a proposed route, despite the device not being able to use carpool lanes in a proposed route for a single driver user.

Petitioner next contends that it would have been obvious to modify the DeKock system to include the claimed modifying step, in view of Inoue. Opp. 18–24. Patent Owner does not dispute this contention, which we find to be supported by a preponderance of the evidence. In particular, DeKock’s user stations 52 may be used to “calculate the best route, such as the fastest, between a starting point and a destination based on the current traffic conditions.” Ex. 1007, 14:26–29; Opp. 19. DeKock further discloses that “[t]he functionality of providing current traffic conditions and/or best route calculations may be overlaid on maps available for GPS systems, household computers, and mobile user stations,” and such maps may reflect “traffic information for each individual lane of [a] divided highway.” Ex. 1007, 14:34–37, 11:54–62 (describing Fig. 8); Opp. 21. Based on these disclosures, we agree with Petitioner’s contention that a person of ordinary skill would have been motivated to modify DeKock’s map displays, such as the map display shown in Figure 8, “to highlight commuter lanes if the user’s vehicle carried two or more passengers, so that the user was aware that he or she could legally use that lane.” Opp. 21–23; Ex. 1009 ¶¶ 37–39. Mr. Wilson testifies as to how the display of DeKock’s Figure 8 would be modified to achieve this goal. Opp. 22–24; Ex. 1009 ¶¶ 38, 40.

For the foregoing reasons, we conclude a preponderance of the evidence establishes that proposed claims 16 and 20 are unpatentable as obvious over DeKock and Inoue. We, therefore, deny the Motion to Amend, insofar as it seeks to add proposed claims 16 and 20 to the ’648 patent.

e) Patentability Under 35 U.S.C. § 103, based on Chatterjee and Hall

Petitioner contends the Motion to Amend should be denied, in part, because proposed claims 16, 17, and 20 are unpatentable under 35 U.S.C. § 103 as obvious over Chatterjee and Hall. Opp. 24–25. Petitioner cites the testimony of Mr. Wilson in support. Ex. 1009. Patent Owner opposes Petitioner’s assertions. Reply 11–12.

We conclude Petitioner’s Opposition to the Motion to Amend fails to establish the unpatentability of claims 16, 17, and 20 as being obvious over Chatterjee and Hall. In addressing the pertinent disclosures of Chatterjee, the Opposition states Chatterjee discloses location interaction rules, and modifying location interaction rules via user interaction rules. Opp. 24–25. However, little or no effort is made, in the Opposition, to establish how Chatterjee discloses the limitations of proposed claims 16 and 20 reciting a “display device,” or the display of a “map,” or “transmitting a request for the map,” or “an identifier associated with a user of the display device,” or “receiving the map.” *Id.* In those regards, the Opposition pertinently states only that “a parking enforcer’s terminal can receive[] parking data from a server and display a parking map.” *Id.* at 25 (citing Ex. 1012 ¶ 61; Ex. 1009 ¶ 74). The cited evidence, however, has very little to do with the indicated claim requirements of claims 16 and 20. *See* Ex. 1012 ¶ 61; Ex. 1009 ¶ 74.

The Opposition gives similarly short shrift to the pertinent disclosure(s) of Hall, and the reasons for modifying Chatterjee in light of Hall. Opp. 25. The Opposition relies on Hall as disclosing the claimed “monitoring devices,” in the form of “ultrasonic sensors (or other detectors) that monitor each parking space.” *Id.* (citing Ex. 1013, 13:36). The Opposition states that this disclosure would have motivated one to use

ultrasonic detector monitoring devices in Chatterjee, “to improve *Chatterjee*’s techniques for monitoring vehicles primarily at the entrances and exits with the techniques of *Hall* to monitor vehicles in individual parking spaces with ultrasonic sensors (or other detectors), such that the status of each individual parking spot can be more accurately determined.” *Id.* This discussion is unaccompanied by any consideration of Chatterjee’s existing “techniques for monitoring vehicles” (if any) that are being improved, or how they would be improved by using Hall’s ultrasonic detector monitoring devices. *Id.* The discussion, further, is confusing in first reciting monitoring “primarily at the entrances and exits,” but then referring to monitoring “individual parking spaces.” *Id.* In short, the Opposition does not clearly set forth exactly what is being modified in Chatterjee, or why, based on Hall.

Perhaps the missing details are provided in Mr. Wilson’s declaration testimony. In this regard, the Opposition states: “As explained in detail in Dr. Wilson’s^[17] Supplemental Declaration [i.e., Exhibit 1009], Chatterjee in view of Hall discloses each element of substitute claims 16, 17, and 20.” Opp. 24 (citing Ex. 1009 ¶¶ 42–78). To the extent the Opposition was written to rely on Mr. Wilson’s declaration testimony to supply the missing details we have identified above, the Opposition does not comply with our Rule specifying that “[a]rguments must not be incorporated by reference from one document into another document.” See 37 C.F.R. § 42.6(a)(3).

¹⁷ Mr. Wilson’s testimony indicates he has a bachelor’s degree in Physics, “and one year of graduate school” in Physics. Ex. 1004 ¶ 1. We can find no indication in his C.V. of any further education. *Id.* ¶ 1 & App. A (indicating “PhD Candidate, Astrophysics, University of California”). It appears, therefore, that Mr. Wilson is not a “Doctor.”

For the foregoing reasons, we conclude Petitioner's Opposition to the Motion to Amend fails to establish the unpatentability of claims 16, 17, and 20 as being obvious over Chatterjee and Hall. We, therefore, do not rely on the alleged unpatentability of claims 16, 17, and 20 as obvious over Chatterjee and Hall as a basis to deny the Motion to Amend.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Motion to Amend is *granted* as to cancelling claims 1–4, 6, 7, 9, 10, 13, and 14 of the '648 patent;

FURTHER ORDERED that the Motion to Amend is *denied* as to adding claims 16–21 to the '648 patent, because Patent Owner has not met its burden of production in asserting that those claims have written description support in the '648 patent;

FURTHER ORDERED that the Motion to Amend is *denied* as to adding claims 16–21 to the '648 patent, because those claims are unpatentable under 35 U.S.C. § 101; and

FURTHER ORDERED that the Motion to Amend is *denied* as to adding claims 16 and 20 to the '648 patent, because those claims are unpatentable under 35 U.S.C. § 103 as obvious over DeKock and Inoue.

IPR2017-01965
Patent 7,860,648 B2

PETITIONER:

Lionel M. Lavenue
Trenton A. Ward
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
lionel.lavenue@finnegan.com
trenton.ward@finnegan.com

Ashraf A. Fawzy
Roshan S. Mansinghani
Jonathan R. K. Stroud
Jonathan R. Bowser
UNIFIED PATENTS INC.
afawzy@unifiedpatents.com
roshan@unifiedpatents.com
jonathan@unifiedpatents.com
jbowser@unifiedpatents.com

James D. Stein
LEE & HAYES PLLC
james.stein@leehayes.com

PATENT OWNER:

Neal Massand
Hao Ni
NI, WANG & MASSAND, PLLC
nmassand@nilawfirm.com
hni@nilawfirm.com