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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TSZ S. CHENG, STEPHANIE DE LA FUENTE, and
CHARLET N. GIVENS

Appeal 2020-001379
Application 15/182,182
Technology Center 3700

Before DANIEL S. SONG, MICHELLE R. OSINSKI, and
CARL M. DEFRANCO, *Administrative Patent Judges*.

SONG, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), the Appellant¹ appeals from the Examiner's decision to reject claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). The Appellant identifies the real party in interest as International Business Machines Corporation. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to a method for teaching plan optimization.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for teaching plan optimization, the method comprising:
 - loading a teaching plan into memory of a computer;
 - comparing the loaded teaching plan to a set of existing teaching plans disposed in fixed storage of the computer to identify an alternate teaching plan utilizing a presentation format that differs from a presentation format of the loaded teaching plan;
 - monitoring by the computer a class response to the loaded teaching plan in order to determine an effectiveness of the loaded teaching plan;
 - identifying a portion of the class demonstrating a determined effectiveness of the loaded teaching plan below a threshold value; and,
 - computing and displaying a proportional sharing of presentation of both the loaded teaching plan and the alternative teaching plan to the class based upon the identified portion of the class demonstrating the determined effectiveness of the loaded teaching plan below the threshold value.

Appeal Br. 12, Claims App.

OPINION

The Examiner rejects claims 1–20 as being directed to patent ineligible subject matter under a judicial exception to 35 U.S.C. § 101. Final Act. 5. Specifically, the Examiner finds that these claims are directed to an abstract idea, without significantly more, that is not integrated into a practical application. Final Act. 5. The Appellant disagrees with the Examiner’s determination, and argues all of the claims together. Thus, we select claim 1 as representative, and all of the claims stand or fall with

claim 1. We agree with the Examiner’s rejection for the reasons addressed *infra*.

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. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73 (2012)). According to the Supreme Court’s framework, we must first determine whether the claims at issue are directed to one of those concepts. *Id.*

If so, we must secondly “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.* “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.* at 221 (alterations in original) (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 published revised guidance on the application of Section 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“*Guidance*”). The *Guidance* provides that in conducting Step One analysis of the *Alice* framework, we first look to whether the claim recites:

- Prong 1: any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity, or mental processes); and
- Prong 2: additional elements that integrate the judicial exception into a practical application.

In other words, under Prong 1, we look to whether the claim recites an abstract idea. If the claim recites an abstract idea, we look under Prong 2 at the claim, as a whole, and determine whether the claim is directed to the abstract idea or, instead, is directed to a “practical application” of the abstract idea.

Only if a claim recites a judicial exception and does not integrate that exception into a practical application, do we then look to Step Two under the *Alice* framework to determine whether the claim adds a specific limitation individually or as an ordered combination, beyond the judicial exception that is not “well-understood, routine, conventional” in the field, or simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See Guidance*.

Alice Step One, *Guidance* Step 2A, Prong 1

The Examiner determines that the claims are abstract because they recite a mental process wherein “substantially all of these instructions or steps could be performed in the human mind as observation, judgement or evaluation.” Ans. 8. In that regard, the Examiner reproduces independent claims 1, 8, and 14, underlining those limitations that could be performed in the human mind, and explains that these limitations fall in the category of mental processes that could be performed in the human mind as observation, judgement or evaluation. Ans. 8–11.

Indeed, certain claims that recite collecting and analyzing information may be treated as mental processes within the abstract idea category.

FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1093 (Fed. Cir. 2016). Furthermore, the court has held that:

Appeal 2020-001379
Application 15/182,182

The focus of the asserted claims . . . is on collecting information, analyzing it, and displaying certain results of the collection and analysis. . . . [W]e 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.

Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1353–54 (Fed. Cir. 2016).

In this regard, the Revised Guidance provides the following guidance:

If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind.

Guidance, 84 Fed. Reg. at 52 n.14; *see also Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (“[W]ith the exception of generic computer implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.”).

Claim 1 recites the method steps of comparing a teaching plan to a set of other existing teaching plans to identify an alternate teaching plan utilizing a presentation format that differs from a presentation format of the loaded teaching plan, monitoring a class response to the teaching plan in order to determine an effectiveness of the teaching plan, identifying a portion of the class demonstrating a determined effectiveness of the teaching plan below a threshold, and computing a proportional sharing of presentation of both the teaching plan and the alternative teaching plan to the class based upon the identified portion of the class demonstrating the determined effectiveness of the teaching plan below the threshold value. *See Appeal Br.*

Appeal 2020-001379
Application 15/182,182

12, Claims App. All of these steps, including comparing, monitoring, identifying, and computing, can be performed in the mind.

Therefore, we agree with the Examiner that claim 1 recites an abstract idea in that it recites a mental process that “could be performed in the human mind as observation, [judgement] or evaluation.” Ans. 8. Accordingly, we proceed to Prong 2 under the *Guidance*.

Alice Step One, *Guidance* Step 2A, Prong 2

Under Prong 2 of the *Guidance*, we do not assume that claims reciting an abstract idea are directed to patent ineligible subject matter because “[a]t some level, ‘all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (alteration in original) quoting *Alice* (quoting *Mayo*). Instead, “the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). If the claims are not directed to an abstract idea, the inquiry ends. *Guidance*. If the claims are “directed to” an abstract idea, then the inquiry proceeds to the second step of the *Alice* framework. *Id.*

The *Guidance* instructs that the “directed to” issue is to be analyzed as to whether the claims include additional elements that integrate the judicial exception into a practical application. A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception beyond generally linking the use of the judicial exception to a

Appeal 2020-001379
Application 15/182,182

particular technological environment or field of use, such that the claim is more than a drafting effort designed to monopolize the judicial exception.

Guidance.

The Examiner determines that the recited abstract idea is not integrated into a practical application, and that the additional elements “either alone or in combination, generally link the use of the above-identified abstract idea to a particular technological environment or field of use.” Ans. 12–13. In support thereof, the Examiner determines that the additional elements of “memory” and “computer” recited in claim 1 “are generically recited computer elements which do not add a meaningful limitation to the abstract idea because they amount to simply implementing the abstract idea on a computer.” Ans. 13. In that regard, the Examiner finds that, in the Specification, the recited “computer components are generically claimed to enable the collection, analysis and display of teaching plan data by performing the basic functions of . . . receiving, processing, and storing data,” and that “[t]he courts have recognized these functions to be well-understood, routine, and conventional functions when claimed in a merely generic manner.” Final Act. 6.

We agree with the Examiner for the reasons articulated. The Appellant initially argues that the Examiner must consider the combination of elements recited in the claims, and not just additional elements, in determining whether the claims as a whole integrates the judicial exception into a practical application. Appeal Br. 7. However, we do not discern error in the Examiner’s analysis under the *Guidance*, which requires considering whether the claim includes additional elements that integrate the judicial exception into a practical application so that, as a whole, the claim is directed to a practical application. *See Guidance*. As the Examiner

Appeal 2020-001379
Application 15/182,182

determines, the additional elements recited in claim 1 “do not improve the functioning of a computer, or any other technology or technical field,” and do not:

serve to apply the above-identified abstract idea with, or by use of, a particular machine, effect a transformation or apply or use the above-identified abstract idea in some other meaningful way beyond generally linking the use thereof to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception.

Ans. 13.

Moreover, the Appellant does not persuasively explain how the recited additional elements, when considered in the context of claim 1 as a whole, integrate the abstract idea into a practical application. In particular, the Appellant argues that the Specification discloses “the claimed improvement in the field of teaching plan presentation by ‘computing the proportionate delivery of two different teaching plans based upon the determined effectiveness of the loaded teaching plan falling below a threshold’.” Reply Br. 2–3, citing Spec. ¶ 8; *see also* Reply Br. 4, citing Spec. ¶ 20 (disclosing computation of blended presentation in which one teaching plan is presented for a duration of time, and another teaching plan is presented for another duration). The Appellant argues that the Examiner’s finding that the Specification does not provide details regarding the manner in which the invention accomplishes any technical improvement or solution “is simply untrue.” Reply Br. 4.

However, the Appellant’s argument is not persuasive because the asserted improvement is not directed to technical improvement of the recited computer, its memory or fixed storage. Although the claim further recites other steps that pertain to the computer, such as loading a teaching plan, and

Appeal 2020-001379
Application 15/182,182

displaying a proportional sharing of presentation of teaching plans, these elements also do not improve the functioning of a computer, its memory or fixed storage, or any other technology or technical field, such as computer display. Rather, the asserted improvement is directed to a method of optimizing a teaching plan, and the technology recited in claim 1 merely implements such technology to “the field of teaching plan presentation.” Reply Br. 2–3; *see also Guidance* at 55.

Accordingly, claim 1, as a whole, merely includes instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea. *Guidance* at 55. The recited additional elements do no more than generally link the use of a judicial exception to a particular technological environment or field of use, that is, to “the field of teaching plan presentation.” Reply Br. 2–3; *see also Guidance* at 55.

Therefore, in view of the above considerations, we agree with the Examiner that claim 1 does not incorporate the recited abstract idea into a practical application, and as a whole, is directed to a judicially excepted subject matter. Accordingly, we proceed to the analysis under *Alice*, Step Two.

Alice Step Two, *Guidance* Step 2B

In accordance with *Alice*, we now “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.” *Alice*, 573 U.S. at 217. The Examiner determines that the recited additional elements, individually and in their ordered combination, “perform purely generic computer functions.” Final Act. 7. In that regard, the Examiner finds that when the additional elements

Appeal 2020-001379
Application 15/182,182

are considered individually, they “do not add significantly more because they are simply an attempt to limit the abstract idea to a particular technological environment. That is, the general computer elements do not add meaningful limitations to the abstract idea because these additional elements represent insignificant extra-solution activity.” Final Act. 7; *see also* Ans. 19.

The Examiner further finds that when considered in ordered combination, the additional elements of claim 1 “simply instruct the practitioner to implement the concept of collecting teaching plan data information, analyzing it and displaying certain results thereof specified at a high level of generality in a particular technological environment.” Final Act. 8; *see also* Ans. 20. Accordingly, the Examiner determines that “there is no inventive concept sufficient to transform the claimed subject matter into a patent-eligible application,” and that claim 1 does not “amount[] to significantly more than the abstract idea itself.” Final Act. 8; *see also* Ans. 20. We agree with the Examiner.

As noted above, “merely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 221. In that regard, the Specification discloses that the claimed method may be embodied as a computer program that may be stored in a conventional, well-known, computer readable storage medium or memory, and may be executed by a computer, which itself is simply disclosed as being “general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine” capable of performing the recited method. Spec. ¶¶ 29–30, 34–35. Indeed, as the Examiner points out, the Specification “demonstrates the well-understood, routine, conventional nature of these additional elements

Appeal 2020-001379
Application 15/182,182

because it describes these additional elements in a manner that indicates that the additional elements are sufficiently well-known that the [S]pecification does not need to describe the particulars of such additional elements to satisfy 35 U.S.C. § 112(a).” Final Act. 6–7; *see also* Ans. 15–16.

The Appellant argues that claim 1 includes “additional elements that reflects an improvement in the technical field of learning content delivery by computing the proportionate delivery of two different teaching plans based upon the determined effectiveness of the loaded teaching plan falling below a threshold.” Appeal Br. 10. However, as discussed above, the additional elements recited in claim 1, individually and in combination, “perform purely generic computer functions.” Final Act. 7. As further explained by the Examiner, the Specification “does not include any discussion of how the claimed invention provides a technical improvement realized by these claims over the prior art or any explanation of a technical problem having an unconventional technical solution.” Ans. 14. We agree with the Examiner that the focus of claim 1 “is unrelated to how these additional elements function. Rather, these additional elements (e.g., memory, processor, computer and network) function in their ordinary capacities.” Ans. 17.

The Appellant argues that “computing and displaying a proportional sharing of presentation of both the loaded teaching plan and the alternative teaching plan to the class based upon the identified portion of the class demonstrating the determined effectiveness of the loaded teaching plan below the threshold value” as recited in claim 1 is not routine, well-understood and conventional, and this “reflects an improvement in the technical field of learning content delivery.” Appeal Br. 10 (citing Spec. ¶ 8). The Appellant further argues that the Examiner “already has conceded that the combination of all claimed elements of Appellants’ claims is both

Appeal 2020-001379
Application 15/182,182

novel and non-obvious over all known prior art. Hence, it is impossible to conclude that the foregoing claim limitations are ‘well-understood’, ‘routine’ or ‘conventional’.” Appeal Br. 10–11; *see also* Reply Br. 5.

However, the Appellant fails to appreciate the Examiner’s position, which is that the additional elements recited in claim 1 are used in a routine, conventional, and well-understood manner, not that the recited method is routine, conventional, and well-understood. *See also* Ans. 20 (“When viewed as a combination, the above-identified *additional elements* simply instruct the practitioner to implement the claimed mental processes with well-understood, routine and conventional activity (*conventional hardware* as described in paragraphs 34 and 35 of Appellant’s specification) specified at a high level of generality in a particular technological environment” (emphasis added)). As discussed above, claim 1 recites the additional limitations pertaining to the computer, its memory, and storage, without particulars pertaining thereto, and “[w]hen viewed as a combination, the above-identified additional elements simply instruct the practitioner to implement the claimed mental processes with well-understood, routine and conventional activity . . . specified at a high level of generality in a particular technological environment.” Ans. 20.

In addition, as the Examiner explains, the recited step of “computing . . . a proportional sharing of presentation of both the loaded teaching plan and the alternative teaching plan” relied upon by the Appellant also recites an abstract idea that can be performed in the mind, and one cannot rely on an abstract concept to establish eligibility. Ans. 15, citing *BSG Tech LLC v. Buy Seasons, Inc.* 899 F.3d, 1281, 1290 (Fed. Cir. 2018) (“It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which

Appeal 2020-001379
Application 15/182,182

it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.”).

Moreover, the Appellant’s assertion of patentability based on novelty and non-obviousness is unpersuasive and misdirected because novelty and non-obviousness of a claim is not dispositive as to its patent eligibility. Indeed, even if the method of claim 1 is “[g]roundbreaking, innovative, or even brilliant,” that, in and of itself, is not sufficient to establish eligibility. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013)). To the contrary, “a claim for a *new* abstract idea is still an abstract idea.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016).

Therefore, we agree with the Examiner that the elements of claim 1, when “evaluated both individually and in combination, . . . none of these additional elements provide[] significantly more than the abstract idea itself.” Ans. 19. Indeed, the additional elements simply append well-understood, routine, conventional elements, specified at a high level of generality, to the judicial exception in an attempt to limit the abstract idea to a particular technological environment, and fail to transform the nature of the claim into a patent-eligible application. We likewise agree with the Examiner that:

Because the claims simply instruct the practitioner to implement the abstract idea with routine, conventional activity and using the above described computer components as tools to execute the claimed process, these additional claim elements, when viewed as whole, do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claims amount to significantly more than the abstract idea itself.

Appeal 2020-001379

Application 15/182,182

Final Act. 8 (citing *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)).

Thus, in view of the above considerations, we affirm the Examiner's rejection of claim 1. Claims 2–20 fall with claim 1.

CONCLUSION

The Examiner's rejection is affirmed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–20	101	Eligibility	1–20	

TIME PERIOD FOR RESPONSE

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