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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHINNA POLINATI,
PURUSHOTTAM SRIDHAR AMRADKAR, JOAN OUYANG,
ARNE LYNN GAENZ, EDWARD MINISTERIO SARAUSAD,
and CHRISTINE JEFSON

Appeal 2018-002548
Application 13/230,734
Technology Center 2400

Before JOHN A. EVANS, MATTHEW J. McNEILL, and
SCOTT E. BAIN, *Administrative Patent Judges*.

McNEILL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–18, 21, and 22, which are all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Microsoft Technology Licensing, LLC. Appeal Br. 3.

STATEMENT OF THE CASE

Introduction

Appellant's application relates to measuring the quality of a service to facilitate the monitoring of the service, the diagnosis of service quality problems, the prioritization of service quality problems, and the allocation of resources to improve the service. Spec. ¶ 7. Claim 1 illustrates the appealed subject matter and reads as follows:

1. A method of diagnosing service quality of an activity of a service provided by a source to a user of a computer having a processor, the method comprising:

executing instructions on the processor that cause the computer to:

identify a service path of a performance of the activity of the service from the source to the user;

identify at least two segments in the service path over which the performance of the activity of the service is provided to the user;

for respective segments of the service path, measure a service quality metric of the activity along the segment during the performance of the activity of the service for the user;

compare the service quality metrics of the respective segments of the activity during the performance of the activity of the service for the user to identify at least one selected segment having a poor service quality metric; and

for the respective at least one selected segment having a poor service quality metric, evaluate an effect of the poor service quality metric of the selected segment on the activity to identify a poor quality segment that contributes to the poor service quality of at least one activity of the service during the performance of the activity of the service for the user; and

inform the user of the poor quality segment that

contributes to the poor service quality of the performance of the activity of the service for the user.

The Examiner's Rejections

Claims 1–18, 21, and 22 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 6–7.

Claims 1–7, 9–17, 21, and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sahai (US 7,349,340 B2; Mar. 25, 2008), Raleigh (US 8,346,225 B2; Jan. 1, 2013), Kaffine (US 6,654,914 B1; Nov. 25, 2003), and Morrill (US 2008/0049631 A1; Feb. 28, 2008). Final Act. 7–14.

Claim 18 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sahai, Raleigh, Kaffine, Morrill, Touboul (US 2009/0323621 A1; Dec. 31, 2009), and Taylor (US 8,339,938 B2; Dec. 25, 2012). Final Act. 14–15.

Claim 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sahai, Raleigh, Kaffine, Morrill, Touboul, and Khasnabish (US 2010/0265826 A1; Oct. 21, 2010). Final Act. 15–16.

ANALYSIS

Patent-Ineligible Subject Matter

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 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. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (citation omitted).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus*

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Labs., Inc., 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *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 . . .”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting

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to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “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 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.* (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 recently published revised guidance on the application of § 101. USPTO’s 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Revised 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:

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- (3) adds a specific limitation beyond the judicial exception that are 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 Revised Guidance.

Revised Guidance Step 1

Step 1 of the Revised Guidance asks whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. § 101: process, machine, manufacture, or composition of matter. Claim 1 recites a “method.” Claim 21 recites a “device” comprising “a processor” and “a memory.” Claim 22 recites a “server.” Appellant does not argue the Examiner erred in concluding claims 1, 21, and 22 fall within the four statutory categories of patentable subject matter. We agree with the Examiner’s conclusion because claim 1 falls within the process category and claims 21 and 22 fall within the machine category.

Revised Guidance Step 2A, Prong 1

Under Step 2A, Prong 1 of the Revised Guidance, we determine whether the claims recite 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). *See* Revised Guidance.

Claim 1 recites the following limitations, among others: (1) “identify a service path of a performance of the activity of the service from the source to the user,” (2) “identify at least two segments in the service path over

which the performance of the activity of the service is provided to the user,”

(3) “compare the service quality metrics of the respective segments of the activity during the performance of the activity of the service for the user to identify at least one selected segment having a poor service quality metric,” and (4)

for the respective at least one selected segment having a poor service quality metric, evaluate an effect of the poor service quality metric of the selected segment on the activity to identify a poor quality segment that contributes to the poor service quality of at least one activity of the service during the performance of the activity of the service for the user.

The Examiner concludes claim 1 is directed to the abstract idea of “measuring, comparing, and evaluating quality metrics of segments in a service path.” Final Act. 6. Appellant argues the Examiner erred in concluding claim 1 is directed to an abstract idea. *See* Appeal Br. 18–24; Reply Br. 3–17. In particular, Appellant argues the abstract idea identified by the Examiner is an oversimplification of the claims that merely represents a small portion of the overall claim language. *See* Appeal Br. 18–20.

Appellant has not persuaded us of Examiner error with respect to the identification of the abstract idea. We agree with the Examiner that the identified limitations, under their broadest reasonable interpretation, recite measuring, comparing, and evaluating quality metrics of segments in a service path. For example, the “identify” steps recited in limitations (1) and (2) characterize identifying a service path and a segments of that path for which the analysis of quality metrics will be performed. The “compare” step recited in limitation (3) characterizes comparing service quality metrics to identify poor quality service metrics. The “evaluate” step recited in limitation (4) characterizes evaluating an effect of the poor service quality

metric to identify a segment that contributes to poor service quality of a user activity. These steps each characterize a concept performed in the human mind, including observations, evaluations, and judgments.

Appellant's argument that the Examiner oversimplifies the claim is unpersuasive of Examiner error with respect to Step 2A, Prong 1 because the Examiner's characterization of the claim is consistent with this analysis. Thus, under the broadest reasonable interpretation, claim 1 recites measuring, comparing, and evaluating quality metrics of segments in a service path. We, therefore, conclude claim 1 recites a series of observations, evaluations, and judgments, which fall within the mental processes category of abstract ideas identified in the Revised Guidance.

Revised Guidance, Step 2A, Prong 2

Under Step 2A, Prong 2 of the Revised Guidance, we next determine whether the claims recite additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)). Appellant argues the Examiner erred in concluding claim 1 is directed to an abstract idea because the claim recites improvements to computers or other technology and the Specification explains at great length such improvements. *See* Appeal Br. 21–24; Reply Br. 6–16.

We agree with Appellant. Claim 1 recites a series of observations, evaluations, and judgments, as discussed above. However, these mental processes are performed in a specific technological context in furtherance of improving the performance of the underlying technology. In particular, claim 1 recites comparing service quality metrics of a service provided to a user to identify at least one segment of the service path that has a poor quality service metric. Claim 1 further recites evaluating the effect of that poor service quality metric on the selected segment to identify a poor quality

segment that contributes to poor service quality of the service provided to the user.

In other words, the observations, evaluations, and judgments are not merely mental processes being performed by a generic computer, but instead are evaluations of the functioning of the technology itself for the purpose of improving the technology itself. This is analogous to claims that our reviewing court has determined to be patent eligible. *See, e.g., BASCOM Global Internet Svcs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350–51 (Fed. Cir. 2016) (finding patent-eligible claims that recited a “specific, discrete implementation of the abstract idea of filtering content”); *Amdocs (Israel) Ltd. V. Openet Telecom, Inc.*, 841 F.3d 1288, 1300–02 (Fed. Cir. 2016) (finding patent-eligible claims that correlated two network accounting records to enhance the first record because the claims recited “an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases).”).

For these reasons, claim 1 recites additional elements that integrate the judicial exception into a practical application by reciting improvements to computers or other technology. We, therefore, do not sustain the Examiner’s rejection of claim 1 as being directed to patent-ineligible subject matter. We also do not sustain the patent-eligibility rejection of claims 21 and 22, which recite commensurate limitations, or dependent claims 2–18.

Obviousness

Appellant argues the Examiner erred in rejecting claim 1 as obvious over Sahai, Raleigh, Kaffine, and Morrill. Appeal Br. 26–28; Reply Br. 20–22. In particular, Appellant argues the proposed combination does not teach or suggest

for the respective at least one selected segment having a poor service quality metric, evaluate an effect of the poor service quality metric of the selected segment on the activity to identify a poor quality segment that contributes to the poor service quality of at least one activity of the service during the performance of the activity of the service for the user.

See id. Appellant argues the Examiner erred finding Morrill teaches the disputed limitation because Morrill teaches the conventional technique upon which the claimed technique improves. Appeal Br. 27.

Specifically, Appellant argues Morrill teaches measuring the performance of each segment along a path and presuming that obtained quality metric causes poor service quality without any additional consideration of this fact. *Id.* Appellant argues the Examiner tacitly acknowledges that Morrill relies on this presumption by finding that Morrill teaches “calls” that correspond to the claimed “activity” and “latency, jitter, and packet loss” that represent the claimed “poor quality metrics.” *See Reply Br. 20–21* (citing Ans. 16, Morrill ¶ 21). Appellant argues Morrill presumes that the identified poor quality metrics contribute to poor service quality without “evaluat[ing] an effect of the poor service quality metric of the selected segment on the activity to identify a poor quality segment that contributes to the poor service quality of at least one activity” as claimed. *See Reply Br. 21–22.*

Appellant has persuaded us of Examiner error. Claim 1 recites “compar[ing] the service quality metrics of the respective segments of the activity . . . to identify at least one selected segment having a poor service quality metric” and “evaluat[ing] an effect of the poor service quality metric . . . to identify a poor quality segment that contributes to the poor service quality of at least one activity of the service.” In other words, claim 1 recites

identifying a segment having a poor service quality metric and then evaluating that poor service quality metric to determine its contribution to poor service quality of the activity. We agree with Appellant that the Examiner has failed to sufficiently explain how Morrill evaluates latency, jitter, and packet loss (which the Examiner finds correspond to the claimed “poor service quality metrics”) to identify a poor quality segment that contributes to the poor service quality of at least one activity of the service. Indeed, Morrill appears to presume a link between the identified poor service quality metric and poor service quality of the activity, as argued by Appellant. *See Reply Br. 21–22.*

For these reasons, we do not sustain the Examiner’s obviousness rejection of claim 1. We also do not sustain the Examiner’s obviousness rejections of independent claims 21 and 22, which recite commensurate limitations, or claims 2–18, which depend from independent claim 1.

CONCLUSION

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–18, 21, 22	101	Eligibility		1–18, 21, 22
1–7, 9–17, 21, 22	103	Sahai, Raleigh, Kaffine, Morrill		1–7, 9–17, 21, 22
18	103	Sahai, Raleigh, Kaffine, Morrill, Touboul, Taylor		18
8	103	Sahai, Raleigh, Kaffine, Morrill, Touboul, Khasnabish		8
Overall Outcome				1–18, 21, 22

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REVERSED