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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN R. DINGLER, DAVID C. OLDS, JAMES R. RUDD, and
MATTHEW B. TREVATHAN

Appeal 2017-005412
Application 13/920,690¹
Technology Center 3600

Before ST. JOHN COURTENAY III, JAMES R. HUGHES, and
HUNG H. BUI, *Administrative Patent Judges*.

BUI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–13 and 15–21, which are all the claims pending in the application. Claim 14 is cancelled. App. Br. 42–46, Claims App'x. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.²

¹ According to Appellants, International Business Machines Corporation is the real party in interest. App. Br. 2.

² Our Decision refers to Appellants' Appeal Brief filed August 19, 2016 ("App. Br."); Reply Brief filed February 10, 2017 ("Reply Br."); Examiner's Answer mailed December 14, 2016 ("Ans."); Final Office Action mailed March 18, 2016 ("Final Act."); and original Specification filed June 18, 2013 ("Spec").

STATEMENT OF THE CASE

Appellants' invention relates to "a system and method for providing scheduling and reservation services [to users of mobile devices] using location based services." Spec. ¶ 1. According to Appellants,

[t]he reservation computer device is operable to prioritize a reservation schedule of a service establishment [e.g., restaurant] based on a route and projected arrival time of one or more subscribing users such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations [of any of the patrons].

Abstract. "In this way, the late arriving patron can be requeued into the system, while early arriving patrons can be given priority." Spec. ¶ 16.

Claims 1, 12, and 15 are independent. Claim 1 is illustrative of the claimed subject matter, as reproduced below:

1. A system implemented in a reservation computer device, comprising:
 - computer executable code tangibly embodied on a computer readable memory being operable to:
 - prioritize a reservation schedule of a service establishment based on a route and projected arrival time of one or more subscribing users such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations.

App. Br. 42 (Claims App'x).

EXAMINER'S REJECTIONS & REFERENCES

(1) Claims 1–13 and 15–21 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to an abstract idea without significantly more. Final Act. 5–6.

(2) Claim 21 stands rejected under pre-AIA 35 U.S.C. § 112, 2nd paragraph as being indefinite.³ Final Act. 6–7.

(3) Claims 1, 5, 8–12, 15, 19, and 21 stand rejected under pre-AIA 35 U.S.C. § 102(b) as being anticipated by Wheat (US 2002/0095312 A1; published July 18, 2002). Final Act. 7–9.

(4) Claims 2–4 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being obvious over Wheat and Farris (US 2009/0325595 A1; published Dec. 31, 2009). Final Act. 9–10.

(5) Claims 6, 7, and 18 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being obvious over Wheat and Shamilian (US 2009/0187488 A1; published July 23, 2009). Final Act. 10–11.

(6) Claims 13 and 16 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being obvious over Wheat, Shamilian, and Official Notice as evidenced by Lapidot et al. (US 6,490,519 B1; published Dec. 3, 2002). Final Act. 11–12.

(7) Claim 17 stands rejected under pre-AIA 35 U.S.C. § 103(a) as being obvious over Wheat, Farris, Shamilian, and Official Notice as evidenced from Gounares et al. (US 2009/0164236 A1; published June 25, 2009). Final Act. 12–13.

(8) Claim 20 stands rejected under pre-AIA 35 U.S.C. § 103(a) as being obvious over Wheat and Addy (US 2009/0274104 A1; published Nov. 5, 2009). Final Act. 13–14.

³ Claim 13 was also rejected under pre-AIA 35 U.S.C. § 112, 2nd paragraph as being indefinite. Final Act. 6–7. However, the Examiner withdrew the rejection of claim 13. Ans. 3. As such, we need not address the rejection of claim 13 herein.

DISCUSSION

Patent-Eligible Subject Matter: Claims 1–13 and 15–21

To determine whether claims are patent eligible under § 101, we apply the Supreme Court’s two-step framework articulated in *Alice Corp.*

Proprietary LTD. v. CLS Bank International, 573 U.S. 208, 216 (2014).

First, we determine whether the claims are directed to a patent-ineligible concept: laws of nature, natural phenomena, and abstract ideas. *Id.* at 217–18. If so, we then proceed to the second step to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at 219. In other words, the second step is to “search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.*

The Federal Circuit has described the *Alice* step-one inquiry as looking at the “focus” of the claims, their “character as a whole,” and the *Alice* step-two inquiry as looking more precisely at what the claim elements add—whether they identify an “inventive concept” in the application of the ineligible matter to which the claim is directed. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335-36 (Fed. Cir. 2016); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

Because there is no single definition of an “abstract idea” under *Alice* step 1, the PTO has recently synthesized, for purposes of clarity, predictability, and consistency, key concepts identified by the courts as

abstract ideas to explain that the “abstract idea” exception includes the following three groupings:

- (1) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;
- (2) Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion); and
- (3) Certain methods of organizing human activity—fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions).

See 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 52 (Jan. 7, 2019 (“PTO § 101 Memorandum”)) which is effective on January 7, 2019. According to the PTO § 101 Memorandum, “claims that do not recite [subject] matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas,” except in rare circumstances. Even if the claims recite any one of these three groupings of abstract ideas, these claims are still not “directed to” a judicial exception (abstract idea), and thus are patent-eligible, if “the claim as a whole integrates the recited judicial exception into a practical application of that judicial exception.” 84 Fed. Reg. at 53. “Integration into a practical application” requires an additional element or a combination of additional elements in the claim to apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that

the claim is more than a drafting effort designed to monopolize the exception. 84 Fed. Reg. at 53.

For example, limitations that are indicative of “integration into a practical application” include:

- a) Improvements to the functioning of a computer, or to any other technology or technical field – *see* MPEP 2106.05(a);
- b) Applying the judicial exception with, or by use of, a particular machine – *see* MPEP 2106.05(b);
- c) Effecting a transformation or reduction of a particular article to a different state or thing – *see* MPEP 2106.05(c); and
- d) Applying or using the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception – *see* MPEP 2106.05(e).

In contrast, limitations that are **not** indicative of “integration into a practical application” include:

- a) Adding the words “apply it” (or an equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea – *see* MPEP 2106.05(f);
- b) Adding insignificant extra-solution activity to the judicial exception – *see* MPEP 2106.05(g); and
- c) Generally linking the use of the judicial exception to a particular technological environment or field of use – *see* MPEP 2106.05(h).

See PTO § 101 Memorandum, 84 Fed. Reg. at 54–55 (“Prong Two”).

In rejecting claims 1–13 and 15–21 under 35 U.S.C. § 101, the Examiner these claims are directed to an abstract idea of “adjusting a reservation scheduled based on parties’ estimated times of arrival,” which is (1) “an idea of itself,” i.e., a mental process that could be performed in the

human mind or by a human using a pen and paper, or (2) a “method of organizing human activity” because the claims purport “to manage interpersonal behaviors and future undertakings of human beings (i.e., a schedule for reservation for people at a service establishment),” and include limitations that are analogous or similar to (1) concepts of comparing new and stored information and using rules to identify options as discussed in *Cyberfone* and *SmartGene*, and (2) concepts of involving human activity relating to commercial practices as discussed in *Dietgoal Innovations* and *In re Maucorp*. Ans. 3–4; Final Act. 5–6 (quoting *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App’x 988 (Fed. Cir. 2014) (holding that claims directed to “collecting information, separating, and transmitting that information according to its classification” are not patent-eligible”); *SmartGene, Inc. v. Advanced Biological Labs., SA*, 852 F. Supp. 2d 42 (D.D.C. 2012), *aff’d* 555 F. App’x 950 (Fed. Cir. 2014) (holding that claims directed to “comparing new and stored information and using rules to identify medical options” are not patent-eligible); *Dietgoal Innovation LLC v. Bravo Media LLC*, 599 Fed. Appx. 956 (Fed. Cir. 2015) (holding claims directed to “computerized meal planning for a person” are not patent-eligible); *In re Maucorps*, 609 F.2d 481 (CCPA 1979) (holding that claims directed to a computing system for determining optimal business visits to a client are not patent-eligible); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011).

The Examiner also determines the claims fail to amount to “significantly more” than the judicial exception” because (1) the additional elements recited . . . “are known and conventional generic computing elements (‘computer device,’ ‘memory’)” and “only serve to perform well-

understood functions (e.g., receiving, organizing, analyzing, outputting data, communicating via the Internet or SS7 protocol); (2) the claims “only manipulate abstract data elements” and “do not present improvements to another technological field or the functioning of the computer itself”; and (3) none of the additional elements recited “offers a meaningful limitation beyond generally linking ‘the use of the [method] to a particular technological environment’.” Final Act. 6.

Alice/Mayo—Step 1 (Abstract Idea)

Turning to the first step of the *Alice* inquiry, Appellants argue independent claims 1, 12, and 15 are not directed to an abstract idea, i.e., are not (1) an “idea by itself” or (2) a “method of organizing human activity” because the claimed invention uses technology, i.e., a reservation computer device to prioritize a reservation schedule of a service establishment (e.g., restaurant) to overcome the disadvantages that occur in traditional human activity relating to prioritizing a reservation schedule of a service establishment and, as such, does more than just “compare new and stored information” as discussed in *SmartGene*, managing behavior as discussed in *Dietgoal Innovation*, or optimizing the organization of sales representatives in a business as discussed in *In re Maucorps*. App. Br. 5–8; Reply Br. 2–4.

Appellants’ arguments are not persuasive. At the outset, we note the Examiner is required to review all claims and characterize whether those claims are directed to an abstract idea under *Alice* step 1. However, there is no single definition of “abstract idea.” As the Federal Circuit succinctly put it:

The problem with articulating a single, universal definition of “abstract idea” is that it is difficult to fashion a workable

definition to be applied to as-yet-unknown cases with as-yet-unknown inventions.

Amdocs (Israel) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016). Because there is no single definition of an abstract idea under *Alice* step 1, the Federal Circuit has instructed us “to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.” *Id.* at 1294 (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016); accord PTO Memorandum, *July 2015 Update: Subject Matter Eligibility* (2015), <https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf> (“PTO 2015 Update”) (instructing Examiners that “a claimed concept is not identified as an abstract idea unless it is similar to at least one concept that the courts have identified as an abstract idea”). In this case, the Examiner did what he was required to do, i.e., analyzed the claims under *Alice* step 1 consistent with the guidance set forth in the USPTO’s “2014 Interim Guidance on Patent Subject Matter Eligibility,” 79 Fed. Reg. 74618 (Dec. 16, 2014), in effect at the time the rejection was made, i.e., on Mar. 18, 2016, and provided analogous claims as discussed in *Cyberfone*, *SmartGene*, *Dietgoal Innovations*, and *In re Maucorp*.

As acknowledged by the PTO § 101 Memorandum, the Federal Circuit’s common law, analogy-driven approach (a.k.a. “analogous claim” test) was effective soon after *Alice* was decided, but that approach has since become impractical as the growing body of Federal Circuit precedent has become increasing more difficult for the Office and examiners to apply in a

predicable manner.⁴ As a result, the PTO has synthesized, for purposes of clarity, predictability, and consistency, the “abstract idea” exception to include three categories of abstract ideas: (1) mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations; (2) mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion); and (3) certain methods of organizing human activity—fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions). *See* PTO § 101 Memorandum, 84 Fed. Reg. at 54–55 (“Prong Two”).

Contrary to Appellants’ arguments, Appellants’ Specification and claims describe “a system and method for providing scheduling and reservation services [to users of mobile devices].” Spec. ¶ 1. According to Appellants,

[t]he reservation computer device is operable to prioritize a reservation schedule of a service establishment [e.g., restaurant] based on a route and projected arrival time of one or more subscribing users such that earlier arriving users and users that have already arrived at the service establishment are given

⁴ *Accord Berkheimer v. HP Inc.*, 890 F.3d 1369, 1374 (Fed. Cir. 2018) (Denial of Petition For Rehearing *En Banc*) (“Individual cases, whether heard by this court or the Supreme Court, are imperfect vehicles for enunciating broad principles because they are limited to the facts presented.”).

priority in the reservation schedule regardless of prearranged reservations.

Abstract. “In this way, the late arriving patron can be requeued into the system, while early arriving patrons can be given priority.” Spec. ¶ 16. For example, Appellants’ independent claims 1 and 12 define a computer device in context of a system operable to:

prioritize a reservation schedule of a service establishment based on a route and projected arrival time of one or more subscribing users such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations.

App. Br. 42, 44 (Claims App’x).

Alternatively, claim 15 recites the same computer device operable to:

at least adjust a reservation schedule of a service establishment using received route information which is used to estimate a time of arrival of subscribing and authenticated users during a predefined time window and prioritizing an order of service in the reservation schedule based on the estimated arrival time and actual arrival time of the subscribing users.

App. Br. 45 (Claims App’x).

Appellants’ claims 1, 12, and 15 are written broadly to recite the concept of prioritizing a reservation schedule of a service establishment (e.g., restaurant) without any particular practical application or specific structure or particular means for accomplishing a result or function, i.e., prioritizing a reservation schedule. *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1308 (Fed. Cir. 2016).

As correctly recognized by the Examiner (Ans. 3), “prioritiz[ing] a reservation schedule of a service establishment (i.e., restaurant), [whether] based on a route or projected arrival time of one or more subscribing users,”

as recited in Appellants’ claims 1 and 12, or alternatively, “adjust[ing] a reservation schedule . . . and prioritiz[ing] an order of service in the reservation schedule,” as recited in Appellants’ claim 15 are nothing more than “mental processes” that could be performed in the human mind or by a human using a pen and paper—a subject matter that falls within the three types of abstract ideas identified by the PTO § 101 Memorandum. See *CyberSource*, 654 F.3d at 1372–73 (“[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under [§] 101.”); see also *In re Comiskey*, 554 F.3d 967, 979 (Fed. Cir. 2009) (“[M]ental processes—or processes of human thinking—standing alone are not patentable even if they have practical application.”); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“Phenomena of nature, . . . mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” (Emphasis added)). Additionally, mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource*, 654 F.3d at 1375 (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.”).

Likewise, “prioritiz[ing] a reservation schedule of a service establishment (i.e., restaurant), [whether] based on a route or projected arrival time of one or more subscribing users,” as recited in Appellants’ claims 1 and 12, or alternatively, “adjust[ing] a reservation schedule . . . and prioritiz[ing] an order of service in the reservation schedule,” as recited in Appellants’ claim 15 are also considered as a “certain method of organizing human activity” because (1) prioritizing and adjusting a reservation schedule

are purported to manage interpersonal behavior or interactions between people; and (2) prioritizing seating for people at a restaurant, as correctly recognized by the Examiner (Ans. 4), “plainly are directed to organizing human and commercial activity”—a subject matter that falls within the three types of abstract ideas identified by the PTO § 101 Memorandum.

We discern no additional element (or combination of elements) recited in Appellants’ claims 1, 12, and 15 that integrates the judicial exception into a practical application. *See* PTO § 101 Memorandum, 84 Fed. Reg. at 54–55 (“Prong Two”). For example, Appellants’ claims 1, 12, and 15 do not (1) improve the functioning of a computer or other technology, (2) are not applied with any particular machine, (3) do not effect a transformation of a particular article to a different state, and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception. *See* MPEP §§ 2106.05(a)–(c), (e)–(h).

For these reasons, we agree with the Examiner that Appellants’ claims 1, 12, and 15 are directed to an abstract idea that is not integrated into a practical application.

Alice/Mayo—Step 2 (Inventive Concept)

In the second step of the *Alice* inquiry, Appellants argue the claims “recite elements that amount to ‘significantly more’ [i.e., inventive concept] than the alleged abstract idea” because:

- (1) “the claimed invention is an improvement to another technology or technical field because the claimed invention prioritizes a reservation schedule of a service establishment based on a route and projected arrival time

of one or more subscribing users such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations”;

- (2) “the claimed invention adds a specific limitation other than what is well-understood, routine, and conventional in the field by prioritizing a reservation schedule of a service establishment based on a route and projected arrival time of one or more subscribing users”;
- (3) “the claimed invention provides meaningful limitations beyond generally linking the use of an abstract idea to a particular technology environment since the claimed invention requires that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations”; and
- (4) like the claims in *Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016), “prioritizing a reservation schedule of a service establishment based on a route and projected arrival time of one or more subscribing users such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations using a reservation computer device is a non-conventional and non-generic arrangement of elements.”

App. Br. 8–10. In the Reply, Appellants also argue “the features of the claimed invention are unconventional, and improve the traditional method of prioritizing a reservation schedule (see paragraph [0020] of the specification).” Reply Br. 6.

Appellants’ arguments are not persuasive. Under current Federal Circuit precedent, an “inventive concept” under *Alice* step 2 can be established by showing, for example, that the patent claims:

- (1) provide a technical solution to a technical problem unique to the Internet, e.g., a “solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks” (see *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014));
- (2) transform the abstract idea into “a particular, practical application of that abstract idea,” e.g., “installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user” (see *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352, 1350 (Fed. Cir. 2016)); or
- (3) “entail[] an unconventional technological solution ([e.g.,] enhancing data in a distributed fashion) to a technological problem ([e.g.,] massive record flows [that] previously required massive databases)” and “improve the performance of the system itself” (see *Amdocs*, 841 F.3d at 1300, 1302).

Similarly, as recognized by the PTO § 101 Memorandum, an “inventive concept” under *Alice* step 2 can also be evaluated based on whether an additional element or combination of elements:

- (1) “add a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present (see MPEP § 2106.05(d)); or
- (2) “simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.”

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

In this case, however, we find no element or combination of elements recited in Appellants’ claims 1, 12, and 15 that contains any “inventive

concept” or adds anything “significantly more” to transform the abstract concept into a patent-eligible application. *Alice*, 134 S. Ct. at 2357. For example, Appellants’ “abstract idea of adjusting a reservation scheduled based on parties’ estimated times of arrival” is not rooted in computer technology; nor does it (1) provide any technical solution to a technical problem as required by *DDR Holdings*; (2) provide any particular practical application as required by *Bascom*; or (3) entail an unconventional technological solution to a technological problem as required by *Amdocs*. Instead, Appellants’ invention simply uses a generic computer device, shown, for example, in Figure 1, to perform the abstract idea of “adjusting a reservation scheduled based on parties’ estimated times of arrival” (Spec. ¶¶ 1, 8, 16, 20–21, 58; Abstract).

As recognized by the Examiner, “there is nothing unconventional about prioritizing a reservation schedule.” Ans. 4. In fact, “the only ‘additional elements’ recited merely implement the abstract idea on generic computing elements (‘computer device,’ ‘memory’).” *Id.* However, the use of a generic computer device does not alone transform an otherwise abstract idea into patent-eligible subject matter. As our reviewing court has observed, “after *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.” *DDR*, 773 F.3d at 1256 (citing *Alice*, 134 S. Ct. at 2358). Moreover, Appellants have not shown any specific limitation in claims 1, 12, and 15 beyond the judicial exception that is not “well-understood, routine, and conventional” in the field (*see* MPEP § 2106.05(d)).

With respect to dependent claims 2–11, 13, and 16–21, Appellants reiterate the arguments that (1) “the claimed invention is also an

improvement to another technology or technical field” and (2) these claims recite features therein that are “not well-understood, routine, and conventional activities.” App. Br. 24–27. However, these arguments are not persuasive because: (1) the claimed invention does not improve the functioning of a computer, or to any other technology or technical field (MPEP 2106.05(a)); (2) *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018) (where the Federal Circuit held that “[w]hether something [(i.e., additional elements beyond the abstract idea)] is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination”) is limited to *Alice* step 2 and is only applicable after a determination is made that a patent claim is directed to an abstract idea under *Alice* step 1; and (3) the additional elements beyond the abstract idea recited in claims 2–11, 13, and 16–21, such as the computer device and the computer readable memory, cannot transform an otherwise abstract idea into patent-eligible subject matter. Indeed, using a generic computer device and memory to implement functions of an abstract idea, i.e., “prioritiz[ing] a reservation schedule of a service establishment (i.e., restaurant)” is well-understood, routine, and conventional to a skilled artisan as evidenced in the cited prior art of record, including, for example: (1) Wheat ¶¶ 45, 133–139, 149, Figs. 1–2, 16, 19–21; (2) Gouares Figs. 9–10; and (3) Lapidot Figs. 2, 10.

Because Appellants’ claims 1, 12, and 15 are directed to a patent-ineligible abstract concept and do not recite something “significantly more” under the second prong of the *Alice* analysis, we sustain the Examiner’s rejection of claims 1–13 and 15–21 under 35 U.S.C. § 101.

35 U.S.C. § 112, 2nd Paragraph: Claim 21

Claim 21 depends from claim 1, and further recites “wherein a corresponding mobile device of the one or more subscribing users sends a trust token to the reservation computer device in response to the one or more subscribing users not being subscribed to location based services.” App. Br. 46 (Claims App’x).

The Examiner concludes that claim 21 is indefinite because “it is unclear how a user could be both ‘a subscribing user’ and ‘not being unsubscribed to location services’.” Final Act. 7.

Appellants argue because (1) “one of ordinary skill in the art would understand that ‘a corresponding mobile device of the one or more subscribing users’ in claim 21 refers to a mobile device being subscribed to a reservation computing device” and (2) “paragraph [0039] and FIG. 3 of the specification discloses that the one or more subscribing users do not have to be subscribed to a location based service (*see in particular* steps 305, 310, and 315 and corresponding portions of FIG. 3),” “one of ordinary skill in the art would understand that ‘one or more subscribing users’ in claim 21 can be subscribed to a reservation computing device, but not subscribed to a location based service.” App. Br. 28.

We agree with Appellants. Subscribing to a reservation system (i.e., reservation computer device) is not the same as subscribing to a location based system (i.e., network carrier). *See Spec.* ¶¶ 22, 39–40. However, both location based services and reservation services are necessary for Appellants’ claimed “reservation computer device” to “prioritize a reservation schedule of a reservation establishment based on a route and projected arrival time.” Paragraph [0039] of Appellants’ Specification only

describes the situation where a user is subscribed to both “location based services and/or reservation services” in order to make the initial reservation.

There is no written support from Appellants’ Specification for a separate determination for making the initial reservation as required in Appellants’ claim 1, and then sending “a trust token to the reservation computer device in response to the one or more subscribing users not being subscribed to location based services” as recited in Appellants’ claim 21. However, indefiniteness under pre-AIA 35 U.S.C. § 112, 2nd paragraph is separate and distinct from “written description” under pre-AIA 35 U.S.C. § 112, 1st paragraph. Accordingly, we do not sustain the Examiner’s rejection of claim 21 under pre-AIA 35 U.S.C. § 112, 2nd paragraph.⁵

35 U.S.C. § 102: Claims 1, 5, 8–12, 15, 19, and 21

In support of the § 102 rejection of independent claims 1, 12, and 15, the Examiner finds Wheat discloses a reservation computer device configured to “prioritize a reservation schedule of a service establishment [1] based on a route and projected arrival time of one or more subscribing users [2] such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations” as recited in claims 1 and 12, or

⁵ In the event of further prosecution, the Examiner is invited to consider rejecting claim 21 under pre-AIA 35 U.S.C. § 112, 1st paragraph, for failing to provide adequate “written description” for the limitation: “wherein a corresponding mobile device of the one or more subscribing users sends a trust token to the reservation computer device in response to the one or more subscribing users not being subscribed to location based services.”

alternatively, to “adjust a reservation schedule of a service establishment using [1] received route information which is used to estimate a time of arrival of subscribing and authenticated users during a predefined time window and [2] prioritizing an order of service in the reservation schedule based on the estimated arrival time and actual arrival time of the subscribing users” as recited in claim 15. Final Act. 7–8 (citing Wheat ¶¶ 45, 84, 133, 139, 149, Fig. 2) (emphasis and bracketing added).

Appellants argue Wheat’s reservation system does not disclose (1) prioritizing “a reservation schedule of a service establishment based on a route” and (2) “earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservation” as recited in claims 1 and 12. App. Br. 30–33. Separately, Appellants argue Wheat’s reservation system does not disclose (1) adjusting “a reservation schedule of a service establishment using received route information” and (2) “prioritizing an order of service in the reservation schedule based on the estimated arrival time and actual arrival time of the subscribing users” as recited in claim 15. *Id.* at 34–35. According to Appellants,

paragraph [0133] of Wheat discloses that arrival time of subscriber mobile station (MS) 1925 at restaurant 1940 is estimated by calculating a distance provided by MPC 1920 and restaurant 1940 . . . that MPC 1920 is periodically triggered to determine the location of MS 1925. Paragraph [0139] of Wheat discloses sending a message to the subscriber indicting the new time that the table will be ready if no tables are available. Paragraph [0149] of Wheat discloses sending an offer to the subscriber of a free drink coupon to wait in the bar of the restaurant for the next available table.

Id. at 30, 32, 34. Appellants argue “a route is a path from point ‘A’ to point ‘B’” and Wheat’s disclosure of being “periodically triggered” to determine the location of a user’s mobile device (MS) is not the same as Appellants’ claimed “route” as recited in claims 1 and 12, or alternatively, Appellants’ claimed “route information” as recited in claim 15. *Id.* at 30, 32, 34.

Appellants’ arguments are not persuasive. Instead, we find the Examiner has provided a comprehensive response to Appellants’ arguments, supported by a preponderance of the evidence. Ans. 6–7. As such, we adopt the Examiner’s findings and explanations provided therein. *Id.* For additional emphasis, we note that anticipation under 35 U.S.C. § 102 is a question of fact. *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). However, there is no requirement that the prior art must use the same words to describe a claim element in order to be deemed as teaching or disclosing that claim element. “[T]he reference need not satisfy an *ipsissimis verbis* test,” i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009). Even in the context of anticipation, “it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” *In re Preda*, 401 F.2d 825, 826 (CCPA 1968).

More importantly, claim terms are given their broadest reasonable interpretation consistent with the specification. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under the broadest reasonable

interpretation, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). However, every “claim construction analysis must begin and remain centered on the claim language itself, for that is the language the patentee has chosen to particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). “The claims, of course, do not stand alone.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005). “Rather, they are part of a fully integrated written instrument, consisting principally of a specification that concludes with the claims.” *Id.* “For that reason, claims must be read in view of the specification, of which they are a part.” *Id.*

First, the term “route information” is specifically defined in Appellants’ claim 15 as being “used to estimate a time of arrival of subscribing and authenticated users during a predefined time window.” Based on the express definition of Appellants’ claim 15, we conclude the claim term “route information” encompasses Wheat’s information used in a location based reservation system to calculate an estimated time of arrival (ETA) of a subscriber. Wheat ¶¶ 133, 137, 147. Moreover, each time the waiter reassigns the table, Wheat’s location based reservation system is in fact “prioritizing an order of service in the reservation schedule based on the estimated arrival time and actual arrival time of the subscribing users” as recited in claim 15. Wheat ¶¶ 139, 148–149.

Second, the term “route” recited in Appellants’ claims 1 and 12 is not defined in Appellants’ claims or Specification. However, the term “route” is

broadly described as part of a location of a user's mobile device used to determine an estimated arrival time. Spec. ¶¶ 20–21, 43–44, 58. In particular, Appellants' Specification describes that the reservation system "compares the location of the mobile device to a location of the reserved establishment (i.e., restaurant)" and determines "an estimated arrival time." Spec. ¶ 43. According to Appellants' Specification, the location of a user's mobile device can be identified and updated by way of (1) GPS or (2) cell tower triangulation. Spec. ¶ 44. Alternatively, Appellants' reservation system "can attempt to locate the mobile device and its route based on the '911 method'"—a location service that is well-known by those skilled in the art. Spec. ¶ 58.

Based on Appellants' Specification and claim 15, the term "route" can also be broadly, but reasonably, interpreted to encompass Wheat's information used in a location based reservation system to calculate an estimated time of arrival (ETA) of a subscriber. Wheat ¶¶ 133, 137.

Third, with respect to the "priority" limitation given to those who arrive early as recited in Appellants' claims 1 and 12, Wheat discloses a situation where "the subscriber may be assigned [by the waiter] to another table that may be made ready to accommodate the subscriber" if the subscriber arrives to the restaurant earlier than the reservation. Wheat ¶ 149. As correctly found by the Examiner, "Wheat prioritizes early users without regard to their actual place on the schedule based solely on their early ETA," and meets the limitation: "earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservation" as recited in Appellants' claims 1 and 12.

For these reasons, we sustain the Examiner's anticipation rejection of independent claims 1, 12, and 15 and dependent claims 5, 8–12, 15, and 19, which Appellants do not argue separately.

With respect to claim 21, Appellants argue Wheat does not disclose “a trust token” and, as such, does not disclose sending “trust token to the reservation computer device in response to the one or more subscribing users not being subscribed to location based services.” App. Br. 35. We disagree. As correctly recognized by the Examiner, in the absence of an express definition, the term “trust token” can be broadly, but reasonably, interpreted to encompass Wheat's disclosure of secure validation between the user's mobile device and the reservation system. Ans. 7 (citing Wheat ¶¶ 84, 87–88). For this reason, we also sustain the Examiner's anticipation rejection of claim 21.

35 U.S.C. § 103: Claims 2–4, 6, 7, 13, 16–18, and 20

Claim 7 depends from claim 1, and further recites:

wherein the reservation computer device is operable to take into account a route time in prioritizing the reservation schedule based on a lag time equation, wherein the lag time equation is:

Time to arrive= (zone 1(distance remaining / speed)+ zone n(distance remaining/speed)+ timelag +(known stops *duration)),

where n is the zone number.

Claim 18 depends from claim 15, and recites the same limitations.

Appellants acknowledge Shamilian teaches a system for providing a service to a customer, shown in Figure 1, including (1) communication device 132 used to determine its GPS location and send its location information to location engine 122, and (2) location engine 122 used to

calculate an estimated customer arrival time. App. Br. 37 (citing Shamilian ¶¶ 25–26, 31–34). However, Appellants argue Shamilian does not teach or suggest the lag time equation recited in claims 7 and 18. *Id.*

The Examiner responds that Appellants fail to address the substance of the obviousness rejection, including the failure to (1) “point out how the lag time equations are different,” and (2) address “any differences between the formula as set forth in the claim and the formulas used in Shamilian are solely part of the mathematical algorithm itself and not its application (determining a predicted customer arrival time), and therefore the algorithm ‘is treated as though it were a familiar part of the prior art’.” Ans. 7–8.

We agree with Appellants. In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to Appellants. *Oetiker*, 977 F.2d at 1445.

Here, the Examiner has not shown that (1) Shamilian teaches the lag time equation recited in claims 7 and 18, or (2) the lag time equation recited in claims 7 and 18 is well-known in the art. In the absence of any objective teachings or suggestions in the prior art or knowledge generally available to those skilled in the art, we do not sustain the Examiner’s obviousness rejection of claims 7 and 18.

Claim 13 depends from claim 12, and further recites the use of a “time stamp” as part of “received location information.” Claim 16 depends from claim 15, and recites the same limitation in addition to a specific type of signaling protocols used, i.e., “SS7 signal protocols.”

Appellants argue neither Shamilian nor Lapidot teaches or suggests the use of a “time stamp” as part of “received location information” and the “SS7 signal protocols” to transmit route information. App. Br. 38–39.

We disagree. As correctly recognized by the Examiner, Wheat “teaches the received route information is received by SS7 signaling protocols with a time.” Final Act. 12 (citing Wheat ¶¶ 111, 116, 130, 138). Likewise, Lapidot teaches the use of a time stamp as part of location information from a user’s mobile device. Final Act. 12 (citing Lapidot 2:45–50).

For these reasons, we sustain the Examiner’s obviousness rejection of claims 13 and 16 as well as claims 2–4, 6, 17, and 20, which Appellants do not argue separately.

CONCLUSION⁶

On the record before us, we conclude Appellants have not demonstrated the Examiner erred in rejecting (1) claims 1–13 and 15–21

⁶ In the event of further prosecution, the Examiner is invited to consider rejecting all Appellants’ independent claims 1, 12, and 15 under 35 U.S.C. § 112, first paragraph, as reciting single means claims which are non-enabling for the scope of the claims. For example, claim 1 recites nothing more than a single means claim coupled with an intended use statement (“such that earlier arriving users and users that have already arrived at the service establishment are given priority in the reservation schedule regardless of prearranged reservations”). See *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983) (“The long-recognized problem with a single means claim is that it covers every conceivable means for achieving the stated result, while the specification discloses at most only those means known to the inventor.”). As single means claims, claims 1 and 13 should be rejected under 35 U.S.C. § 112, first paragraph, as single means which are non-enabling for the scope of the respective claims. See MPEP § 2164.08(a). See also *In re Hyatt*, 708

under 35 U.S.C. § 101; (2) claims 1, 5, 8–12, 15, 19, and 21 under 35 U.S.C. § 102; and (3) claims 2–4, 6, 13, 16–17, and 20 under 35 U.S.C. § 103.

However, we also conclude Appellants have demonstrated the Examiner erred in rejecting (1) claim 21 under pre-AIA 35 U.S.C. § 112, 2nd paragraph; and (2) claims 7 and 18 under 35 U.S.C. § 103.

DECISION

As such, we AFFIRM the Examiner’s rejection of (1) claims 1–13 and 15–21 under 35 U.S.C. § 101; (2) claims 1, 5, 8–12, 15, 19, and 21 under 35 U.S.C. § 102; and (3) claims 2–4, 6, 13, 16–17, and 20 under 35 U.S.C. § 103. However, we REVERSE the Examiner’s rejection of (1) claim 21 under pre-AIA 35 U.S.C. § 112, 2nd paragraph; and (2) claims 7 and 18 under 35 U.S.C. § 103.

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner’s decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

F.2d at 714–15 (A single means claim which covered every conceivable means for achieving the stated purpose was held non-enabling for the scope of the claim because the specification disclosed at most only those means known to the inventor); *Ex parte Rodriguez*, 92 USPQ2d 1395, 1406–11 (BPAI 2009) (precedential) (discussing functional claiming and scope of enablement). In addition, our reviewing court has held that a statement of intended use in an apparatus claim cannot distinguish over a prior art apparatus that discloses all the recited structural limitations and is capable of performing the recited function. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). Additionally, “[a]n intended use or purpose usually will not limit the scope of the claim because such statements usually do no more than define a context in which the invention operates.” *See Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1345 (Fed. Cir. 2003).

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED