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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CORVILLE O. ALLEN, ANDREW R. FREED, and
STEPHAN J. ROORDA

Appeal 2018-003924
Application 14/567,224
Technology Center 3700

Before EDWARD A. BROWN, ARTHUR M. PESLAK, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ seeks review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 1–3, 5–10, 12–17, 19, and 20.² We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ International Business Machines Corporation (“Appellant”) is the Applicant and is identified as the real party in interest. 37 C.F.R. § 1.46; Appeal Br. 2.

² Claims 4, 11, and 18 are cancelled. *Id.* (Claims App.).

CLAIMED SUBJECT MATTER

Claims 1, 8, and 15 are independent. Claim 1 is illustrative, and reads:

1. A method implemented by an information handling system that includes a memory and a processor, the method comprising:
 - analyzing a plurality of posts included in a plurality of threads of one or more threaded discussions, wherein the analyzing further comprises:
 - identifying a parent post in one of the threads;
 - identifying one or more possible answers included in one or more child posts that refer to the parent post; and
 - scoring the identified possible answers by submitting the identified possible answers to a question answering (QA) system pipeline, wherein the QA system pipeline treats the identified possible answers as candidate answers to the parent post, and wherein the QA system pipeline determines a QA answer score for each of the identified possible answers; and
 - returning at least one of the identified possible answers as an answer to the parent post based on the respective scoring.

Appeal Br. 15 (Claims App.).

REJECTIONS

Claims 1–3, 5–10, 12–17, 19, and 20 stand rejected under 35 U.S.C. § 101 as directed to patent ineligible subject matter.

Claims 1, 2, 5, 8, 9, 12, 15, 16, and 19 stand rejected under 35 U.S.C. § 102(a)(1) as anticipated by Yoshida (US 2012/0116982 A1, published May 10, 2012).

Claims 3, 10, and 17 stand rejected under 35 U.S.C. § 103 as unpatentable over Yoshida and Brill (US 2004/0254917 A1, published Dec. 16, 2004).

Claims 6, 7, 13, 14, and 20 stand rejected under 35 U.S.C. § 103 as unpatentable over Yoshida and Goto (US 2006/0078862 A1, published Apr. 13, 2006).

ANALYSIS

Patent Ineligible Subject Matter (Claims 1–3, 5–10, 12–17, 19, and 20)

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. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See 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, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 192 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 184 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176; *see also id.* at 192 (“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 (quotation marks omitted). “A

claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* (“Memorandum”). Under Step 2A of that guidance, we first look to whether the claim recites:

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

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 Memorandum.

Step 1 – Statutory Category

Appellant argues all of the claims 1–3, 5–10, 12–17, 19, and 20 together in contesting the rejection under 35 U.S.C. § 101. *See* Appeal Br. 6–10. Accordingly, we decide the appeal of this rejection based on claim 1, with claims 2, 3, 5–10, 12–17, 19, and 20 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (permitting the Board to select a single claim to decide the appeal as to a ground of rejection of a group of claims argued together).

Claim 1 recites a series of steps, and, therefore, is a process. *See* Appeal Br. 15 (Claims App.).

Step 2A, Prong One – Recitation of Judicial Exception

Step 2A of the 2019 Guidance is a two-prong inquiry. In Prong One, we evaluate whether the claim recites a judicial exception. For abstract ideas, Prong One represents a change as compared to prior guidance because we here determine whether the claim recites mathematical concepts, certain methods of organizing human activity, or mental processes. *See* Memorandum.

Here, the Examiner determines claim 1 recites a “pre-computer analogue” of a method of choosing an answer, including the steps of “identifying a question,” “identifying a plurality of answers to the question,” “voting on answers,” and “choosing the best answer based on the outcome of voting.” Final Act. 2. The Examiner concludes claim 1 recites a certain method of organizing human activity. *Id.*

Appellant does not address the Examiner's determination that claim 1 recites a method of organizing human activity, and, thus, does not apprise us of any error in this determination. *See* Appeal Br.

We agree with the Examiner that claim 1 recites a method of organizing human activity. The following group of limitations of claim 1 recite this method: “analyzing a plurality of posts included in a plurality of threads of one or more threaded discussions,” “identifying a parent post in one of the threads,” “identifying one or more possible answers included in one or more child posts that refer to the parent post,” “scoring the identified possible answers,” and “returning at least one of the identified possible answers as an answer to the parent post based on the respective scoring.” Appeal Br. 15 (Claims App.). These limitations pertain to searching threads in threaded discussions for relevant posts (information). Such threaded discussions represent interactions between people. The “analyzing” comprises following a procedure to analyze the posts. “Scoring the identified possible answers” and the subsequent “returning” step is analogous to the practice of “up-voting,” in which forum users are allowed to vote for the correct answer. *See* Spec. ¶ 1. In *Voter Verified, Inc. v. Election Systems & Software, LLC*, 887 F.3d 1376, 1385 (Fed. Cir. 2018), the court found that the concept of “voting, verifying the vote, and submitting the vote for tabulation” is a “fundamental activity” that humans have performed for hundreds of years, to be an abstract idea. The noted group of limitations in claim 1 recites managing personal behavior or relationships or interactions between people, including social activities and following rules or instructions. These concepts are an abstract idea under the 2019 Guidance. *See* Memorandum.

Additionally, claim 1 recites a mental process. Particularly, each of the limitations in claim 1 that recite a method of organizing human activity noted above can, as a practical matter, be performed in the human mind. Namely, “analyzing a plurality of posts included in a plurality of threads of one or more threaded discussions” is an observation or evaluation of posts. Likewise, “identifying a parent post in one of the threads” is an observation or evaluation of the posts. “Identifying one or more possible answers included in one or more child posts that refer to the parent post” involves an opinion or judgment about the child posts. “Scoring the identified possible answers” is an opinion or judgment as to the relative value or ranking, for example, of the identified possible answers. Finally, “returning at least one of the identified possible answers as an answer to the parent post based on the respective scoring” is an opinion or judgment as to which of the scored identified possible answers to return. Mental processes are another abstract idea under the 2019 Guidance. *See Memorandum.*

Because we conclude claim 1 recites an abstract idea, we proceed to Prong Two to determine whether the claim is “directed to” the judicial exception.

Step 2A, Prong 2 – Practical Application

As noted, if a claim recites a judicial exception, in Prong Two we next determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

See Memorandum. This evaluation 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.

Here, claim 1 recites additional elements beyond the judicial exception; namely, “scoring the identified possible answers”

by submitting the identified possible answers to a question answering (QA) system pipeline, wherein the QA system pipeline treats the identified possible answers as candidate answers to the parent post, and wherein the QA system pipeline determines a QA answer score for each of the identified possible answers.

Appeal Br. 15 (Claims App.).

Appellant asserts the claims are directed to “specific improvements in the technical field of QA computer systems, and particularly in the technical field of online threaded discussions.” *Id.* at 6. Appellant also contends, “[the] claims are ‘directed to a specific implementation of a solution to a problem in the software arts’” and “the claimed invention does not merely invoke the computer as a tool.” *Id.* According to Appellant, “[w]hen viewed as a whole and in light of Appellant’s Specification, it is clear that Appellant’s claimed invention *improves the capabilities* of the QA computer system and the online threaded discussion system, such that *the system returns better and more accurate answers.*” *Id.* at 10 (emphasis added). Appellant states, “One skilled in the art understands the complexity of a QA computer system, and Appellant’s Specification points out, in very specific detail, an example of just such a complex computer system.” Reply Br. 4 (citing Spec. ¶¶ 15–22; Fig. 1).

We are unpersuaded by these contentions. Claim 1 recites the function of the QA system pipeline—i.e., the QA system pipeline “treats the identified possible answers as candidate answers to the parent post, and . . . determines a QA answer score for each of the identified possible answers.” Appeal Br. 15 (Claims App.). To the extent Appellant is contending that the recited QA system pipeline should be construed as a “complex computer system” (Reply Br. 4), we decline to do so. First, claim 1 recites no specific structural limitations of the QA system pipeline. Second, Appellant does not establish, with evidence, that a QA system pipeline has a particular known meaning in the art, or direct us to a specific definition of this term in the Specification. We note Appellant’s Specification describes, “[i]n *some illustrative embodiments*, *QA system 100* may be the IBM Watson™ QA system . . . , which is augmented with the mechanisms of the illustrative embodiments described hereafter.” Spec. ¶ 19 (emphasis added). This description discloses that this particular QA system is exemplary only and may be used in some embodiments. We construe the method of claim 1 not to be limited to utilizing this exemplary QA system, or even any specific QA system pipeline. *See SuperGuide v. DirecTV Enters.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment”).

The preamble of claim 1 recites “an information handling system that includes a memory and a processor.” Appeal Br. 15 (Claims App.). The memory and processor are not recited in the claim body. *Id.* Under the broadest reasonable construction, the method of claim 1 can be implemented using a generic memory and processor. Consistent with this construction,

Appellant concedes that “the claims can be performed on a general purpose computer or include some generic computer elements.” Appeal Br. 8; Reply Br. 4. Accordingly, “with the exception of generic computer-implemented steps, there is nothing in [claim 1 itself] that foreclose[s] [it] from being performed by a human, mentally or with pen and paper.” *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016).

We also are not persuaded that the claimed method reflects an improvement in “*the capabilities* of the QA computer system and the online threaded discussion system, such that *the system returns better and more accurate answers.*” Appeal Br. 10 (emphasis added). Claim 1 does not expressly recite a QA computer system, but recites “scoring the identified possible answers” by submitting them to a QA system pipeline. Appellant does not explain persuasively how the performance of this scoring by implementing the method improves the information handling system or a QA computer system. Also, claim 1 does not expressly recite an “online threaded discussion system.” Nor does Appellant explain persuasively how the language of claim 1 reflects that any “online threaded discussion system” is improved by implementing the claimed method. Accordingly, we are not persuaded that the language of claim 1 reflects any improvement in technology.

Appellant references the Specification as describing problems associated with searching known forums for answers. Appeal Br. 9–10 (citing Spec. ¶ 1). But even accepting that some forums “may not” always provide “the most relevant answer for a user’s specific question” (*see* Spec. ¶ 1), Appellant does not explain persuasively, or show with persuasive evidence, how the claimed method “returns better and more accurate

answers for the user,” as compared to any specific system. For example, we note claim 1 does not specify how the “possible answers” are “identified” “in one or more child posts that refer to the parent post.” And, claim 1 recites “returning *at least one of the identified possible answers* as an answer to the parent post based on the respective scoring.” *Id.* at 15 (Claims App.) (emphasis added). This recitation does not limit how many identified “possible answers” are “returned,” or require these possible answers to have any particular “QA answer score.” Accordingly, Appellant’s contention that the claimed method “returns better and more accurate answers for the user” is unpersuasive.

For these reasons, we are not persuaded that the claimed method provides an improvement to the functioning of a “QA computer system,” or to any other technology or technical field. *See* MPEP § 2106.05(a). Appellant’s contention that “Appellant claims specific improvements in the technical field of QA computer systems, and particularly in the technical field of online threaded discussions,” is likewise not persuasive. *See* Appeal Br. 6. As we conclude claim 1 does not integrate the judicial exception into a practical application, we proceed to Step 2B to determine whether the claim adds a specific limitation that is not “well-understood, routine, conventional” in the field.

Step 2B – Well-Understood, Routine, Conventional Activity

The Examiner determines that claim 1 recites a generic computer and typical components of a generic computer, performing the routine and conventional function of implementing instructions of an abstract idea on a computer. Final Act. 3. The Examiner specifically notes claim 1 recites an

information handling system including a memory and a processor, and that these computer components are recited at a high level of generality. *Id.*

Appellant contends that the limitations in claim 1 of “analyzing a plurality of posts included in a *plurality of threads of one or more threaded discussions*,” “identifying a parent post in one of the threads,” “identifying one or more possible answers,” and “returning at least one of the identified possible answers as an answer to the parent post based on the respective scoring” “amount to significantly more than the abstract idea itself.” Appeal Br. 9. However, the pertinent issue is whether the additional elements recited in claim 1 (i.e., the claim elements *in addition to* those that recite an abstract idea) are sufficient to amount to significantly more than the abstract idea itself. As explained in *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290 (2018), “[i]t has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention “significantly more” than that ineligible concept.”

As discussed above, apart from the “analyzing,” “identifying,” and “returning” limitations, which recite an abstract idea, the only additional elements recited in claim 1 are “wherein the QA system pipeline . . . determines a QA answer score for each of the identified possible answers.” Appellant acknowledges “the claims can be performed on a general purpose computer or include some generic computer elements.” Appeal Br. 8; Reply Br. 4. Appellant does not show persuasively that submitting the identified possible answers to a QA system pipeline, as recited in claim 1, amounts to significantly more than the abstract idea itself.

Thus, we sustain the rejection of claim 1, and of claims 2, 3, 5–10, 12–17, 19, and 20, which fall with claim 1, under 35 U.S.C. § 101 as directed to patent ineligible subject matter.

Anticipation by Yoshida (Claims 1, 2, 5, 8, 9, 12, 15, 16, and 19)

The Examiner finds Yoshida discloses all limitations of claim 1. Final Act. 3–4. As for the claimed “scoring” step, the Examiner cites Yoshida Figure 1 (“Vote Best Answer 116”), Figure 5 (“Like, Dislike and Best Answer votes”), Figure 15 (“Best Answer”), and Figure 25 (“threaded discussions” and “Best Answer”). *Id.* at 4.

Appellant contends Yoshida discloses a user “entering a question, such as a question related to the forum” (Appeal Br. 11 (citing Yoshida ¶ 92)), and that “a user may also vote on answers to questions by selecting ‘best answer, like or dislike vote, and/or other links’” (*id.* (citing Yoshida ¶ 70)). Appellant asserts allowing a user to vote on answers in Yoshida does not disclose the use of a QA system pipeline, as claimed. *Id.*

Yoshida describes, for example, “[u]sers who post questions in the forum can read posted replies, *vote to like or dislike as well as vote an answer as best*” (Yoshida ¶ 67 (emphasis added); *see also* Fig. 2), and “[u]sers who do not post a question can read replies and *vote to like or dislike a reply*” (*id.* ¶ 68 (emphasis added); *see also* Fig. 3). As for the embodiment shown in Figure 2, Yoshida describes, “[i]n step 214, the user system sends a request to the server to record the vote (which may trigger the server to compute the total votes).” *Id.* ¶ 70. Accordingly, Yoshida discloses that users of the system vote on questions, and the server may compute the total votes.

Appellant states, “the cited sections of Yoshida [by the Examiner] may bear some similarity to some of the elements of claims 5, 12, and 19.” Appeal Br. 11. Claim 5, for example, recites “calculating *a structural score* based on the identified agreement levels found in the identified child posts.” See Appeal Br. 15 (Claims App.). Appellant explains that Figure 17 of Appellant’s application depicts “structured scoring,” particular at step 1760. *Id.* at 10–11. Step 1760 states, “Identify agreement, up-vote, ‘me-too’s’, ‘+1s’, ‘likes,’ ‘dislikes,’ etc. in child post to parent post”). Although Yoshida describes that voters can vote with “like,” “dislike,” and “best answer,” which is similar to language in step 1760 in Appellant’s Figure 17, we agree with Appellant that this does not establish Yoshida discloses the claimed step of “scoring.” That is, even assuming the voting on answers described in Yoshida corresponds to the claimed “scoring,” the voting is done by users of the system. The Examiner does not establish, with evidence, Yoshida discloses scoring answers “by submitting the identified possible answers to a question answering (QA) system pipeline . . . wherein *the QA system pipeline determines a QA answer score for each of the identified possible answers,*” as required by claim 1. In the claimed method, the QA system pipeline is *not* the same as a user (i.e., a person) in Yoshida.

Accordingly, we do not sustain the rejection of claim 1, and of claims 2 and 5 depending therefrom, as anticipated by Yoshida. Independent claims 8 and 15 both recite, in part, the “scoring” limitation as in claim 1. See Appeal Br. 17, 19–20 (Claims App.). For reasons similar to those for claim 1, we do not sustain the rejection of claims 8 and 15, and of dependent claims 9, 12, 16, and 19, as anticipated by Yoshida.

Obviousness over Yoshida and Brill (Claims 3, 10, and 17)

The Examiner's reliance on Brill in rejecting dependent claims 3, 10, and 17 fails to cure the deficiencies in the rejection of respective parent claim 1, 8, or 15. Final Act. 8. Accordingly, we do not sustain the rejection of claims 3, 10, and 17 as unpatentable over Yoshida and Brill.

Obviousness over Yoshida and Goto (Claims 6, 7, 13, 14, and 20)

The Examiner's reliance on Goto in rejecting dependent claims 6, 7, 13, 14, and 20 fails to cure the deficiencies in the rejection of parent claim 1, 8, or 15. Final Act. 8–10. Accordingly, we do not sustain the rejection of claims 6, 7, 13, 14, and 20 as unpatentable over Yoshida and Goto.

DECISION

The rejection of claims 1–3, 5–10, 12–17, 19, and 20 under 35 U.S.C. § 101 as directed to patent ineligible subject matter is AFFIRMED.

The rejection of claims 1, 2, 5, 8, 9, 12, 15, 16, and 19 under 35 U.S.C. § 102(a)(1) as anticipated by Yoshida is REVERSED.

The rejection of claims 3, 10, and 17 under 35 U.S.C. § 103 as unpatentable over Yoshida and Brill is REVERSED.

The rejection of claims 6, 7, 13, 14, and 20 under 35 U.S.C. § 103 as unpatentable over Yoshida and Goto is REVERSED.

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

AFFIRMED