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EXAMINER

WILLIAMS, TERESA S

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WENG I. LEI

Appeal 2018-001593
Application 11/837,816
Technology Center 3600

Before HUBERT C. LORIN, PHILIP J. HOFFMANN, and
AMEE A. SHAH, *Administrative Patent Judges*.

SHAH, *Administrative Patent Judge*.

DECISION ON APPEAL¹

The Appellant² appeals under 35 U.S.C. § 134(a) from the Examiner’s final decision rejecting claims 1–17 under 35 U.S.C. § 101 as being directed to a judicial exception without significantly more. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Throughout this Decision, we refer to the Appellant’s Appeal Brief (“Appeal Br.,” filed July 3, 2017), Reply Brief (“Reply Br.,” filed Dec. 1, 2017), and Specification (“Spec.,” filed Aug. 13, 2007), and to the Examiner’s Answer (“Ans.,” mailed Oct. 31, 2017) and Final Office Action (“Final Act.,” mailed Feb. 13, 2017).

² According to the Appellant, the real party in interest is Siemens Medical Solutions USA, Inc. Appeal Br. 2.

STATEMENT OF THE CASE

The Appellant's invention "relates to a system and method for medical data scan archiving. More specifically, the invention provides a message broadcast mechanism for Picture Archiving And Communication Systems (PACS) to alert medical professional of the need to evaluate the medical data scans and retrieve outdated message broadcasts." Spec¶ 2.

Claims 1, 9, and 17 are the independent claims on appeal. Claim 1 (Appeal Br. 20 (Claims App.)) is illustrative of the subject matter on appeal and is reproduced below (with added bracketing for reference):

1. A method performed by at least one computer for notifying medical professionals of a need for an evaluation of a medical scan, comprising the activities of:

[(a)] enrolling a medical professional in a computer system, the enrolling of the medical professional including an indication of a medical professional type including one of a first type comprising a medical professional designated for reading magnetic resonance images and a second type comprising a medical professional designated for reading computed tomography images;

[(b)] gathering medical image data from a patient;

[(c)] entering the medical image data gathered from the patient into a data archival system of a computer server of the computer system, an urgency type including a requisite priority for evaluative results for the patient, and a medical data type for the patient into a data archival system;

[(d)] evaluating the urgency type for the patient related medical image data;

[(e)] monitoring an examination status of the gathered medical image data to determine whether the examination status indicates the gathered medical image data is verified and approved; and

[(f)] broadcasting, by the computer server and in response to the determination that the examination status of the gathered medical data is verified and approved, an electronic notification broadcast message to an enrolled medical professional of the first type or the second type corresponding to whether the medical data type for the patient comprises magnetic resonance images or computed tomography images, respectively, in the event the urgency type corresponds to a need for an immediate reading of the medical image data for the patient.

Appeal Br. 20 (Claims Appendix).

ANALYSIS

The Appellant argues claims 1–17 as a group. Appeal Br. 12. We select claim 1 from the group with claims 2–17 standing or falling therewith. *See* 37 C.F.R. § 41.37(c)(1)(iv).

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 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted).

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 Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of 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, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 192 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); 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 187; *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 (citation 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 PTO recently published revised guidance on the application of § 101. 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Revised Guidance”). Under the 2019 Revised 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 activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) § 2106.05(a)–(c), (e)–(h) (9th Ed., Rev. 08.2017, Jan. 2018)).

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 a specific limitation beyond the judicial exception that is 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 2019 Revised Guidance.

Step One of the Mayo/Alice Framework

Under the first step of the *Mayo/Alice* framework and Step 2A of Office Guidelines and Prong 1 of the 2019 Revised Guidelines (84 Fed. Reg. at 54), the Examiner determines that the claims are “directed to the abstract idea of notifying medical professionals of a need for an evaluation of a medical scan by evaluating medical images to determine an urgency type, then notifying medical professionals” (Final Act. 2), and citing judicial decisions, determines the concept “corresponds to concepts identified as abstract ideas by the courts, such as ‘an idea of itself’ in *Alice* . . . [and] that it collects information, analyzes it, and displays certain results of the collection and analysis, such as *Electric Power Group*” (*id.* at 3).

The Appellant contends that the Examiner’s characterization of the claim is incorrect and that the claim is more accurately characterized as reciting “evaluating the urgency type for the patient related medical image data.” Reply Br. 2 (quoting claim 1); Appeal Br. 13.

An examination of the claims shows that independent claim 1 recites “[a] method performed by at least one computer for notifying medical professionals of a need for an evaluation of a medical scan, comprising the activities of:” (a) enrolling a professional in a computer system with the type of professional and what type of image the professional is designated to read; (b) “gathering medical image data from a patient”; (c) entering the image data, urgency type, and medical data type into a data archival system of a computer server; (d) evaluating the urgency type; (e) monitoring the

examination status to determine indication of verified and approved image data; and (f) the computer server broadcasting an electronic notification message to a professional corresponding to the image type “in the event the urgency type corresponds to a need for an immediate reading of the medical image data for the patient.” Appeal Br. 20 (Claims App.). Limitations (a), (b), (c), (d), and (e) are not claimed to be performed by a computer. Rather, the steps of enrolling, gathering, entering, evaluating, and monitoring/determining are performed manually or mentally; only limitation (f) of broadcasting is performed by a computer server. The server for receiving enrolling information and image data and for broadcasting is a general purpose server in a conventional computer system. *See* Spec. ¶¶ 25, 27, 32 (generally discussing system 200 with server 204); Fig. 2.

The Specification provides for “a message broadcast mechanism for Picture Archiving And Communication Systems (PACS) to alert medical professional of the need to evaluate the medical data scans and retrieve outdated message broadcasts.” Spec. ¶ 2. The Specification further provides that “[e]valuation of medical data, such as body scans, by medical professionals is a necessary and important process in medical care” (*id.* ¶ 3), and that “[i]n emergency situations, however, the data must be evaluated on a quicker interval [than weekly]” (*id.* ¶ 4). The invention addresses “a need to provide a method and apparatus to notify medical professionals, such as radiologists, that examination of medical data should commence when data is ready.” *Id.* ¶ 5.

The claim recites the results of the functions without providing details on how, i.e., by what algorithm or on what basis/method, the steps/functions of enrolling, gathering, entering, evaluating, monitoring, determining, and

broadcasting data. The Specification provides no further technological details. For example, the Appellant generally cites to Figures 1 and 2 and paragraphs 13, 17, 22, 25, 26, and 28–31 of the Specification as support for all of the claimed steps. Appeal Br. 4–5. However, these portions simply repeat the claim language or discuss the steps generally; there is no discussion of how, technologically or by what algorithm, enrolling, gathering, entering, evaluating, monitoring, determining, and broadcasting data are performed.

Thus, the claim, under the broadest reasonable interpretation of the claim limitations, recites a method for notifying the need for an evaluation of a medical scan by enrolling, gathering, entering, evaluating, monitoring, and determining image, medical professional, and urgency data, and conditionally broadcasting a notification based on the results of the determination.³ The limitations of enrolling, gathering, entering, evaluating, monitoring, and determining data are mental steps and activities that are ordinarily performed in evaluations, such as of medical scans. Conditionally broadcasting a message based on the determination is a post-solution activity and also ordinarily performed when providing results of evaluations made. Notifying the need for an evaluation of a medical scan is similar to the concepts of “collecting and analyzing information to detect misuse and notifying a user when misuse is detected” in *FairWarning IP, LLC v. Iatric*

³ We note that although the description of the abstract idea may differ slightly from the Examiner’s characterization, “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). The Board’s “slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* at 1241.

Sys., Inc., 839 F.3d 1089, 1094 (Fed. Cir. 2016) and of “selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis” in *SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018). Accordingly, we conclude the claim recites a way of sending the results of evaluated information, which is a way of managing interactions between people, one of the certain methods of organizing human activity as identified in the 2019 Revised Guidance (84 Fed. Reg. at 52), and a mental process, and thus an abstract idea. As such, we disagree with the Appellant’s contentions that the claim is not directed to an abstract idea. *See* Appeal Br. 13–15; Reply Br. 2–5.

Under Step 2A, Prong 2 of the 2019 Revised Guidance (84 Fed. Reg. at 54), we look to whether the claims “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 judicial exception,” i.e., “integrates the . . . judicial exception into a practical application.” Here, the Appellant contends that the claim is not abstract because it is “connected or tied to concrete and/or tangible devices and systems (i.e., entities)” and that “the operations of claim 1 cannot be performed in the human mind or by a human using pen and paper.” Appeal Br. 15. However, as noted above, only the broadcasting step, limitation (f), requires a computer to perform the step. The enrolling, entering, gathering, evaluating, and monitoring of information are not recited as being performed by a computer, but rather performed manually using a computer. And simply tying the steps to a conventional computer as recited in claim 1 here does not make the claim not abstract. *See Alice*, 573

U.S. at 223–24 (the mere recitation of a computer to implement an abstract idea does not impart patent-eligibility).

The Appellant also contends that

claim 1 is directed to a particular solution that solves the problem of, for example, how to, in specific technical detail, efficiently and timely notify appropriately trained and skilled medical professional(s) of a need to have a patient’s medical imaging records evaluated when the situation specifically demands immediate evaluating of those medical images where the evaluation is based on a plurality of factors and considerations.

Appeal Br. 15; *see also id.* at 18 (“this is not a situation in which a general-purpose computer is added to carry out an abstract idea, but instead a specific implementation of a technological solution to a particular technological problem.”). We disagree. The claim does not recite any “specific technical detail” on how the steps are performed. And the problem of “efficiently and time notify[ing] appropriately trained and skilled medical professional(s) of a need to” evaluate imaging records is a business/medical problem that existed prior to the Internet. The Appellant has not provided evidence or reasoning that this problem is “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2015). Further, the purported “particular solution” requires a general purpose computer and conventional server operating in their ordinary and conventional capacities. *See supra.*

We find unpersuasive the Appellant’s argument that the claim improve[s] operations of the claimed computer system and computer server by, for example, improving the functionality thereof to operate in a more accurate and efficient manner to broadcast electronic notification broadcast messages to specific individuals based on the various particularly claimed features

(e.g., specific types of data, specific types of evaluating and monitoring).

Appeal Br. 16. The claim recites the results of the functions without any implementation details using a conventional computer and server. There is no indication how the computer or server itself is improved or made “more accurate and efficient.” The Appellant does not contend that they invented the computer or server or their basic functions, or that the computer and server, claimed generally, were unknown in the art as of the time of the invention. *Affinity Labs of Texas, LLC v. Amazon.com, Inc.*, 838 F.3d 1266, 1270 (Fed. Cir. 2016); *see also SAP Am.*, 898 F.3d at 1170. The Appellant’s alleged improvement to broadcasting messages based on types of data, evaluating, and monitoring (Appeal Br. 16) lies in the abstract idea itself, not to any technological improvement.

We disagree with the Appellant’s contention that the claim is similar to those of *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), because it is “directed to specific improvements in a computer system that notifies specific types of individuals in particularly claimed instances (e.g., the specifically claimed types of medial image data, urgency type, etc.)” Appeal Br. 17; *see also id.* at 16. The Appellant does not point to anything in the claim that resembles the improvement to the technical field of computer animation that was not simply the use of a generic computer in *McRO*. As discussed above, the Specification, including the claim, does not discuss or claim how any technical aspect of the computer or server is improved. The claim does not recite how the “rules,” i.e., the “the specifically claimed types of medial image data, urgency type, etc.” (Appeal Br. 17), are used to improve an existing technological process. *Cf. McRO*, 837 F.3d at 1314.

We also disagree with the Appellant’s contention that the claim is similar to those of *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), because “the elements recited by independent claim 1 provide meaningful limitations that add more than generally linking use of an abstract idea to generic computing devices.” Appeal Br. 18; *see also id.* at 17.⁴ The Appellant provides no further arguments how the claim’s particular arrangement and/or integration of elements is a technical improvement or is otherwise similar to *BASCOM*.

Thus, we are not persuaded of error in the Examiner’s determination that claim 1 is directed to an abstract idea.

Step Two of the Mayo/Alice Framework

Under the second step in the *Mayo/Alice* framework, and Step 2B of the 2019 Revised Guidance, we find supported the Examiner’s determination that claim 1’s limitations, taken individually or as an ordered combination, do not amount to significantly more than the judicial exception and that the claim recites a data archival system and computer server of a computer system that “perform[] the well-understood, routine and conventional activity of using generic computer hardware (see paragraphs [0017, 0020, 0022] of Specification).” Final Act. 3–4.

We note that, as discussed above, the claim simply recites manual steps or the functional results to be achieved by a conventional computer or server. The claim “provides only a result-oriented solution[] with

⁴ We acknowledge that some of these considerations may be properly evaluated under Step 2 of *Alice* (Step 2B of Office guidance). Solely for purposes of maintaining consistent treatment within the Office, we evaluate them under Step 1 of *Alice* (Step 2A of Office guidance). *See* 2019 Revised Guidance, 84 Fed. Reg. at 55.

insufficient detail for how a computer accomplishes it. Our law demands more.” *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1342 (Fed. Cir. 2017). The Appellant does not provide support or reasoning as to how any of the steps of the claim “[a]dd[] a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field.” 2019 Revised Guidance, 84 Fed. Reg. at 56. The claimed general purpose computing system or generic server operates in its ordinary and conventional capacity to perform the well-understood, routine, and conventional functions of broadcasting messages. *See Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1262 (Fed. Cir. 2016) (the claim recites “well as routine functions, such as transmitting and receiving signals, to implement the underlying idea” of broadcasting content); *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355–55 (Fed. Cir. 2016)), *cert. denied*, 137 S. Ct. 1230 (2017) (gathering, sending, monitoring, analyzing, selecting, and presenting information does not transform the abstract process into a patent-eligible invention); *Alice*, 573 U.S. at 226 (“Nearly every computer will include a ‘communications controller’ and ‘data storage unit’ capable of performing the basic calculation, storage, and transmission functions required by the method claims.”).

Thus, we are not persuaded of error in the Examiner’s determination that the limitations of claim 1 do not transform the claims into significantly more than the abstract idea.

Based on the foregoing, we are not persuaded that the Examiner erred in rejecting independent claim 1 under 35 U.S.C. § 101, and we sustain the rejection of claim 1 and of claims 2–17, which fall with claim 1.

Appeal 2018-001593
Application 11/837,816

DECISION

The Examiner's rejection of claims 1–17 under 35 U.S.C. § 101 is
AFFIRMED.

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