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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YU-CHIN HSU, CHUNG-MING KUAN, and MENG-FENG YEN

Appeal 2017-000547
Application 14/212,149¹
Technology Center 3600

Before JOSEPH A. FISCHETTI, CYNTHIA L. MURPHY, and
BRUCE T. WIEDER, *Administrative Patent Judges*.

WIEDER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner’s final rejection of claims 1, 3–10, and 12–17. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

Appellants’ claimed invention relates “to select[ing] and rat[ing] a financial model with respect to a benchmark financial model.” (Spec. ¶ 3.)

¹ According to Appellants, the real party in interest is National Cheng Kung University. (Appeal Br. 3.)

Claims 1 and 10 are the independent claims on appeal. Claim 10 is illustrative. It recites:

10. A computer-implemented system comprising: a digital processing device comprising a memory device and an operating system configured to perform executable instructions; and a computer program including instructions executable by the digital processing device to create an application, wherein the application comprising:

(a) a software module configured to acquire data of a plurality of financial models;

(b) a software module configured to select at least one benchmark model, wherein the benchmark model is indicated by a user or automatically determined;

(c) a software module configured to use a stepwise-superior-predictive-ability test to evaluate performance of the financial models with respect to the benchmark model, rank the financial models, and identify one or more superior models from the financial models, wherein the stepwise-superior-predictive-ability test controls a generalized family-wise error rate; and

(d) a software module configured to set one or more criteria for evaluating the performance;

wherein the stepwise-superior-predictive-ability test comprises: (1) initializing a counter to be one and a set of rejected financial models to be an empty set; (2) computing a test statistic for each financial model, wherein the test statistic comprises a performance measure of the financial model; (3) computing a critical value of one or more subsets of the financial models, wherein the one or more subsets of the financial models are defined by the counter and the set of rejected financial models; (4) rejecting a financial model whose test statistic is equal to or greater than the critical value; (5) terminating the stepwise-superior-predictive-ability test if the number of rejected financial models is smaller than the counter, or incrementing the counter

by one and repeating the step (3); and (6) presenting all rejected financial models as the superior models.^[2]

REJECTION

Claims 1, 3–10, and 12–17 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

ANALYSIS

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. Section 101, however, “contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

Alice applies a two-step framework, earlier set out in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355.

² Claim 10, as shown above, reflects claim 10 as shown in the amended claims filed October 9, 2014, and entered by the Examiner on November 26, 2014. Claim 10 (and claim 1) in the Appeal Brief (Appeal Br. 22–24) contain apparent typographical errors.

Under the two-step framework, it must first be determined if “the claims at issue are directed to a patent-ineligible concept.” *Id.* If the claims are determined to be directed to a patent-ineligible concept, then the second step of the framework is applied to determine if “the elements of the claim . . . contain[] an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Id.* at 2357 (citing *Mayo*, 566 U.S. at 72–73, 79).

With regard to step one of the *Alice* framework, the Examiner determines that “the claims are directed towards evaluating financial models.” (Final Action 4.) “[T]hese claims simply recite the concept of evaluating financial models as performed by a generic computer.” (*Id.* at 3.)

Appellants disagree and argue that claim 10, and its dependent claims (claims 12–17), are not directed to an abstract idea because they “do not preempt all applications of evaluating financial models across all fields.” (Appeal Br. 13.) Appellants also argue that these claims are not directed to an abstract idea because “[t]he present application claims an apparatus integrating a specific statistical test to identify financial models that optimize high returns, low risks and low error rates. Unlike conventional technologies which consider returns based on straight percentages.” (*Id.* at 14.)

Under step one of the *Alice* framework, we “look at the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter.” *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)).

The Specification provides evidence as to what the claimed invention is directed. In this case, the Specification discloses that the invention relates “to select[ing] and rat[ing] a financial model with respect to a benchmark financial model.” (Spec. ¶ 3.) Claim 10 recites a “system comprising: a . . . processing device . . . ; and a computer program including instructions” to “acquire data of a plurality of financial models,” “select at least one benchmark model,” “evaluate performance of the financial models with respect to the benchmark model, rank the financial models, and identify one or more superior models from the financial models,” and “set one or more criteria for evaluating the performance.”

In this case, as in *Alice*, we need not labor to delimit the precise contours of the “abstract ideas” category. It is enough to recognize that there is no meaningful distinction in the level of abstraction between the concept of “creat[ing] electronic records, track[ing] multiple transactions, and issu[ing] simultaneous instructions,” *Alice*, 134 S. Ct. at 2359, and acquiring data of financial models, selecting a benchmark model, and applying an algorithm to analyze the data to evaluate performance of the financial models. Both are squarely within the realm of “abstract ideas” as the Court has used that term. *See Alice*, 134 S. Ct. at 2357.

Moreover, “we have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.” *Elec. Power Grp.*, 830 F.3d at 1353. “In a similar vein, we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.” *Id.* at 1354. “And we have recognized that merely presenting the

results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” *Id.* “Here, the claims are clearly focused on the combination of those abstract-idea processes.” *Id.*

Although we and the Examiner describe, at different levels of abstraction, to what the claims are directed, it is recognized that “[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). That need not and, in this case does not, “impact the patentability analysis.” *See id.* at 1241.

With regard to Appellants’ preemption argument, we do not find this persuasive of error. Preemption is not a separate test.

To be clear, the proper focus is not preemption *per se*, for some measure of preemption is intrinsic in the statutory right granted with every patent to exclude competitors, for a limited time, from practicing the claimed invention. *See* 35 U.S.C. § 154. Rather, the animating concern is that claims should not be coextensive with a natural law, natural phenomenon, or abstract idea; a patent-eligible claim must include one or more substantive limitations that, in the words of the Supreme Court, add “significantly more” to the basic principle, with the result that the claim covers significantly *less*. *See Mayo* 132 S. Ct. at 1294 [566 U.S. at 72–73].

CLS Bank Int’l v. Alice Corp. Pty. Ltd., 717 F.3d 1269, 1281 (Fed. Cir. 2013), *aff’d*, 134 S. Ct. 2347 (2014) (Lourie, J., concurring). Moreover, “[w]here a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

In other words, “preemption may signal patent ineligible subject matter, [but] the absence of complete preemption does not demonstrate patent eligibility.” *Id.*

In view of the above, we agree with the Examiner that claim 10 is directed to an abstract idea.

We now look to step two of the *Alice* framework. Step two of the *Alice* framework has been described “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.’” *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 72–73).

The Examiner determines that “[t]he claims do not include limitations that are ‘significantly more’ than the abstract idea” and that “[t]he limitations are merely instructions to implement the abstract idea on a computer and require no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.” (Final Action 4.)

Appellants disagree and argue that the “claims recite improvements to a technical field” (Appeal Br. 18, emphasis omitted) because “[t]raditional technologies for rating and selection of financial models utilize straight percentages to characterize returns and Sharpe ratios to characterize risks” (*id.*) and because “[t]he analysis uses a sophisticated statistical algorithm” (*id.* at 19).

The introduction of a computer into the claim does not alter the analysis in step two.

[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea “while adding the words ‘apply it’” is not enough for patent eligibility. Nor is limiting the use of an abstract idea “to a particular technological environment.” Stating an abstract idea while adding the words “apply it with a computer” simply combines those two steps, with the same deficient result. Thus, if a patent’s recitation of a computer amounts to a mere instruction to “implemen[t]” an abstract idea “on . . . a computer,” that addition cannot impart patent eligibility. This conclusion accords with the pre-emption concern that undergirds our § 101 jurisprudence. Given the ubiquity of computers, wholly generic computer implementation is not generally the sort of “additional featur[e]” that provides any “practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.”

Alice, 134 S. Ct. at 2358 (citations omitted).

“[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea . . . on a generic computer.” *Id.* at 2359. We agree with the Examiner that they do not. (*See* Final Action 4.)

Taking the claim steps separately, the function performed by the computer system at each step is purely conventional. Acquiring data, selecting a model/algorithm (which may be manually indicated by the user), and analyzing data, are basic computer functions. Additionally, the Specification discloses that the invention can be implemented using generic computer components. (*See, e.g.*, Spec. ¶¶ 52–57.) In short, each step does no more than require generic computer components to perform routine computer functions.

Even if the claimed techniques are “[g]roundbreaking, innovative, or even brilliant,” that is not enough for patent eligibility. *Ass’n for Molecular*

Pathology, 569 U.S. at 591. “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.” *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981).

Considered as an ordered combination, the computer components of Appellants’ claimed method add nothing that is not already present when the steps are considered separately. The claims do not, as discussed above, purport to improve the functioning of the computer itself. Nor do they effect an improvement in any other technology or technical field. Instead, the claims at issue amount to nothing significantly more than an instruction to apply the abstract idea using generic computer components. (*See* Final Action 4.) That is not enough to transform an abstract idea into a patent-eligible invention. *Alice*, 134 S. Ct. at 2360.

For the reasons discussed above, we agree with the Examiner that claim 10 and dependent claims 12–17 seek to claim patent-ineligible subject matter.

With regard to claim 1 and dependent claims 3–9, Appellants argue that they are “allowable for at least reasons similar to claim 10.” (Appeal Br. 19–20.) For the reasons discussed above, we agree with the Examiner that claims 1 and 3–9 seek to claim patent-ineligible subject matter.

DECISION

The Examiner’s rejection of claims 1, 3–10, and 12–17 under 35 U.S.C. § 101 is affirmed.

Appeal 2017-000547
Application 14/212,149

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