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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROHIT CHAUHAN, PO HU, JEAN-PIERRE GERARD, and TONG ZHANG[1]

Appeal 2018-003229
Application 14/038,650
Technology Center 3600

Before ROBERT E. NAPPI, ERIC S. FRAHM, and MICHAEL T. CYGAN, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the final rejection of claims 1 through 20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

INVENTION

The invention is directed to a system to enable vendor recommendations using payment card transaction information. Abstract. Claim 1 is illustrative of the invention and is reproduced below:

1. A recommendation method comprising:

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[1] According to Appellants, the real party in interest is, MasterCard International Inc. App. Br. 2.

> extracting financial transaction entries from a database stored on a computer-readable storage medium;
>
> filtering, with a processor, the financial transaction entries based on an application domain to produce domain-filtered financial transaction entries;
>
> filtering, with the processor, the domain-filtered financial transaction entries based on a geographic location of each domain-filtered financial transaction entry to produce geographically-filtered financial transaction entries;
>
> computing, with the processor, pairwise similarities between geographically-filtered financial transaction entries from multiple cardholders to produce recommendations;
>
> storing the recommendations in the database.

REJECTION AT ISSUE

The Examiner rejected claims 1 through 20 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. Answer 3.[2]

PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the Patent Act, which recites:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in 35 U.S.C. § 101: "[l]aws of

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[2] Throughout this Opinion, we refer to the Appeal Brief, filed September 22, 2017 ("App. Br."), the Reply Brief ("Reply Br."), filed January 30, 2018, the Examiner's Answer, mailed November 30, 2017 ("Answer"), and the Final Office Action, mailed February 22, 2017 ("Final Act.").

nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012).

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*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 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 (1853))); 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 176; *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 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.* (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) ("Memorandum"). Under that guidance, we first look to whether the claim is directed to a judicial exception because:

> (1) the claim recites a judicial exception, 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) the claim as a whole fails to recite additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. 2018).

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 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 Memorandum.

ANALYSIS

Abstract Idea.

The Examiner finds that the claims are not patent eligible as they are directed to a judicial exception without reciting significantly more. Answer 3–4. Specifically, the Examiner finds that the claims are directed to an abstract idea; in particular,

> the idea of extracting financial entries for "collecting information", filtering the financial transaction, filtering the domain filtered financial transaction for "analyzing it", computing and storing the recommendations in the database for

> "displaying results", which is an abstract idea similar to ELECTRIC POWER GROUP [*Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)] and filtering the financial transaction, filtering the domain filtered financial transaction for "creating a contractual relationship", which is similar to buySAFE [*buySAFE v. Google, Inc.*, 765 F.3d 1350, (Fed. Cir. 2014].

Answer 4.

Appellants argue the Examiner's rejection provides a gross oversimplification of the claimed invention and as claim 1 recites "computing… pairwise similarities between geographically-filtered financial transaction entries from multiple cardholders to produce recommendations" and not just collecting data and "analyzing it." Reply Br. 3. Further, Appellants argue that the claims in *Electric Power Group* were directed to receiving, detecting and analyzing events and displaying the results but did not provide any direction as to how to perform the steps. Reply Br. 4. Appellants argue that the two filtering steps clearly set forth how the geographically filtered transaction data are produced and not merely producing the entries and the claims are different than those in *Electric Power Group*. Reply Br. 4. Further, Appellants argue the claims can be distinguished from those at issue in *buySAFE* as in *buySAFE* the claims did not describe how anything is done, rather the claim recited receiving and processing a request by a computer to create a contractual relationship. Reply Br. 4-5.

We concur with the Examiner's finding that representative claim 1 recites a method of organizing human activity (an abstract idea), we also note that the claims recite elements directed to a mental process. Representative claim 1 recites limitations "extracting financial transaction

entries… filtering… entries based upon domain… filtering… entries based on a geographic location… computing pairwise similarities between … geographically filtered finical entries … to produce recommendations." These limitations which involve using financial information to produce recommendations, are related to a fundamental economic principle or commercial interactions (advertising, marketing or sales activity as. providing a recommendation is a form of advertising or marketing). We also note that these are steps that a person would perform in their mind to provide a recommendation or an opinion, and as such recites a mental process. Our reviewing court, in the *Electric Power Group* decision, cited by the Examiner, states "we 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." *Electric Power Group*, 830 F.3d at 1354 (Fed. Cir. 2016) (collecting cases).

These limitations are similar to those in the claims at issue in *CyberSource v. Retail Decisions, Inc*, which involved obtaining credit card information relating to transactions, verifying parameters (similar to filtering), obtaining information about other transactions to create a map and use the map to determine of a transaction is valid). *CyberSource v. Retail Decisions, Inc.,* 654 F.3d 1366, 1370 (Fed. Cir. 2011). The steps of "extracting financial transaction entries" and the two steps of filtering are data gathering steps, which typically do not make an otherwise non-statutory claim statutory. *CyberSource v. Retail Decisions, Inc.,* 654 F.3d 1366, 1370 (Fed. Cir. 2011) ("mere data-gathering steps cannot make an otherwise non-statutory claim statutory"). Further, the step of computing the pairwise similarities is performed using an unclaimed analysis, and Appellants'

specification discusses the process as being a matching process (i.e. a comparison). Specification para. 46. This step of matching financial transactions from multiple cardholders (i.e a comparing step), is a process that could be performed in the mind of a person, e.g., a concierge providing a recommendation to a person based upon their knowledge of what the person wants and where the person is located, or a marketing analyst considering different demographics to determine a target audience for an advertisement. While Appellants' Specification, in paragraph 15, identifies that recommendations without the claimed filtering steps, would take a "half-year on a typical computer"; suggesting that it could not be performed in the human mind, the amount of time in producing the recommendation is dictated by the size of the knowledge base (financial transaction database). However, the claims are not limited by the size of the database. Thus, we consider the claim limitations to collectively recite a concept that could be described as any one of a certain method of organizing human activity, a fundamental economic practice (of commercial interactions, advertising, marketing or sales activity) and a mental process (performing a comparison and providing an opinion) such that it is similar to those concepts identified as abstract by the courts.

We are not persuaded by Appellants' argument that the Examiner oversimplified the claims in determining the claims recite an abstract idea. As discussed above the representative claim includes steps of gathering data and matching (comparing) step to provide an opinion (a mental analysis step). Further, Appellants' arguments directed to the Examiner's reliance on *Electric Power Grp.* are not persuasive as discussed above the claims do recite steps of gathering data, and while the step of computing "pairwise

similarities" may not recite "analyze it" the broadest reasonable interpretation of the limitation is nonetheless an abstract concept.

Accordingly, we concur with the Examiner's finding that representative claim 1 recites an abstract idea.

Practical Application/Significantly more than Abstract Idea.

The Examiner finds that filtering data is not a technical solution to a problem. Answer 4. Similarly, the Examiner finds that the claim 1 recitation of storing data does not add significantly more to the abstract idea. Answer 5. Similarly, the Examiner states that the recitation of a database, computer readable medium and processor are generically reciting computer structure which is not sufficient to transform a judicial exception into a patentable invention. Answer 5, Final Act 3.

Appellants argue that the claims are directed to using a special purpose computer, and that "[t]he record does not suggest that the various functional features of the claims be implemented on a generic, unspecified computer, as a generic computer is not capable of performing the functional features recited in the claims." App Br. 14. Appellants assert that the claimed computer system has improved functionality over a generic computer. App Br. 14 (citing *In re Alappat*, 33 F.3d 1526 (Fed. Cir 1994). Further, Appellants argue the claims "solve a technological problem and thus provide a real world, practical application and an improvement on existing technologies…. for example, the independent claims, via each of their particularly programmed structural computer components store, receive, model and additionally generate very specific and sensitive information in a very specific manner in a hardware-based system that has

not been done before in the industry." App. Br. 15. Additionally, Appellants argue that the claims do not tie-up or pre-empt the user of the abstract idea. App. Br. 10. Appellants assert:

> it is readily apparent that the claims of the present application do not "tie up" or pre-empt others from a method of filtering less relevant data, as it does not limit someone from all manners in which a recommendation engine is implemented. Rather, the claims at issue are drawn to a specific, technical and tangible manner in which a novel and unobvious method and system, via their specifically configured hardware components, can evaluate the allocation rule by a specialized processing device.

App. Br. 11. Appellants restate all of the limitations of the claim to support this assertion and further assert that there is no logical manner in which the claims cover the entire realm of recommendation engines. Answer 11–12 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)).

Appellants' argument have not persuaded us the claims are directed to a practical application of the abstract idea. We do not find that the claims are necessarily rooted in computer technology, as were the claims in *DDR*. In *DDR*, the claimed invention created a hybrid web page that combined advantageous elements from two web pages, bypassing the expected manner of sending a visitor to another party's web page, in order to solve the internet-centric problem of retaining website visitors. *DDR Holdings*, 773 F.3d at 1257–1259. Unlike *DDR*, the claims do not overcome a problem specifically arising in the realm of computer networks. Rather, Appellants characterize the problem as reducing "the size of memory space and amout of processor time to enable a merchant recommendation engine." Spec. para.1. While this type of problem is related to a computer, it is not unique

to a computer as is merely is a method of reducing an amount of data to be considered and as discussed above is also applicable to mentally performing the steps of making a recommendation selecting the target audience for an advertisement. Appellants' claimed subject matter does not attempt to improve a computer so as to be able to perform a conventional "comparison approach" of recommendation, which Appellants state "cannot be used" due to computational resource constraints. Spec. para. 15. Rather, Appellants have made changes to the approach so that it can be used on a conventional computer, and consequently, describes a potential improvement to the mental process of forming recommendations rather than to a particular technological improvement to a computer's data processing capabilities. *See Id.* Furthermore, the mere "performance of some business practice known from the pre-Internet world along with the requirement to perform it" via computer and Internet (web server) has been distinguished as not involving solutions necessarily rooted in computer technology. *DDR Holdings*, 773 F.3d at 1257.

We agree with the Examiner's finding that the claims do not improve a computer or another technology or technological field. Ans. 6–7. As discussed above, representative claim 1 recites imitations of extracting information, filtering the information, computing pairwise similarities to produce recommendations, which recite an abstract idea. The remaining claim limitations, directed to a "database stored on a computer-readable storage medium" and a processor (which performs the filtering and the processing to produce the recommendations). Appellants' specification discusses the use of generic networks and computer devices to implement the abstract concepts. Specification paras. 36–37. Furthermore the steps in

claim 1 of extracting financial transaction entries and storing the recommendations in the database, do not recite using a computer or computer network to solve a problem unique to using a computer or computer network; rather, they merely identify the source of the data. Such generically claimed data gathering merely adds insignificant extra-solution activity to the identified abstract idea, and does not provide eligibility. *CyberSource v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011) ("mere data-gathering steps cannot make an otherwise nonstatutory claim statutory").

Thus, we are not persuaded by Appellants' arguments that the claims are rooted in computer technology, rather, the claims merely recite use of a computer as a tool to implement a method of organizing human activity involving a fundamental economic principle (an abstract idea) and a mental process. *See, e.g., RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) ("Unlike *Enfish*, [the claim] does not claim a software method that improves the functioning of a computer . . . [but] claims a 'process that qualifies as an "abstract idea" for which computers are invoked merely as a tool'") (citation omitted). Accordingly, we concur with the Examiner's finding that the claims merely require the abstract idea to be applied on a general-purpose computer. As such we do not consider, representative claim 1 to reciting a specific machine to perform the abstraction and is not an improvement in the functioning of a computer or any other technology, i.e., that the claims do not integrate the abstract concept to a practical application.

Appellants' augments directed to preemption similarly have not persuaded us of error. As stated by the Examiner on page 4–5 of the Answer,

the preemption concern is addressed by the two part analysis of *Alice*. Answer 4–5. "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015)("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). Thus, Appellants' arguments directed to preemption have not persuaded us of error

We next address the issue of whether the claims provide significantly more that the recited abstract idea. Appellants argue that the claims are "inextricably tied to (inseparable from) a computer-implemented environment in order to overcome a problem that has arisen in processing an enormous amount of data in a limited computer memory to create a recommendation engine." App Br. 12. Appellants analogize the claims to those at issue in *DDR Holdings, LLC v. Hotels.com, L.P.*, as they overcome a problem in the realm of electronic wallets and specify how interactions between computer components are manipulated to reach a desired result which is not routine or conventional. App Br. 13 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*), Reply Br. 9-10.

These arguments have not persuaded us the Examiner erred in finding representative claim 1 does not recite significantly more. Initially, we note that claim is not drawn to electronic wallets, but rather the above-discussed method of making a recommendation, which takes and filters financial transaction data then computes pairwise similarities between transactions (a comparison step), so as to encompass an abstract idea. We do not find the

steps of representative claim 1 to involve unconventional steps. The step of "extracting information" and "filtering" are data gathering steps which are not "unconventional activity" when performed by a computer in a generic manner. *See e.g., Intellectual Ventures v. Symantec,* 838 F.3d 1307, 1321 (Fed. Cir. 2016), MPEP § 2106.05(d)(II)(i). Similarly, the step of calculating pairwise similarities between transactions is discussed in the Specification as using "methods known in the art" and as involves conventional computerized techniques. Specification para. 46. Thus, we consider the claims to recite well-understood, routine and conventional activities and Appellants have not persuaded us that the Examiner erred in not considering the claims to recite significantly more as tied to computer technology.

In summary, Appellants' arguments have not persuaded us of error in the Examiner's determination that the claims are directed to an abstract idea; a certain method of organizing human activity which is both a fundamental economic practice (of commercial interactions, advertising, marketing or sales activity) and a mental process (an evaluation and opinion). Further, Appellants' arguments have not persuaded us that the Examiner erred in finding that the claims are not directed to: an improvement in the functioning of the computer or to other technology or other technical field; a particular machine; performing or affecting a transformation of an article to a different state or thing; and/or using a judicial exception in some meaningful way beyond linking the exception to a particular technological environment such that the claim as a whole is more than a drafting effort to monopolize the judicial exception.

Accordingly, we sustain the Examiner's rejection of claims 1 through

20 under 35 U.S.C. § 101 as being directed to patent ineligible subject matter.

DECISION

The decision of the Examiner to reject claims 1 through 20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED