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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW R. GILLAM and WILLIAM GUY HILBERT[1]

Appeal 2017-003138
Application 13/708,519
Technology Center 3700

Before MICHELLE R. OSINSKI, NATHAN A. ENGELS, and PAUL J. KORNICZKY, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–22 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.[2] We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

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[1] Oracle International Corporation ("Appellant") is the Applicant as provided in 37 C.F.R. § 1.46 and is identified as the real party in interest. Br. 2.

[2] The specific rejection of claims 15–20 as directed to patent-ineligible subject matter "because the limitation[s] are directed to [a] computer program product that [is] not embodied in a non-transitory computer readable medium" (Final Act. 3) has been withdrawn (Ans. 2).

We AFFIRM.

THE CLAIMED SUBJECT MATTER

Claims 1, 10, and 15 are independent. Claim 1, reproduced below, is illustrative of the subject matter on appeal.

> 1. A computer-implemented method comprising:
>
> accessing a set of values, wherein
>
> each value of the set of values is on a raw scale that is from a minimum value to a maximum value, and
>
> the set of values is stored in a non-transitory computer-readable storage medium; and
>
> generating, using one or more processors of a computer system, a competency value, wherein
>
> the generating the competency value comprises generating a compressed value from a first value of the set of values, wherein
>
> the compressed value is generated by mapping a first value of the set of values to an adjusted scale, wherein the mapping the first value comprises using one of a linear formula or a non-linear formula, and the adjusted scale has a smaller range than the raw scale, and
>
> generating an accelerator, wherein
>
> the accelerator is generated using one or more remaining values of the set of values, and
>
> the one or more remaining values are values of the set of values other than the first value, and
>
> the compressed value and the accelerator are used in the generating the competency value.

OPINION

Appellant argues independent claims 1, 10, and 15 as a group and does not present any separate arguments for dependent claims 11–14, 16–19,

and 21. Br. 6–15. We select claim 1 as the representative claim, and claims 10–19 and 21 stand or fall therewith. 37 C.F.R. § 41.37(c)(1)(iv).

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 Servs. v. Prometheus Labs, Inc.*, 566 U.S. 66, 71–73 (2012)). Under that framework, it must be "determine[d] whether the claims at issue are directed to one of those patent-ineligible concepts"—i.e., a law of nature, a natural phenomenon, or an abstract idea. *Id.* If so, "the elements of each claim [must be considered] 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.* (quoting *Mayo*, 566 U.S. at 78). The Supreme Court has described the second part of the analysis as "a 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.* (quoting *Mayo*, 566 U.S. at 72–73) (alteration in original).

The Examiner determines that the subject matter of claim 1 is "directed to [a] method that calculate[s] [a] competency value, compressed value[,] and acceleration value" and "relies heavily on the application of [a] mathematical algorithm and function to perform its function." Ans. 3. The Examiner states that "[f]or example, the generation of the competency values [is] nothing more than the product of mathematical calculation based on the input received by the computer" (*id.* at 3–4 (citing Spec. ¶¶ 33–37)),

"the compression curve and compression value are reduced along the straight line of 1 – 4.5 (y=[0.90]x)" (*id.* at 4 (citing Spec. ¶ 33)), and "a mathematical algorithm of calculating accelerator values can be found in paragraph 37" (*id.*). The Examiner takes the position that the limitations of claim 1 "are similar to other cases [that] have been decided to be directed to an abstract idea," including "[f]or example, an algorithm for converting binary coded decimal to pure binary[3] and an algorithm or formula for computing an alarm limit."[4] *Id.* (citing July 2015 Update: Interim Eligibility Guidance Quick Reference Sheet).

Appellant argues that the claimed invention is not directed to the idea of evaluating an employee's competency because, for example, claim 1 does not recite any steps that could be "characterized as directed to how the competency value is used in an employee's evaluation or the manner in which an employee evaluation is performed." Br. 6–7. This argument is not persuasive of Examiner error because it fails to address the Examiner's clarified identification of the abstract idea as a method that merely employs mathematical algorithms to manipulate input data in order to generate other data. *See* Ans. 3–4. We agree with the Examiner that, under the first step of the analysis, claim 1 is directed to an abstract idea. *See id.* The claimed steps amount to receiving input information (i.e., data on a raw scale) and

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[3] *See Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972) (rejecting as ineligible claims directed to an algorithm for converting binary-coded decimal numerals into pure binary form).

[4] *See Parker v. Flook*, 437 U.S. 584, 585, 594–96 (1978) (rejecting as ineligible claims directed to (1) measuring the current value for a variable in a catalytic conversion process, (2) using an algorithm to calculate an updated "alarm-limit value" for that variable, and (3) updating the limit with the new value).

generating additional information (i.e., a compressed value and accelerator, and ultimately, a competency value) using algorithms.[5] Our reviewing courts have held claims ineligible under § 101 when directed to manipulating existing information, such as by using algorithms, to generate additional information. In addition to those examples identified by the Examiner in the Answer, see also *Elec. Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (discussing how "collecting information" and "analyzing information by steps people go through in their minds, or by mathematical algorithms, without more" are abstract ideas); and *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.").

Appellant further argues that the claims do "not preempt all applications of the purported abstract idea of evaluating an employee's competency" in that, for example, there "remain many alternative methods of aiding in the assessment of an employee's competency . . . [or] of generating a competency value." Br. 14–15. This argument is unpersuasive. Merely because claims do not preempt all forms of the abstraction does not make them any less abstract. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) ("[T]hat the claims do not preempt all

[5] Although the claims recite the algorithms in words rather than as mathematical formulas, the claim nevertheless recites algorithms. *See In re Grams*, 888 F.2d 835, 837 n.1 (Fed. Cir. 1989) ("It is of no moment that the algorithm is not expressed in terms of a mathematical formula. Words used in a claim operating on data to solve a problem can serve the same purpose as a formula.").

price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). Moreover, characterizing preemption as a driving concern for patent eligibility is not the same as characterizing preemption as the dispositive test for patent eligibility. Instead, "[t]he Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability" and "[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis." *Ariosa Diagnostics, Inc.* v. *Sequenom, Inc.,* 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice,* 134 S. Ct. at 2354). Although "preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.* Given this direction from our reviewing court, we decline to apply a separate preemption standard in our analysis, and instead, as discussed above, we apply the steps set forth by the Supreme Court in *Alice* and *Mayo*.

Therefore, when read as a whole, independent claim 1 is directed to a method employing mathematical algorithms for manipulating data, which, for the above reasons, constitute a patent-ineligible abstract idea.

Regarding the second step of the *Alice* framework, the Examiner determines:

> [T]he claim limitations do not set forth any limitation that . . . amounts to significant[ly] more than the judicial exception itself. The additional element(s) or combination of elements in the claim(s)[,] other than the abstract idea per se[,] amount(s) to no more than: mere instructions to implement the idea on a computer, and/or recitation of generic computer structure, ex., physical, non-transitory devices, that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry. Viewed as a whole, these additional claim element(s)

> do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself.

Final Act. 2–3.

Appellant argues that the limitations relating to generating a competency value, generating a compressed value, and generating an accelerator are "limitations that are more than merely generic computer limitations." Br. 8. This argument is not persuasive in that Appellant points only to the algorithm itself, whereas the second step of *Alice* is a search for an element or combination of elements that ensures that the claim is *more* than the ineligible concept of a mathematical algorithm.

Appellant also argues that its claims are similar to the claims of *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) in that "the claimed invention recites an invention that is not merely the routine or conventional technique for evaluating an employee's competency." Br. 9. We do not find this argument persuasive. As an initial matter, the claims at issue in *DDR* addressed the problem of retaining website visitors who would otherwise be transported away from the host website after clicking on an advertisement on the host website and activating a hyperlink. *DDR*, 773 F.3d at 1257. The *DDR* claims related to automatically generating a hybrid web page that permits users visiting a host website to view and purchase products from a third-party merchant, whose ads are displayed with hyperlinks on the host website, without leaving the host website and entering that merchant's website. The Federal Circuit found the claims to be directed to patentable subject matter because they "specify how interactions with the Internet are manipulated to yield a desired result–a result that overrides the

routine and conventional sequence of events ordinarily triggered by the click of a hyperlink." *Id.* at 1258. The solution set forth in the *DDR* claims "is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id.* at 1257. In contrast, claim 1 does not purport to improve the functioning of a computer system itself, nor does it effect an improvement in any other technology or technical field. Even assuming that the claimed invention takes into consideration both an employee's depth in a specific competency as well as breath of knowledge in other competencies of interest as asserted by Appellant (Br. 9), this is not a solution rooted in computer technology, but rather is a business solution for ensuring "[a]ccurate and reliable assessments of competencies across the business entity . . . [to] mitigate attrition risks and enhance productivity" (Spec. ¶ 4).

To the extent Appellant is arguing that the claimed algorithms are not well understood, routine, or conventional activities known to the industry (Br. 9–10), the fact that the algorithms themselves are not well understood or routine in the industry does not rebut the Examiner's finding that having a generic computer receive certain values and calculate certain other values using algorithms is a well understood, routine, and conventional function for a generic computer to perform. The novelty or non-obviousness of the algorithm does not automatically lead to the conclusion that the claimed subject matter is patent-eligible. Although the second step in the *Mayo/Alice* framework is termed a search for an "inventive concept," the analysis is not an evaluation of novelty or non-obviousness, but rather, a search for "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."' *Alice Corp.*, 134 S. Ct. at 2355. "Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry." *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90; *see also Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter."); *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016) ("[U]nder the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility."); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (citing *Mayo*, 566 U.S. at 90) (a finding that the claims are novel and nonobvious in light of an absence of evidence does not conflict with the Examiner's conclusion under 35 U.S.C. § 101 because "a claim for a *new* abstract idea is still an abstract idea"). However useful the calculations obtained may be, their value or usefulness is not dispositive of patent eligibility. *Parker*, 437 U.S. at 594–96 (determining claims to "a new and presumably better method for calculating alarm limit values," which were of undisputed usefulness, to be directed to patent-ineligible subject matter). Appellant has not persuaded us that the claims are directed to more than an abstract idea (e.g., a mathematical algorithm for manipulating data) for which generic computer technology is merely invoked as a conventional tool.

Appellant argues that dependent claims 2–9, 20, and 22 recite "further limitations that are not merely routine or conventional." Br. 10–14. Each of these dependent claims merely recites additional details regarding the mathematical algorithms (e.g., "multiplying the compressed value by the accelerator" for dependent claim 2). As described in more detail above, the novelty or non-obviousness of the algorithm does not automatically lead to the conclusion that the claimed subject matter is patent-eligible. *See also* Ans. 9–10 ("[W]hile the steps of the calculation might be novel (due to the lack of prior art); the limitation itself only involve[s] a mathematical operation."). We agree with the Examiner that the additional limitations recited in the dependent claims do not amount to significantly more than the abstract idea discussed above with respect to independent claim 1. *See id.* That is, the dependent claims amount to nothing more than further details regarding the mathematical algorithms or calculations employed, rather than something *more* than the ineligible concept of a mathematical algorithm.

For the foregoing reasons, we find nothing in independent claim 1 or dependent claims 2–9, 20, and 22 to be sufficiently transformative to render the claims patent eligible, and claims 10–19 and 21 fall with independent claim 1. We sustain the Examiner's rejection of claims 1–22 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

DECISION

The Examiner's decision to reject claims 1–22 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED