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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DEBOJYOTI DUTTA, MANOJ SHARMA,
YATHIRAJ B. UDUPI, ALEXANDER JONAS-HOLDEN,
APARUPA DAS GUPTA, AMIT AGARWAL, and
SETH MASON

Appeal 2019-001741
Application 14/794,650
Technology Center 2100

Before J. JOHN LEE, DANIEL J. GALLIGAN, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CUTITTA, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–7.² 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). Appellant identifies the real party in interest as CISCO TECHNOLOGY, INC. Appeal Br. 2.

² Claims 8–20 have been cancelled. Appeal Br. 12 (Claims Appendix).

CLAIMED SUBJECT MATTER

According to Appellant, the claims are directed to a method to assist in evaluating anomalies in a distributed storage system by monitoring system metrics, detecting potential anomalies based on the monitoring, and displaying a graphical representation of the potential anomalies.³ Abstract. Claim 1, reproduced below with bracketed lettering added for discussion purposes, is representative of the claimed subject matter:

1. A method for assisting evaluation of anomalies in a distributed storage system, the method comprising:

[a] monitoring at least one system metric of the distributed storage system;

[b] creating and storing in memory a mapping between values and/or patterns of the at least one system metric and one or more services configured to generate logs for the distributed storage system;

[c] based on the monitoring, detecting a potential anomaly in the distributed storage system, the potential anomaly associated with a value and/or a pattern of the at least one system metric;

[d] based on the mapping, identifying one or more logs associated with the potential anomaly;

[e] displaying on a display a graph of a particular system metric of the at least one system metric, the graph including a spike that indicates the potential anomaly; and

³ This Decision refers to: (1) Appellant's Specification filed July 8, 2015 ("Spec."); (2) the Final Office Action ("Final Act.") mailed April 13, 2018; (3) the Appeal Brief ("Appeal Br.") filed September 13, 2018; (4) the Examiner's Answer ("Ans.") mailed November 1, 2018; and (5) the Reply Brief ("Reply Br.") filed December 21, 2018.

[f] providing on the display, on or adjacent the spike of the graph, an indicator of a quantity of the one or more logs associated with the spike;

[g] correcting, in response to the displaying and providing, the potential anomaly.

REJECTIONS

Claims 1–8 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–3.

Our review in this appeal is limited to the above rejection and the issues raised by Appellant. Arguments not made are waived. *See* MPEP § 1205.02; 37 C.F.R. § 41.37(c)(1)(iv).

PRINCIPLES OF LAW

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 U.S. 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. *See, 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 Court’s two-step framework, described in *Alice* and *Mayo*. *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 recites. *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.”).

If the claim recites an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, in which “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 (citation and 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 Office published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “Guidance”). In October 2019, the USPTO published an update to that guidance. *October 2019 Patent Eligibility Guidance Update*, 84 Fed. Reg. 55,942 (hereinafter “Guidance Update”). Under the Guidance and the Guidance Update, in determining whether a claim falls within an excluded category, we first look to whether the claim recites:

- (1) Step 2A — Prong One: 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) Step 2A — Prong Two: additional elements that integrate the judicial exception into a practical application (*see* MPEP⁴ § 2106.05(a)–(c), (e)–(h)).

See Guidance, 84 Fed. Reg. 54–55 (“Revised Step 2A”). 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 (Step 2B):

(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 id. at 56 (“*Step 2B: If the Claim Is Directed to a Judicial Exception, Evaluate Whether the Claim Provides an Inventive Concept.*”).

OPINION

We analyze the claims and the Examiner’s rejection in view of the Guidance and the Guidance Update, and we adopt the nomenclature for the steps used in the Guidance. Appellant’s arguments are directed to the limitations recited in claim 1, and Appellant does not present separate arguments addressing limitations recited in the remaining claims. *See* Appeal Br. 5–8. We, thus, select independent claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Step 1

As an initial matter, the claims must recite at least one of four recognized statutory categories namely, machine, process, article of

⁴ All Manual of Patent Examining Procedure (“MPEP”) citations herein are to MPEP, Rev. 08.2017, January 2018.

manufacture, or composition of matter. MPEP § 2106(I); *see* 35 U.S.C. § 101. Independent claim 1 recites a method. Thus, the pending claims recite a recognized statutory category under § 101, i.e., a process, and we turn to the two-step *Alice/Mayo* analysis applied in accordance with the Guidance.

Step 2A, Prong One in the Guidance

Next, we determine whether claim 1, being directed to a statutory class of invention, nonetheless recites a judicial exception. Guidance, 84 Fed. Reg. 51.

The Examiner determines that claim 1 recites a judicial exception: an abstract idea. Final Act. 2. In particular, the Examiner determines the claim recites steps for “collecting information (monitoring a metric), analyzing it (mapping based on the metric, identifying logs), and displaying certain results of the collection and analysis (displaying based on the mapping and identifying).” Final Act. 2; Ans. 3. According to the Guidance Update, claims reciting collecting information, analyzing it, and displaying certain results of the collection and analysis, where the data analysis steps are recited at a high level of generality such that they could practically be performed in the human mind, are mental processes. Guidance Update 7. Further, according to the Guidance Update, such mental processes are a category of abstract idea. *Id.*

Appellant does not dispute the Examiner’s determination that claim 1 recites steps for collecting information, analyzing information, and displaying the results of the collection and analysis; but, rather, Appellant argues the claim recites a “technical solution [which] lies in the claimed

manner in which information is collected and displayed to alleviate the delay to avoid impact of the delay.” Reply Br. 5; Appeal Br. 7.

We agree with the Examiner’s undisputed determination that claim 1 recites steps for collecting information, analyzing it, and displaying certain results of the collection and analysis, which could be practically performed in the human mind or with the aid of a pen and paper, i.e., a mental process. As an initial matter, we note that we address Appellant’s argument the claim recites a technical solution to a technical problem (Appeal Br. 5–8; Reply Br. 2–5) below in Step 2A, prong two. Further, we address additionally recited computing features recited in the claim, i.e., “storing in memory” and “displaying on a display,” below. Now, turning to limitation [a], the claim recites “monitoring,” i.e., collecting, “at least one system metric of the distributed storage system,” i.e. information. Limitations [b]–[d] recite steps in the analysis of that collected information. In particular, limitation [b] recites “mapping . . . values and/or patterns” between system information. Limitation [c] “detect[s] a potential anomaly” based on “a value and/or a pattern” of system information. And limitation [d] “identif[ies] one or more logs associated with the potential anomaly.” None of those limitations recites any particular technical manner to map values, detect anomalies, or identify associated logs. Instead, the limitations recite the analysis at such a high-level of generality that the claimed analyses can practically be performed in the human mind or via pen and paper. In fact, the Specification describes an exemplary anomaly identification that can be performed within the human mind: “if both read and write latencies of a storage node are much higher than the read and write latencies of all other nodes in the system[,] then it indicates a potential anomaly in the node with

high latencies.” Spec. ¶ 42. Comparing values, e.g., latencies, to determine which value is higher, can be practically accomplished in the human mind. Finally, limitations [e] and [f] recite the display of the analyzed information. In particular, limitation [e] recites displaying a graph of system information having “a spike that indicates the potentially anomaly” and further displaying “a quantity of . . . logs associated with the spike,” i.e., the analyzed information. Presenting graphed data and associated information is a process humans have long performed and created via pen and paper, e.g., an infographic. These limitations reciting displaying the results of data collection and analysis are merely insignificant post-solution activity. Accordingly, claim 1 recites a mental process, and, so, recites an abstract idea.

Step 2A, Prong Two in the Guidance

Next, we determine whether claim 1 is directed to the abstract concept itself or whether it is instead directed to some technological implementation or application of, or improvement to, this concept, i.e., integrated into a practical application. *See, e.g., Alice*, 573 U.S. at 223 (discussing *Diamond v. Diehr*, 450 U.S. 175, 177 (1981)).

Appellant argues that the claim recites a technical solution to a technical problem. Appeal Br. 5–8; Reply Br. 2–5. In particular, Appellant asserts that the claimed invention addresses “a technical problem in ‘a significant risk of cascading failures in the storage system’ because the manner in which the system monitors for the anomalies ‘complicates the process of timely evaluating anomalies.’” Reply Br. 2 (citing Spec. ¶ 21); Appeal Br. 5. That is, cascading failures in storage systems are caused by an untimely manner of identifying anomalies. Appellant further asserts that the

corresponding “technical solution to this problem [is provided] via an anomaly evaluation process that increases the speed by which anomalies can be detected and reacted to. *This increase is produced by mapping spikes in the observed system metric with the log data and commonly displaying both . . .*” Reply Br. 2 (emphasis added); Reply Br. 2.

Even if we were to assume a technical problem lies in “timely evaluating anomalies,” the claimed solution is not a technical solution. Appellant argues, the solution for speedier anomaly response lies in limitations [e] and [f], which recite

[e] displaying on a display a graph of a particular system metric of the at least one system metric, the graph including a spike that indicates the potential anomaly; and
[f] providing on the display, on or adjacent the spike of the graph, an indicator of a quantity of the one or more logs associated with the spike.

Reply Br. 2; Appeal Br. 6. But those limitations describe the desired *layout* of analyzed system information. That is, the solution offered by the claims lies in the layout of information, rather than some technical improvement. Further, as our reviewing court has stated, a claim, like the claim here, “focused on providing information . . . in a way that helps [a human] process information more quickly,” does not recite some manner of “improving computers or technology.” *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1384 (Fed. Cir. 2019).

Furthermore, Appellant’s assertion that a technical solution lies in the recited “corrective step” responding to the detected anomaly (Reply Br. 2; Appeal Br. 6), i.e., limitation [g], is not persuasive because the recited correction is performed by a human. The Specification discloses that “the

operator” is able “to take actions to remedy the situation quicker,” e.g., the “operator may then promptly take actions ensuring that cascading failures are averted.” Spec. ¶ 35 (emphasis added). A solution performed by a human, as claimed here, is not a technical solution.

Additionally, to the extent Appellant argues that the identification of the recited anomaly and associated information is a technical solution (*see* Reply Br. 2; *see also* Appeal Br. 5), nothing in the claim recites a technical manner of identifying an anomaly and associated information. Instead, the claim broadly recites the resulting identified anomaly and associated information at such a high level of generality and in such a result-oriented way that the identification of the recited anomaly and associated information can be performed by a mental process, as discussed above. The Guidance requires identifying whether additional elements recited in the claim beyond the judicial exception integrate the exception into a practical application. Guidance, 84 Fed. Reg. 54–55. Appellant fails to provide persuasive arguments indicating whether additional limitations beyond the recited exception (i.e., the abstract idea) integrate that exception into a practical application by reflecting a technical improvement or solution.

Additionally, none of the remaining indicia of integration listed by the January 2019 Guidance is present in claim 1. For example, the claim does not recite a particular machine and, instead, generically recites a “method.” Nor does the claim recite the “[t]ransformation and reduction of an *article* ‘to a different state or thing.’” *Bilski*, 561 U.S. at 604 (emphasis added), quoted in MPEP § 2106.05(c). The claimed method does not transform a physical object or substance. In this way, the claim is unlike the

transformations found in some eligible claims. *See, e.g., Diehr*, 450 U.S. at 184 (a process that transforms rubber).

We, therefore, determine claim 1 is not directed to a specific asserted improvement in technology or otherwise integrated into a practical application and, thus, is directed to a judicial exception.

Step 2B

Next, we determine whether the claim includes additional elements that provide significantly more than the recited judicial exception, thereby providing an inventive concept. *Alice*, 573 U.S. at 221 (quoting *Mayo*, 566 U.S. at 72–73). To determine whether the claim provides an inventive concept, the additional elements are considered—individually and as an ordered combination—to determine whether they (1) add a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field or (2) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *Guidance*, 84 Fed. Reg. 56.

The Examiner determines that the additionally recited computing features, i.e., “storing in memory” and “displaying on a display,” “when considered both individually and as an ordered combination[,] do not amount to significantly more than the abstract idea.” Final Act. 2–3. The Examiner finds that the recited memory “perform[s] well[-]understood, routine, and conventional data storage functionality” and displaying information is “well[-]understood, routine, and conventional.” *Id.*

We agree with the Examiner’s determination, which Appellant does not challenge. The Specification supports the Examiner’s determination that

storing data in memory and displaying information on a display are well-understood, routine, and conventional computing functions performed by generic computing hardware. For example, the Specification describes that “memory” is a “broad term” which includes “any suitable memory element [random access memory (RAM), ROM, EPROM, EEPROM, ASIC, etc.]” Spec. ¶¶ 78–79. Further, as discussed above, the Specification only describes the layout of information on a display, but provides no detail describing the technical manner in which information is displayed on a display. Because the Specification lacks any technical details as to how information is displayed on a display, the Specification indicates that displaying information on a display is conventional.

We, thus, conclude that claim 1 does not provide an inventive concept because the additional elements recited in claim 1, considered individually and as an ordered combination, do not provide significantly more than the recited judicial exception. Accordingly, claim 1 does not recite patent-eligible subject matter. Further, Appellant has not proffered sufficient evidence or argument to persuade us that any of the limitations in remaining dependent claims 2–8 provide a meaningful limitation that transforms the claims into a patent-eligible application. *See* Appeal Br. 5–8. Therefore, we sustain the rejection of claims 1–8 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

CONCLUSION

In summary:

| Claims Rejected | 35 U.S.C. § | /Basis | Affirmed | Reversed |
|------------------------|--------------------|--------------------|-----------------|-----------------|
| 1–8 | 101 | Patent Eligibility | 1–8 | |

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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