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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHEW R. PERKINS

Appeal 2017-006075
Application 14/253,833
Technology Center 3600

Before MAHSHID D. SAADAT, ALLEN R. MacDONALD, and
JOHN P. PINKERTON, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's
Final Rejection of claims 1–17.² We have jurisdiction under
35 U.S.C. § 6(b).

We affirm.

¹ According to Appellant, the real party in interest is Awarepoint Corporation. App. Br. 1.

² Appellant indicates they are unaware of any other related appeals. *See* App. Br. 1. However, we have determined that Appeal 2017-006180 (Application 13/798,138) and Appeal 2018-004901 (Application 13/798,081) are related to this appeal and are directed to the same underlying inventions and issues. *See* 37 C.F.R. § 41.37(c)(ii).

STATEMENT OF THE CASE

Appellant's invention relates to a system and method for analyzing an interaction between objects such as people (Spec. ¶ 1). Exemplary claim 1 under appeal reads as follows:

1. A system for analyzing an interaction between objects bearing wireless communication devices within a facility, the system comprising:

a mesh network comprising a plurality of sensors located within the facility;

an information engine in communication with the plurality of sensors;

a plurality of first objects, each of the plurality of first objects comprising a first wireless communication device; and

a plurality of second objects, each of the plurality of second objects comprising a second wireless communication device;

wherein the mesh network is utilized for infrastructure-based real-time location tracking of the plurality of first objects and the plurality of second objects in the facility, each sensor of the plurality of sensors communicate with other sensors of the plurality of sensors utilizing a wireless communication format, the mesh network receiving the wireless signal from each of the plurality of first wireless communication device and the mesh network receiving the wireless signal from each of the plurality of second wireless communication device;

wherein the information engine is configured to analyze an interaction between a first object and a second object having an interaction based on a plurality of factors comprising at least a position location of the interaction, an identification of the first object, an identification of the second object, and a duration of the interaction.

REFERENCES and REJECTIONS

Claims 1–17 stand rejected under 35 U.S.C. § 101 as not being directed to patent-eligible subject matter. *See* Final Act. 2.

Claims 1–17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kever et al. (US 2007/0143162 A1; published June 21, 2007) (“Kever”) and Breazeale, Jr. (US 2009/0204434 A1; published Aug. 13, 2009) (“Breazeale”). *See* Final Act. 3–5.

PRINCIPLES OF LAW

Patent-Eligible Subject Matter

The Supreme Court has set forth “a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73 (2012)). According to this framework, a determination is made to consider whether the claims at issue are directed to one of those concepts (i.e., laws of nature, natural phenomena, and abstract ideas). *See id.* If so, a further determination must be made to consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. *Id.* (internal quotation marks and citation omitted). “The question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

Obviousness

The Supreme Court has rejected the rigid requirement of demonstrating a teaching, suggestion, or motivation in the references to show obviousness. *See KSR Int'l Co. v. Teleflex Co.*, 550 U.S. 398, 415–16 (2007); *see also In re Ethicon, Inc.*, 844 F.3d 1344, 1350 (Fed. Cir. 2017) (“*KSR* directs that an explicit teaching, suggestion, or motivation in the references is not necessary to support a conclusion of obviousness”). Further, one cannot show non-obviousness by attacking references individually when the rejection is based on a combination of references. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *see also In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellant’s arguments that the Examiner erred. We are not persuaded the Examiner erred, and we adopt as our own the findings and reasons set forth by the Examiner. *See* Final Act. 2–6; *see also* Ans. 2–8. We highlight and address specific findings and arguments for emphasis as follows.

Rejection Under 35 U.S.C. § 101

Independent claims 1, 11, and 15 recite a system and method for analyzing an interaction between objects bearing wireless communication devices within a facility, and are, therefore, directed to one of the four statutory categories of patentability enumerated by 35 U.S.C. § 101 (process, machine, manufacture, or composition of matter). Applying the first part of the *Alice* analysis, the Examiner finds the claims are directed to the abstract idea of tracking objects in a facility by comparing an interaction between

objects and using rules to analyze the interaction. *See* Ans. 2–3. As found by the Examiner, the claims recite a system and method for performing steps that can be performed mentally, which indicates that the concept is “an idea of itself,” which is one of the four types of abstract ideas set forth in *Alice*. *See* Ans. 3 (internal citation omitted). As further found by the Examiner, the recited steps correspond to concepts identified as abstract ideas by the courts, such as comparing new and stored information (*i.e.*, comparing an interaction between objects) and using rules to identify options (*i.e.*, analyze the interaction based on rules including a position, an identification of objects, and a duration of the interaction) as seen in *SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 Fed. Appx. 950, 954–55 (Fed. Cir. 2014). *See* Ans. 3. Applying the second part of the *Alice* analysis, the Examiner finds the claims do not include additional elements that are sufficient to amount to significantly more than the abstract idea because the additional computer elements, which are recited at a high level of generality, provide conventional computer functions that do not add meaningful limits to practicing the abstract idea. *See* Ans. 3–4. More specifically, as found by the Examiner, the recited mesh network, information engine, sensors, and wireless communication device are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. *See* Ans. 3–4.³

³ Although the Examiner’s findings are explicitly directed to claim 1, the Examiner further finds the additional claim elements of dependent claims 2–10 fail to establish that the claims are not directed to an abstract idea without significantly more, and the Examiner’s findings also apply to claims 11–17. *See* Ans. 5.

Beginning with the first step of the *Alice* analysis, we must determine “whether the claims at issue are directed to one of those patent-ineligible concepts,” including abstract ideas. *Alice*, 134 S. Ct. at 2355. In performing this determination, we ask whether the focus of the claims is on a specific asserted improvement in computer capabilities or, instead, on a process that qualifies as an “abstract idea” for which computers are invoked merely as a tool. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct. at 2358–59).

Appellant contends the claims are not directed to an abstract idea for several reasons. *See* App. Br. 9. First, Appellant argues the claims are not directed to a fundamental economic practice, a method for organizing human activity, an idea in itself, or a mathematical relationship. *See id.* Second, according to Appellant, the claims are similar to the claims at issue in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) because the claims address a problem that did not exist prior to the existence of the underlying technology and are directed to a technology solution that also did not exist prior to the existence of the underlying technology. *See id.* Third, Appellant argues the Final Office Action fails to cite any case law or court decision supporting the finding that the claims are directed to an abstract idea. *See* App. Br. 9–10. Fourth, according to Appellant, the Final Office Action broadly states the alleged abstract idea and ignores the claim language as well as all of the claim elements. *See* App. Br. 10. In the Reply Brief, Appellant further argues the reliance on *SmartGene* in the Examiner’s Answer is not proper because *SmartGene* is a non-precedential decision and the facts of *SmartGene* do not uniquely match the facts in the present appeal. *See* Reply Br. 1. Appellant also argues that the claims provide a technical

solution directed to improving an existing technological process, and thus, like the claims in *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), the claims are patent-eligible. *See* Reply Br. 2.

We are not persuaded by Appellant’s arguments. Considering the recited elements of the claims in light of Appellant’s Specification, we agree with the Examiner’s findings that the claims are directed to a method and system for performing the steps of tracking objects and analyzing an interaction between a first object and a second object. *See* Ans. 3. We further agree with the Examiner that the recited steps can be performed mentally, and thus, the claims are directed to “an idea of itself,” one of the four types of abstract idea set forth in *Alice*. *See id.*; *see also Alice*, 134 S. Ct at 2355 (“[a]n idea of itself is not patentable” (internal quotation marks and citation omitted)). Based on the recited elements, the claims are directed to tracking and collecting location information and analyzing the collected location information, which is an idea of itself and which is similar to abstract ideas previously identified by courts. *See Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (holding that claims drawn to collecting data, recognizing certain data within the collected data set, and storing the recognized data in memory are directed to an abstract idea); *see also Automated Tracking Solutions LLC v. Coca-Cola Co.*, 723 Fed.Appx. 989, 993 (Fed. Cir. 2018) (holding that claims directed to systems for locating, identifying and/or tracking of an object using RFID components are directed to an abstract idea).

Appellant's argument that the claims are similar to the claims in *DDR Holdings*, is not persuasive. Appellant provides no technical reasoning or analysis as to why the claims are similar to the claims at issue in *DDR Holdings*. In *DDR Holdings*, the court determined that the claims at issue were necessarily rooted in computer technology in order to address the Internet-centric problem of how to provide user access to computer-implemented applications over the Internet. *DDR Holdings*, 773 F.3d at 1257. In contrast, the functions performed by the claimed system (i.e., tracking objects and analyzing an interaction between a first object and a second object), are not necessarily rooted in computer technology, as the aforementioned functions could also occur outside the context of computer technology (e.g., if the aforementioned functions were implemented using pen and paper).

Further, Appellant's argument that the claims are directed to a technical solution that improves an existing technologic process, similar to the claims at issue in *McRO*, is also not persuasive. In *McRO*, the court held the claims were patent-eligible because the claims recited specific computer-implemented rules that allowed a computer to produce accurate and realistic lip synchronization and facial expressions in animated characters that previously could only be produced by human animators. *See McRO*, 837 F.3d at 1313. However, the present claims fail to recite the technical details that describe how a computer system realizes an operational improvement via the claimed functionality. Thus, contrary to Appellant's assertion, the claims fail to recite the improvement to the computer system that Appellant argues the claims are directed to.

Because we conclude that the claims are directed to an abstract idea, we turn to the next step of the *Alice* analysis. In step two, as previously discussed, we consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether the additional elements “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78).

Here, Appellant argues the claims are directed to an improvement in a technical field (*i.e.*, a sales marketplace) in which the claims recite various elements that provide an improvement in technology (*i.e.*, the mesh network and the information engine) that did not exist in the prior art, and, thus, the claims are similar to the claims at issue in *Enfish*. See App. Br. 10.

Appellant further argues the claims are directed to a technical problem (*i.e.*, tracking assets in a facility) and a technical solution (*i.e.*, using wireless communications and an information engine) that did not exist before the existence of the Internet and computer network, and, thus, the claims are similar to the claims at issue in *DDR Holdings*. See App. Br. 10–11.

We are not persuaded that the Examiner erred. Considering the recited elements of the claims in light of Appellant’s Specification, we agree with the Examiner’s findings that the claimed mesh network, information engine, sensors, and wireless communication devices are recited with a high level of generality and are described as performing generic computer functions routinely used in computer applications. See Ans. 4. Evidence supporting the Examiner’s finding that the recited generic computer functions performed by the claimed mesh network and information engine is found in Appellant’s Specification, which discloses that the claimed mesh network “is preferably a 802.15.4 ZIGBEE wireless sensor network” and

that the claimed mesh network “includes multiple plug-in sensors . . . [where an] information engine is in communication with the mesh network.” *See id.*; *see also* Spec. ¶ 19. Evidence supporting the Examiner’s finding that the recited generic computer functions performed by the claimed sensors and wireless communication devices are well-understood, routine and conventional (*see* Ans. 4) is also found in Appellant’s Specification, which discloses that the prior art includes various tracking systems and uses of near-field communication devices, and further includes examples of the claimed system components (*e.g.*, sensors and wireless communication devices). *See, e.g.*, Spec. ¶¶ 4–15, 34, 36–37, 39. Therefore, considering the elements of the claims, both individually and in combination, we conclude there are no additional elements that transform the nature of the claims into a patent-eligible application. *See Alice*, 134 S. Ct. at 2355.

Further, we disagree with Appellant’s contention that the claims are directed to a specific improvement in the way computers operate, similar to the claims at issue in *Enfish*, rather than an abstract idea. In *Enfish*, in holding that the claims were patent-eligible, the court stated that the claims recited a specific data structure (*i.e.*, a self-referential table for a computer database) that allowed the computer database to realize specific operational improvements (*i.e.*, increased flexibility, faster search times, and smaller memory requirements). *See Enfish*, 822 F.3d at 1337. Although Appellant argues the claims are directed to an improvement in technology (*i.e.*, the mesh network and the information engine) that did not exist in the prior art, the claims fail to recite the technical details that describe how a computer system realizes an operational improvement via the claimed functionality. Thus, contrary to Appellant’s assertion, the claims fail to recite the

improvement to the computer system that Appellant argues the claims are directed to. Further, as previously described, Appellant's Specification provides evidence that the claimed mesh network and information engine did exist in the prior art, contrary to Appellant's assertion.

Therefore, we are not persuaded the Examiner erred in finding claims 1–17 recite patent-ineligible subject matter. Accordingly, we sustain the rejection of claims 1–17 under 35 U.S.C. § 101.

Rejection Under 35 U.S.C. § 103(a)

Appellant contends the combination of cited references fails to teach or suggest “a mesh network comprising a plurality of sensors located within the facility,” and “an information engine in communication with the plurality of sensors,” as recited in claim 1, and similarly recited in claims 11 and 15. *See* App. Br. 11. As argued by Appellant, neither Keever nor Breazeale teaches or suggests a mesh network. *See id.*

We are not persuaded by Appellant's contention. Consistent with the Examiner's findings, Keever discloses a radio-frequency identification (“RFID”) system that includes multiple RFID readers and multiple RFID tags attached to tracked items. *See* Final Act. 3 (citing Keever ¶¶ 12, 54); *see also* Keever ¶¶ 39–41, 50. We agree with the Examiner that neither Appellant's claims, nor Appellant's Specification, provides a definition or other disclosure that distinguishes the claimed “mesh network” from Keever's RFID system, as Appellant's Specification states that “[t]he mesh network is preferably a . . . wireless sensor network.” *See* Ans. 7; *see also* Spec. ¶ 19. Further, Breazeale also discloses a tracking system that includes proximity sensors positioned throughout a facility to track movement of patients, caregivers, and objects in the facility. *See* Breazeale ¶¶ 32, 34.

Thus, we agree with the Examiner that the combination of Keever and Breazeale teaches or suggests “a mesh network comprising a plurality of sensors located within the facility,” and “an information engine in communication with the plurality of sensors,” as recited in claim 1, and similarly recited in claims 11 and 15.

Appellant also contends the combination of cited references fails to teach or suggest

wherein the information engine is configured to analyze an interaction between a first object and a second object having an interaction based on a plurality of factors comprising at least a position location of the interaction, an identification of the first object, an identification of the second object, and a duration of the interaction,

as recited in claim 1, and similarly recited in claims 11 and 15. *See* App. Br. 11. As argued by Appellant, Breazeale merely discloses healthcare interactions, but fails to teach or suggest the claimed “having an interaction based on a plurality of factors comprising at least a position location of the interaction, an identification of the first object, an identification of the second object, and a duration of the interaction.” *See id.*

We are not persuaded by this contention either. Consistent with the Examiner’s findings, Breazeale discloses a system for tracking interactions between healthcare patients, caregivers, and other objects, where the system obtains location-time data automatically generated by a mobile electronic device associated with a patient, caregiver, or object, and where the location-time data can indicate relevant location and duration information (*e.g.*, a location of a patient’s residence, a location of a caregiver, and an amount of time a caregiver spends at or near a patient’s residence). *See* Final Act. 4 (citing Breazeale ¶¶ 6, 8, 10–11); *see also* Ans. 7–8 (citing Breazeale ¶¶ 8,

10, 32). Thus, we agree with the Examiner that the combination of Keever and Breazeale also teaches or suggests

wherein the information engine is configured to analyze an interaction between a first object and a second object having an interaction based on a plurality of factors comprising at least a position location of the interaction, an identification of the first object, an identification of the second object, and a duration of the interaction,

as recited in claim 1, and similarly recited in claims 11 and 15.

No separate arguments are presented for the remaining dependent claims. *See* App. Br. 11. Therefore, we are not persuaded that the Examiner erred in finding claims 1–17 unpatentable in light of the cited prior art references. Accordingly, we sustain the rejection of claims 1–17 under 35 U.S.C. § 103(a).

DECISION

We affirm the Examiner’s rejection of claims 1–17 under 35 U.S.C. § 101.

We affirm the Examiner’s rejection of claims 1–17 under 35 U.S.C. § 103(a).

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