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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MADHU K. CHETUPARAMBIL, KALAPRIYA KANNAN,
and GEORGE T. JACOB SUSHIL

Appeal 2019-001717
Application 13/598,987
Technology Center 3600

Before ERIC S. FRAHM, JOYCE CRAIG, and MATTHEW J. McNEILL,
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 1–6 and 9–12, which are all the claims pending in this application. Claims 7 and 8 are canceled. *See* Appeal Br. 12. 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. Appellant identifies the real party in interest as International Business Machines Corporation. Appeal Br. 3.

STATEMENT OF THE CASE

Introduction

Appellant's application relates to deriving a mercantile intelligence report by reconciling social content data with inputted guidelines. Spec. ¶¶ 1–2. Claim 1 is illustrative of the appealed subject matter and reads as follows:

1. A method comprising:

utilizing at least one processor to execute computer code embodied on a nontransitory computer readable storage medium and configured to perform the steps of:

inputting guidelines for deriving mercantile intelligence with relation to a product, wherein the guidelines comprise requirements and expectations of a mercantile intelligence report;

mining, from user posts on a social media network, social content data with relation to the product, the social content data comprising user-generated content related to the product, wherein the mining comprises extracting features from information related to the product and deriving attributes related to the product from the social content data and wherein the mining comprises determining an importance of a product feature to a group of users by identifying positive opinions in the user-generated content and negative opinions in the user-generated content, identifying a product feature found within the identified positive opinions and identified negative opinions, and extracting opinions associated with that product feature;

generating a map which reconciles the social content data with the guidelines, the social content data including language-based terms expressed in social content, wherein the generating a map comprises relating the mined social content data with the guidelines;

extracting, from the map, elements related to mercantile intelligence, the elements comprising product-related features

to which the social content language-based terms are mapped;
and

outputting a mercantile intelligence report with relation
to the product, via determining a product utility value;

said determining of a product utility value comprising:

identifying a group opinion regarding the product,
wherein the group opinion is based upon the positive opinions
and negative opinions related to the product and product
features over a predetermined time period;

determining a ranking of the importance of a product
feature by determining a weighted sum of expected attribute
utility values, wherein the expected attribute utility values
comprise a value for each of the extracted features and each of
the derived attributes identifying an importance of each of the
extracted features and each of the derived attributes as
compared to other of the extracted features and the derived
attributes; and

determining an exponential component for modeling a
natural decay in a value of a product during its lifetime.

The Examiner's Rejection

Claims 1–6 and 9–12 stand rejected under 35 U.S.C. § 101 as being
directed to patent-ineligible subject matter. Final Act. 5–6.

Related Case

The present application is a continuation under 35 U.S.C. § 120 of
parent U.S. Application No. 13/316,950, which is also before this panel on
appeal (Appeal 2019-001694).

ANALYSIS

Principles of Law – Section 101

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. *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-part framework, described in *Mayo* and *Alice*. *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 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. (15 How.) 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 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 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 to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (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 (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.* (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.*

Principles of Law – USPTO Section 101 Guidance

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent

Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Revised Guidance”).² “All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance.” *Id.* at 51; *see also* October 2019 Update at 1.

Under the 2019 Revised Guidance and the October 2019 Update, 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) (“Step 2A, Prong One”); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)) (“Step 2A, Prong Two”).³

2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

² In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the “October 2019 Update”) (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

³ This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* 2019 Revised Guidance - Section III(A)(2), 84 Fed. Reg. 54–55.

- (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.

2019 Revised Guidance, 84 Fed. Reg. at 52–56.

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. *See* 2019 Revised Guidance. Claim 1 recites “[a] method.” Appellant does not argue the Examiner erred in concluding claim 1 falls within the four statutory categories of patentable subject matter. We agree with the Examiner’s conclusion because claim 1 falls within the process 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* 2019 Revised Guidance.

The Examiner concludes claim 1 is directed to the abstract idea of generating a mercantile intelligence report relating to products mined from social content data from user posts on a social media network. Final Act. 5.

The Examiner concludes this represents an idea of itself or mental process, and a method of organizing human activity. *See id.* at 5–6.

Appellant argues the Examiner erred because the Examiner’s analysis is nothing more than a conclusory statement based on an overgeneralization of the claims that fails to consider specific limitations. *See Appeal Br.* 13. Appellant argues the Examiner has, therefore, failed to establish a *prima facie* case of unpatentability. *See id.* at 13–14. Appellant also argues the Examiner failed to identify any abstract idea that corresponds to an abstract idea identified by the courts. *See id.* at 14–15.

Under the broadest reasonable interpretation, we agree with the Examiner that claim 1 recites generating a mercantile intelligence report relating to products mined from social content data from user posts on a social media network.

In particular, claim 1 recites “[a] method comprising: utilizing at least one processor to execute computer code embodied on a nontransitory computer readable storage medium and configured to perform” a series of steps. The steps include data gathering, analysis of the gathered data, and output of the result of the analysis. For example, the limitations “inputting guidelines for deriving mercantile intelligence with relation to a product;” and “mining, from user posts on a social media network, social content data with relation to the product” characterize data gathering. The Federal Circuit has held that data gathering steps “cannot make an otherwise nonstatutory claim statutory.” *CyberSource*, 654 F.3d at 1370 (quoting *Grams*, 888 F.2d at 840). The Federal Circuit has also held that (1) presenting offers to potential customers and (2) gathering statistics concerning customer responses were “conventional data-gathering activities that d[id] not make

the claims patent eligible.” *OIP Techs.*, 788 F.3d at 1363–64. Consistent with those decisions, the MPEP identifies “gathering data” as an example of insignificant pre-solution activity. MPEP § 2106.05(g).

Claim 1 also recites steps related to evaluation and judgment of the gathered data, including the limitations “generating a map which reconciles the social content data with the guidelines” “extracting, from the map, elements related to mercantile intelligence;” and “outputting a mercantile intelligence report with relation to the product, via determining a product utility value.” The recited generation, extraction, and determination each involve evaluating or judging the gathered data and producing some form of output as a result of the evaluation or judgment. These evaluations or judgments may be performed in the human mind or by pen and paper.

The Office Guidance also explains that “mental processes” include acts that people can perform in their minds or using pen and paper, even if the claim recites that a generic computer component performs the acts. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14 (“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.”); *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.”), quoted in 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14.

We conclude that claim 1, therefore, recites concepts performed in the human mind, which fall within the mental processes category of abstract ideas identified in the Revised Guidance.

The recited limitations also relate to advertising, marketing, or sales activity. In particular, the limitations “generating a map which reconciles the social content data with the guidelines” “extracting, from the map, elements related to mercantile intelligence;” and “outputting a mercantile intelligence report with relation to the product, via determining a product utility value” each characterize evaluating the advertising, marketing, or sales activity related to an identified product. We conclude that claim 1, therefore, recites commercial or legal interactions, which fall within the certain methods of organizing human activity category of abstract ideas identified in the Revised Guidance.

Because we conclude that claim 1 recites an abstract idea, we next turn to Revised Guidance Step 2A, Prong 2.

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)). The “additional elements” recited in claim 1 include “at least one processor” and “a non-transitory computer readable storage medium,” which do not constitute “additional elements that integrate the exception into a practical application.” *See id.*

To integrate the exception into a practical application, the additional claim elements must, for example, improve the functioning of a computer or any other technology or technical field (*see* MPEP § 2106.05(a)), apply the

judicial exception with a particular machine (*see* MPEP § 2106.05(b)), affect a transformation or reduction of a particular article to a different state or thing (*see* MPEP § 2106.05(c)), or apply or use the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment (*see* MPEP § 2106.05(e)). *See* 2019 Revised Guidance.

Appellant argues claim 1 is not directed to an abstract idea because it is directed to an improvement to the technical field of product feature evaluation. *See* Appeal Br. 15. Appellant argues the claims provide a method for evaluating products and product features by mining information from social content data from social media networks. *See id.* at 16. According to Appellant, the claimed solution improves conventional techniques that rely on manual processes that require human expertise and are slow and inefficient. *See id.* at 17–19. Appellant argues the claimed technical improvements to programming permit the system to evaluate product features in novel, non-obvious ways. *See id.* at 20.

Appellant has not persuaded us of Examiner error. In cases involving software innovations, such as here, the inquiry as to whether the claims are directed to an abstract idea “often turns on whether the claims focus on ‘the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.’” *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018) (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016)). The nature of claim 1 as a whole is not to define a specific technological improvement; instead, claim 1 merely recites the steps necessary to perform the abstract idea itself. Our reviewing court has

“made clear that mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology.” *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017). Like the claims in *Credit Acceptance*, the focus of claim 1 is on the abstract idea itself “and the recited generic computer elements ‘are invoked merely as a tool.’” *Id.* (citing *Enfish*, 822 F.3d 1327); *see also Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1334 (Fed. Cir. 2015) (collecting cases).

Appellant’s argument that claim 1 recites a specific technical improvement is unpersuasive. Appellant argues that the invention improves conventional techniques that relied on slow, inefficient manual processes. *See* Appeal Br. 17–19. But the claimed method automates a previously manual task through an improvement to the abstract idea itself, not an improvement in networking or computer functionality. *See id.* None of these alleged improvements “enables a computer . . . to do things it could not do before.” *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1305 (Fed. Cir. 2018) (emphasis added). Such claims, whose focus is “not a physical-realm improvement but an improvement in wholly abstract ideas,” are not eligible for patenting. *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018); *see also Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1346 (Fed. Cir. 2018) (“It is well-settled that placing an abstract idea in the context of a computer does not ‘improve’ the computer or convert the idea into a patent-eligible application of that idea.”).

Appellant’s argument relying on the speed and efficiency of the claimed process in comparison to conventional manual techniques is also unpersuasive. Mental processes remain unpatentable even when automated

to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*[, 409 U.S. 63, 67 (1972)].”). The law is clear that programming a computer to perform what would otherwise be an abstract idea is not sufficient to impart patent eligibility. *See Alice*, 573 U.S. at 224.

In other words, automating the generation of mercantile intelligence reports, as in claim 1, “does not improve the functioning of the computer, make it operate more efficiently, or solve any technological problem.” *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1384–85 (Fed. Cir. 2019). Rather, the claim simply “includes instructions to implement an abstract idea on a computer” and “does no more than generally link the use of a judicial exception to a particular technological environment or field of use.” 2019 Revised Guidance, 84 Fed. Reg. at 55.

Notably, the only additional elements recited in claim 1 are the “at least one processor” and “a non-transitory computer readable storage medium,” which are merely used to achieve the claimed results and are not focused on “a specific means or method that improves the relevant technology.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). Appellant’s Specification confirms the generic, conventional nature of the claimed computer components. *See, e.g.*, Spec. ¶¶ 27–34.

For these reasons, Appellant has not persuaded us of Examiner error with respect to Step 2A, Prong 2 of the Revised Guidance. We, therefore,

conclude the judicial exception is not integrated into a practical application under the Revised Guidance.

Revised Guidance Step 2B

Under Step 2B of the Revised Guidance, we next determine whether the claims recite an “inventive concept” that “must be significantly more than the abstract idea itself, and cannot simply be an instruction to implement or apply the abstract idea on a computer.” *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016). There must be more than “computer functions [that] are ‘well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Alice*, 573 U.S. at 225 (second alteration in original) (quoting *Mayo*, 566 U.S. at 73).

Appellant argues the Examiner has failed to provide evidence that claim 1 recites additional elements that are well-understood, routine, or conventional activity. *See* Appeal Br. 21–22. Appellant has not persuaded us of Examiner error. The Examiner finds the Specification describes the claimed computer system and its components as a general-purpose computing device that does not provide any improvement over conventional devices. *See* Ans. 6–7 (citing Spec. ¶¶ 27–34). We agree with the Examiner’s findings. The Specification explains that “well-known computing systems, environments, and/or configurations . . . may be suitable for use with” the claimed computer system. *See* Spec. ¶ 27. The Specification provides numerous examples of conventional computers that may be used for each of the various computer components that are involved in the claim. *See id.* ¶¶ 27–39. Also, Appellant has not persuasively

identified any additional elements recited in claim 1 that amount to significantly more than the claimed abstract idea.

For these reasons, we sustain the rejection of independent claim 1. We also sustain the rejection of dependent claims 2–6 and 9–12, for which Appellant offers no separate argument. *See* Appeal Br. 12–24; Reply Br. 11–24.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–6, 9–12	101	Eligibility	1–6, 9–12	

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. § 41.50(f).

AFFIRMED