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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NEIL O'CONNOR, PAUL D'ARCY, and TONY MCCORMACK

Appeal 2018-001561
Application 13/630,179[1]
Technology Center 3600

Before KEVIN F. TURNER, JOHN P. PINKERTON, and CARL L. SILVERMAN *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a Final Office action dated December 1, 2016 ("Final Act."), rejecting claims 1–5, 7–10, and 15–23. Claims 6, and 11–14 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] According to Appellants, the real party in interest is Avaya, Inc., the assignee of this application. Appeal Brief 2 ("App. Br.").

STATEMENT OF THE CASE

The Claimed Invention

According to the Specification, supervisors at contact centers are responsible for monitoring Key Performance Indicators ("KPIs") to ensure that the contact center operates to meet its business goals. Spec. ¶ 5. In certain situations, the supervisors may have to make certain operational changes in order to bring deviating KPIs back within their target range. *Id*. However, in making these changes, the supervisor may inadvertently affect other KPIs, which may have negative effects on the performance of the contact center. *Id*. Accordingly, the claimed invention takes into account the interdependencies between the various performance measures by comparing an estimated performance to a reference baseline, and from this comparison providing a recommendation on changes to the operation of the contact center. *Id*. at ¶ 9.

Claims 1 and 15 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A computer-implemented method to facilitate decision making in a contact center, the method comprising:
>
> receiving, by a processor of the contact center, a first set of data representing predefined optimal performance factors of the contact center;
>
> generating, by the processor of the contact center, a performance baseline of the contact center based on an aggregate of the optimal performance factors;
>
> receiving, in real-time by the processor of the contact center, a second set of data representing a respective performance measure initiated by each of a plurality of entities in a contact center;
>
> calculating, by the processor of the contact center, a potential contact center performance based on analyzing an

> impact of the initiated respective performance measures on a current contact center performance;
>
> *comparing, by the processor of the contact center, the potential contact center performance with the generated performance baseline of the contact center*; and
>
> providing, by the processor of the contact center, a recommendation on implementing the initiated respective performance measures in the contact center based on the comparison.

Amended Appeal Br. 2 (Claims Appendix) (emphasis added).

The Rejections on Appeal

Claims 1–5, 7–10, and 15–23 are rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 12–14, Ans. 4–7;

Claims 1–2, 5, 7–9, 15–18, and 20–23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mengshoel et al. (U.S. Patent App. Pub. No. 2003/0081757 A1, pub. May 1, 2003) ("Mengshoel"). Final Ac. 14–24. Ans. 7–8;

Claims 3–4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mengshoel in view of Teran et al. (U.S. Patent No. 5,521,814, iss. May 28, 1996) ("Teran"). Final Act. 24–26. Ans. 8; and

Claims 10 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mengshoel in view of Admitted Prior Art. Final Act. 26–27, Ans. 8.

ANALYSIS

We have reviewed the Examiner's rejections in light of the Appellants' arguments. For the reasons set forth below, we sustain the Examiner's § 101 rejection, but we reverse the Examiner's § 103 rejections.

Principles of Law with Respect to § 101 Eligibility

Patent eligibility is assessed under 35 U.S.C. § 101, which states that an invention is patent eligible if it claims a new and useful process, machine, manufacture, or composition of matter. 35 U.S.C. § 101. The U.S. Supreme Court has held that this statutory provision contains an important implicit exception: laws of nature, natural phenomena, and abstract ideas are not patentable. *E.g., Alice Corp. v. CLS Bank Int'l,* 134 S. Ct. 2347, 2354 (2014). But claiming the practical application of these concepts may be deserving of patent protection. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.,* 132 S. Ct. 1289, 1293–94 (2012). In *Alice,* the Supreme Court reaffirmed the framework set forth previously in *Mayo* "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.

The first step in the analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims "individually and 'as an ordered combination'" to determine whether there are additional elements that '"transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo,* 132 S. Ct. at 1298, 1297). In other words, the second step is to '"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.* (alteration in original) (quoting *Mayo*, 132 S. Ct. at 1294).

The USPTO recently published revised guidance on the application of § 101. USPTO's January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* ("Guidance"). Under 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 activity 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 Guidance.

Discussion

The § 101 rejection

Appellants argue that the Examiner erred in determining the claims are directed to an abstract idea, and therefore constitute patent-ineligible subject matter. App. Br. 18–24, Reply Br. 2–4.[2] Specifically, Appellants argue that the

[2] Appellants argue claims 1–5, 7–10, and 15–23 as a group. We select claim 1 as representative. Thus, claims 2–5, 7–10, and 15–23 will stand or fall with claim 1.

claims are not directed to the abstract idea of "new and stored information using rules to identify options and organizing information using correlations," as the Examiner concludes. App. Br. 18–19, Reply Br. 2–4. Rather, Appellants argue, the claims are directed to a "computer-implemented method evaluating in real-time potential effects of performance measures on the operation of a contact center and providing a recommendation on implementing those performance measures." App. Br. 21–23, Reply Br. 3–4. And even if the claims are directed to an abstract idea, Appellants argue that the claims recite additional limitations that "add significantly more to that abstract idea," and thus are patent-eligible. App. Br. 23–24.

For the reasons set forth below, we determine that: (1) the claims are directed to a judicial exception; (2) the claims do not recite additional elements that integrate the judicial exception into a practical application; and (3) the claims do not amount to an inventive concept, and for all of these reasons are patent-ineligible.

We begin with Step 2A Prong 1 of the Revised Guidance, which requires that we determine whether the claim recites any judicial exceptions. Guidance 53. Claim 1 recites the following method to facilitate decision making in a contact center:

> [1] *receiving* . . . a first set of data . . . ; [2] *generating* . . . a performance baseline . . . ; [3] *receiving* . . . a second set of data . . . ; [4] *calculating* . . . a potential contact center performance . . . ; [5] *comparing* . . . the potential contact center performance with the generated performance of the contact center; and [6] *providing* . . . a recommendation on implementing the initiated respective performance measures in the contact center based on the comparison.

Amended Appeal Br. 2 (Claims Appendix) (emphasis added).

See 37 C.F.R. § 41.37(c)(1)(iv).

We agree with the Examiner's determination that the claims are directed to "comparing new information to stored information and using rules to identify options." Final Act. 12–13, Ans. 5–6. Specifically, under the Guidance, we determine that "comparing new information to stored information and using rules to identify options" falls within the *mental processes* category because under its broadest reasonable interpretation claim 1 could be performed in a person's mind or by pen and paper. For example, the claim's scope is not limited to any particular method of receiving a first data set; generating a performance baseline; receiving a second data set; calculating a potential contact center performance; comparing the potential contact center performance with the generated performance baseline; or providing a recommendation on implementing the respective performance measures. Thus, the claim's scope would include simple data sets that would permit claim 1 to be performed in a person's mind or with a pen and paper. Additionally, even if the data sets are complex enough to require a computer to perform some aspect of claim 1, that would not be enough to make the claim, otherwise directed to a mental process, patent-eligible. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1376 (Fed. Cir. 2011).

Accordingly, we determine that claims 1–5, 7–10, and 15–23 are directed to the mental processes judicial exception.

Because we determine that claim 1 is directed to a judicial exception, we turn to Step 2A Prong 2 to determine if the judicial exception is integrated into a practical application. Guidance 54. A practical application is one where the claim "will 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." *Id.* at 54. For example, one instance when a judicial exception is integrated into a practical

application is when those additional elements result in an improvement in the functioning of a computer, other technology, or technical field. *Id*. at 55.

We agree with the Examiner's determination that the claims do not improve the functioning of a computer. Ans. 6–7 (explaining that the claims are not directed to improvements in the functioning of a computer, but "apply existing arrangements" to "perform routine functions in an expected manner"). Further, the Specification fails to describe how the claimed invention is an improvement to the field of business management systems. *See generally* Spec. Although the Specification states that the prior art fails to consider the interdependencies between various performance measures—presumably this is the improvement the claimed invention is directed to—we are not persuaded that this represents an improvement to the field because the limitations in claim 1 are intrinsic to any type of simulation modeling program.

Accordingly, we determine that the additional elements in claims 1–5, 7–10, and 15–23 do not integrate the judicial exception into a practical application.

Because we determine that claim 1 is directed to a judicial exception under Step 2A, we turn to Step 2B to determine whether the claim provides an inventive concept that would make it patent-eligible. Guidance 56. An inventive concept may be present if the claim "[a]dds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field." *Id*. at 56.

Evaluating the additional elements both individually and in combination, we agree with the Examiner's determination that the claims are directed to "generic computing technology performing generic computing functions." Ans. 6. Specifically, we agree that the claims recite well-understood and conventional components that would not make the claims more than the abstract idea. Ans. 7

(explaining that the claimed method just requires "conventional computer, network, and display technology for gathering processing sending and presenting the desired information"). *See also* Spec. at ¶¶ 32–33 (describing the computer system and data source but at a high level of generality). Additionally, we agree with the Examiner's determination that the claims lack a technical description explaining how the information is collected, processed, and displayed, other than by describing methods that are well-known in the art. Ans. 7. Given that there is no explanation describing how to implement the method to facilitate decision making in a contact center, each step in the claim must be well-understood, routine, and conventional. *Cf., e.g., Hybritech Inc. v. Monocolonal Antibodies, Inc*. 802 F.2d 1367, 1384 (Fed. Cir. 1986) ("a patent need not teach, and preferably omits, what is well known in the art").

Accordingly, we determine that the additional elements in claims 1–5, 7–10, and 15–23 do not do not provide an inventive concept.

For the foregoing reasons, we are not persuaded that the Examiner erred in determining that the claims are directed to patent-ineligible subject matter. Accordingly, we sustain the rejection of claims 1–5, 7–10, and 15–23 under 35 U.S.C. § 101.

The §103(a) rejections

Appellants argue that the Examiner erred in determining the claims are obvious in view of the combined combination of references because Mengshoel fails to teach or suggest every limitation in claim 1.[3] App. Br. 25–29, Reply Br.

[3] Appellants argue claims 1–5, 7–10, and 15–23 as a group. *See* App. Br. 27 (explaining that independent claims 1 and 15 have substantially similar limitations, and arguing that the reversal of the dependent claims should be tied to the reversal of the independent claims). We select claim 1 as representative. Thus, claims 2–5, 7–10, and 15–23 will stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

4–6. Specifically, Appellants argue that Mengshoel does not teach or suggest a performance baseline as claimed in claim 1:

> [1] generating, by the processor of the contact center a *performance baseline* of the contact center based on an aggregate of the optimal performance factors; [2] comparing, by the processor of the contact center, the potential contact center performance with the generated *performance baseline* of the contact center.[4]

Amended Appeal Br. 2 (Claims Appendix) (emphases added).

For the reasons set forth below, we determine that Mengshoel does not teach or suggest the *performance baseline* in the *comparing limitation*, and therefore claim 1 is not obvious in view of the combination of references cited by the Examiner. We take Appellants' arguments in order.

First, regarding the *generating limitation*, the Examiner finds that Mengshoel, paragraphs 72–74, teaches or suggests generating a performance baseline. Final Act. 15, Ans. 7–8. Appellants' argue that the autopilot objective function is not a performance baseline because the autopilot objective function is "unrelated to an aggregate of the optimal performance factors." Reply Br. 4–5. We do not agree.

Specifically, we agree with the Examiner's determination that the autopilot objective function, as disclosed in Mengshoel, teaches or suggests generating a performance baseline because the autopilot objective function is a (1) reference metric and that (2) it is based on an aggregate of optimal performance factors.

In particular, the Specification describes the performance baseline as "a set of reference metrics derived from an aggregate of the predefined optimal performance factors." Spec. ¶ 22. In Mengshoel, the autopilot objective function

[4] Limitation 1 will be referred to as the "generating limitation." Limitation 2 will be referred to as the "comparing limitation."

is defined as a reference metric for comparing agent reallocation scenarios. *See* Mengshoel ¶ 72 (describing the autopilot objective function as a parameter for evaluating agent allocation scenarios); *id*. at ¶ 74 (describing that the autopilot objective function is used to evaluate new agent reallocation scenarios to other agent reallocation scenarios). Thus, Mengshoel teaches that the autopilot objective function is being used as a reference metric.

The Specification also describes aggregating the optimal performance factors as splitting an optimal performance factor into its corresponding KPIs. Spec. ¶ 22. KPIs are performance metrics used for measuring a performance of the business operation, such as: *average talk time, after call work, average handling time, calls per hour, call abandon rate, first call resolution, customer satisfaction rating, and attrition*. *Id*. at ¶ 20. In Mengshoel, the autopilot objective function is calculated by determining how well the call center meets its objectives, which are based upon its service parameters or a weighted combination of its service parameters—*average speed of answer, service level, abandonment rate, etc*. Mengshoel ¶ 74. Thus, Mengshoel teaches that the autopilot objective function is based upon a combination of service parameters, which are equivalent to KPIs. Because Mengshoel describes the autopilot objective function as a performance baseline that is an aggregate of the optimal performance factors, as the claim requires, we are not persuaded by Appellants' argument.

Second, regarding the *comparing limitation*, the Examiner finds that Mengshoel, paragraphs 88–89, teaches or suggests comparing the potential contact center performance with the generated performance baseline of the contact center. Final Act. 16–17, Ans. 8. Specifically, the Examiner finds that *the combined utility of the proposed target matrix* compared to a *threshold value*, as described in paragraph 89, teaches or suggests the *comparing limitation*. Ans. 8. The Examiner

does not provide further explanation. Appellants argue that the Examiner inconsistently treated the performance baseline in both the generating limitation and the comparing limitation. Reply Br. 5 (explaining that to maintain consistency with the *generating limitation*, the [*combined utility of the proposed target matrix*] would have to be compared with the *autopilot objective function* (performance baseline)). Reply Br. 5. We agree.

In relevant part, Mengshoel's paragraph 89 states:

> In the autopilot engine 56, the *combined utility of the proposed target matrix* may be compared 114 with a *threshold value* within a comparator to determine whether to place the proposed target matrix into production.

Mengshoel ¶ 89 (emphasis added). Thus, in Mengshoel, the combined utility of the proposed target matrix is compared to a *threshold value*, and not to the *autopilot objective function* as the Examiner determined. Further, the Examiner fails to clearly describe the relationship (if any) between the threshold value and the autopilot objective function. Without knowing whether the threshold value is the autopilot objective function, or a value equivalent to the autopilot objective function, we cannot determine whether Mengshoel teaches or suggests the comparing limitation.

Accordingly, we determine that Mengshoel does not teach or suggest every limitation of claim 1, based on the rejection of claim 1 before us.

For the foregoing reasons, we are persuaded that the Examiner erred in determining that claim 1 is obvious in view Mengshoel as cited by the Examiner. The remaining prior art references do not cure the deficiency of Mengshoel, and thus we determine that the additional rejections also fall. Accordingly, based on the record before us, we do not sustain the rejections of claims 1–5, 7–10, and 15–23 under 35 U.S.C. § 103(a).

DECISION

The Examiner's rejection of claims 1–5, 7–10, and 15–23 under 35 U.S.C. § 101 is sustained. The Examiner's rejections of claims 1–5, 7–10, and 15–23 under 35 U.S.C. § 103(a) are reversed.

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

AFFIRMED