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FIS/FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER LLP
901 NEW YORK AVENUE
WASHINGTON, DC 20001-4413

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT C. TAINTOR
and GREGORY DAVID LEIBON

Appeal 2017-002304
Application 13/853,884[1]
Technology Center 3600

Before JASON V. MORGAN, NABEEL U. KHAN, and
MICHAEL J. ENGLE, *Administrative Patent Judges*.

ENGLE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 50–69, which are all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

Technology

The application relates to "analyzing and optimizing the distribution of work" based on "historical data." Spec. Abstract. For example, "one industry that could benefit from optimizing work item queues is the banking industry . . . . in dealing with potential fraud activities." *Id.* ¶ 7.

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[1] According to Appellants, the real party in interest is FIS Financial Compliance Solutions, LLC. App. Br. 3.

Illustrative Claim

Claim 50 is illustrative and reproduced below:

50. A computer-implemented method performed by a system comprising a database, a historical data processor, and a new data processor, the method comprising:

storing historical data in the database comprising a plurality of fraud activities of a first type, each fraud activity having a fraud determination and an associated monetary value, wherein the associated monetary value of each fraud activity is associated with a related cost of investigation;

assigning, using a relative score generator of the historical data processor, a relative score to each of the fraud activities of the first type, based on at least the other fraud activities of the first type;

calculating, using a cumulative monetary value calculator of the historical data processor, a cumulative monetary value associated with each particular relative score, the cumulative monetary value for each relative score being a function of a summation of the monetary values of at least the fraud activities having the particular relative score;

determining, using a maximum value module of the historical data processor, a highest cumulative monetary value and a relative score corresponding to the highest cumulative monetary value; and

determining, using a queue generator of the new data processor, which of a set of potential fraud items to analyze, based on a relative score associated with each of the set of potential fraud items.

Rejection

Claims 50–69 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 4–8.

ISSUE

Did the Examiner err in concluding claim 50 sought to patent subject matter that is ineligible under § 101?

ANALYSIS

Section 101 defines patentable subject matter: "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." 35 U.S.C. § 101. The Supreme Court, however, has "long held that this provision contains an important implicit exception" that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (quotation omitted). To determine patentable subject matter, the Supreme Court has set forth a two part test.

"First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts" of "laws of nature, natural phenomena, and abstract ideas." *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). "The inquiry often is whether the claims are directed to 'a specific means or method' for improving technology or whether they are simply directed to an abstract end-result." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1326 (Fed. Cir. 2017). A court must be cognizant that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas" (*Mayo*, 566 U.S. at 71), and "describing the claims at . . . a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016). Instead, "the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

In the second step, we "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 79, 78). The Supreme Court has "described step two of this analysis as a 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.* (quotation omitted). For computer-related technology, a claim may pass the second step if "the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer [technology]." *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (e.g., "a challenge particular to the Internet").

Here, the Examiner concludes the claims "are directed to the abstract idea of gathering data and using the data with mathematical manipulation to determine and manage fraud." Ans. 4. The Examiner points, for example, to the "calculating" step doing a "summation of the monetary values" to get the "cumulative monetary value" and "determining . . . a highest cumulative monetary value" and its corresponding relative score, then "determining . . . which of a set of potential fraud items to analyze, based on a relative score associated with each." *Id.* The Examiner determines the claims are "collecting information and comparing new and stored information and using rules to identify options," which the Examiner analogizes to *SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 F. App'x 950 (Fed. Cir. 2014) (unpublished). Ans. 4–5. The Examiner further determines that "[g]athering/acquiring data, using/manipulating/analyzing the data

mathematically or in algorithms, and/or using the resulting created/ determined/calculated data is an abstract concept further similar to" a variety of cited cases and PTO guidance memoranda.[2] *Id.* at 5.

Appellants contend "the pending claims are not akin to the concepts found to be abstract in *Alice*, *Bilski*, and other cases relating to abstract ideas." App. Br. 8. According to Appellants, the Examiner is "offering only a string of case cites" but "the Examiner has made no attempt to ***compare*** *claims* at issue to those *claims* already found to be directed to an abstract idea in previous cases." Reply Br. 6 (quotation omitted). Appellants then analogize their claims to other decisions, but do not expressly address the claims of the decisions cited by the Examiner. *Id.*

To determine whether the Examiner correctly analogized the present application, we take a more detailed look at the decisions cited by the Examiner, including the claims. In *Versata*, representative claim 17 recited:

> A method for determining a price of a product offered to a purchasing organization comprising:
>
> arranging a hierarchy of organizational groups comprising a plurality of branches such that an organizational group below a higher organizational group in each of the branches is a subset of the higher organizational group;
>
> arranging a hierarchy of product groups comprising a plurality of branches such that a product group below a higher product group in each of the branches in a subset of the higher product group;

[2] *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306 (Fed. Cir. 2015); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607 (Fed Cir. 2016); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343 (Fed. Cir. 2014); *Digitech Image Techs., LLC v Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014); "July 2015 Update: Interim Eligibility Guidance Quick Reference Sheet"; "July 2015 Update: Subject Matter Eligibility."

> storing pricing information in a data source, wherein the pricing information is associated, with (i) a pricing type, (ii) the organizational groups, and (iii) the product groups;
>
> retrieving applicable pricing information corresponding to the product, the purchasing organization, each product group above the product group in each branch of the hierarchy of product groups in which the product is a member, and each organizational group above the purchasing organization in each branch of the hierarchy of organizational groups in which the purchasing organization is a member;
>
> sorting the pricing information according to the pricing types, the product, the purchasing organization, the hierarchy of product groups, and the hierarchy of organizational groups;
>
> eliminating any of the pricing information that is less restrictive; and
>
> determining the product price using the sorted pricing information.

Versata, 793 F.3d at 1312–13 (white space added). Thus, the claims in *Versata* included storing pricing information in a hierarchy, retrieving pricing information, sorting pricing information, eliminating certain pricing information, and determining a price using the sorted pricing information. We agree with the Examiner that this is akin to the present application, which stores historical data, sorts by relative score or cumulative monetary value, and determines an item to analyze using a relative score.

In *Versata*, for the first step of the *Alice/Mayo* framework, the Federal Circuit concluded:

> Using organizational and product group hierarchies to determine a price is an abstract idea that has no particular concrete or tangible form or application. It is a building block, a basic conceptual framework for organizing information, similar to the claims involving collecting, recognizing, and storing data in *Content Extraction* and the claims in *CyberSource*.

Versata, 793 F.3d at 1333–34. For the second step, the Federal Circuit determined that "the function performed by the computer at each step is purely conventional," including "arranging a hierarchy of organizational and product groups, storing pricing information, retrieving applicable pricing information, sorting pricing information, eliminating less restrictive pricing information, and determining the price." *Id.* at 1334. "All of these limitations are well-understood, routine, conventional activities previously known to the industry." *Id.* "Similarly, when considered as an ordered combination, the components of each claim add nothing that is not already present when the steps are considered separately." *Id.*

A second decision cited by the Examiner was *OIP Technologies*, in which the Federal Circuit summarized claim 1 as "(1) testing a plurality of prices; (2) gathering statistics generated about how customers reacted to the offers testing the prices; (3) using that data to estimate outcomes (i.e. mapping the demand curve over time for a given product); and (4) automatically selecting and offering a new price based on the estimated outcome." *OIP Techs.*, 788 F.3d at 1361. Again, we agree with the Examiner that this is akin to the present application, which gathers historical data, uses that historical data to estimate value (whether through a relative score or a cumulative monetary value), and selects an item to analyze based on the estimated value. In *OIP Technologies*, the Federal Circuit determined "the claims merely recite . . . conventional computer activities or routine data-gathering steps," including "storing test results in a 'machine-readable medium'" and "'using a computerized system … to automatically determine' an estimated outcome and setting a price." *Id.* at 1363. "At best, the claims describe the automation of the fundamental economic concept of

offer-based price optimization through the use of generic-computer functions." *Id.*

We agree with the Examiner's analogy to cases such as *Versata* and *OIP Technologies*. As the Examiner explained, "[g]athering/acquiring data, using/manipulating/analyzing the data mathematically or in algorithms, and/or using the resulting created/determined/calculated data is an abstract concept further similar to *Versata* . . . [and] *OIP Technologies*[,] . . . whose claims were held ineligible." Ans. 5 (emphasis added). The Federal Circuit has held "the 'realm of abstract ideas' includes 'collecting information, including when limited to particular content'"; "'analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, [which are] essentially mental processes'"; "'merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation) . . . as an ancillary part of such collection and analysis'"; and "a combination of these abstract-idea categories." *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)).

Here, claim 50 includes (1) storing historical data in a database, (2) assigning a relative score to items in the database,[3] (3) summing the values for a set within the database,[4] (4) determining a highest cumulative

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[3] We note that other than being "based on at least the other fraud activities of the first type," the claim does not limit how the value of the relative score is calculated or what it represents (e.g., likelihood of fraud vs. money or time).
[4] We note that summing values for *all* historical data would be summing the value of "*at least* the fraud activities having the particular relative score" and would be "*associated with* each particular score."

monetary value and a corresponding relative score, and (5) determining which item to analyze based on a relative score.[5] This is no less abstract than the abstract ideas in *Versata* (which involved storing data, sorting the data, eliminating certain options, and determining the next price using the sorted list) and *OIP Technologies* (which involved "gathering statistics"; "using that data to estimate outcomes"; and "automatically selecting and offering a new price based on the estimated outcome"). *Versata*, 793 F.3d at 1312–13, 1333–34; *OIP Techs.*, 788 F.3d at 1361. In this regard, the claims here are also similar to *SmartGene*, in which the claims recited in part a "knowledge base comprising a plurality of expert rules for evaluating and selecting a therapeutic treatment" and "generating . . . a ranked listing of available therapeutic treatment regimens for [a] patient." *SmartGene*, 555 F. App'x at 951–52; Ans. 4–5 (citing *SmartGene*). Just like *Versata*, *OIP Technologies*, and *SmartGene*, the claims here are directed to the abstract ideas of storing data, analyzing and sorting the data, and selecting from the sorted list. *See also Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1327 (Fed. Cir. 2017) ("We have previously held other patent claims ineligible for reciting similar abstract concepts that merely collect, classify, or otherwise filter data.").

Appellants also argue "the Office does not . . . suggest that the . . . claims would monopolize every substantial application" of the abstract idea. App. Br. 11. Monopolization, however, is not the test. "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics,*

[5] We note the determination of what to analyze is not necessarily tied to the prior steps of calculating cumulative values or determining the highest.

Inc. v. Sequenom, Inc., 788 F.3d 1371, 1379 (Fed. Cir. 2015). "Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *Id.* Moreover, "[t]he Supreme Court and this court have repeatedly made clear that merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract." *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016).

Appellants also argue the "claims impose requirements that would make it impossible for a human to carry out" because the claims must be "performed by specific components, namely, a '**database**,' a '**historical data processor**' that includes a '**relative score generator**,' a '**cumulative monetary value calculator**,' and a '**maximum value module**,' and a '**new data processor**' that includes a '**queue generator**.'" App. Br. 15–16; Reply Br. 10–11. We agree with the Examiner, however, that Appellants have not explained how, for example, a human mind generating relative scores would not comprise a "relative score generator." *See* Ans. 6. Regardless, the Supreme Court is clear that "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Alice*, 134 S. Ct. at 2358; *see also* Ans. 5–7.

Here, the Specification states the claimed processors can be "any one or more processors of any kind of digital computer," including any "general" or "special purpose" microprocessors. Spec. ¶ 69. Thus, the processors can be any generic computing components. Similarly, the Specification explains "[t]he techniques described above can be implemented in digital electronic circuitry, or in computer hardware, firmware, software executing on a

computer, or in combinations of them." *Id.* ¶ 67; *see also id.* ¶ 68. Moreover, "[a] computer program can be written in any form of programming language, including compiled or interpreted languages, and it can be deployed in any form, including as a stand-alone program or as a module, component, subroutine, or other unit suitable for use in a computing environment." *Id.* ¶ 67. Thus, to the extent the generators, calculators, and modules must be hardware or software on a digital computer processor, they can be any combination of hardware, firmware, or software, and can be written in any programming language.

As the Federal Circuit has explained, "[a]n abstract idea . . . on a generic computer is still an abstract idea." *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1348 (Fed. Cir. 2016); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1374 (Fed. Cir. 2017) ("When claims like the Asserted Claims are directed to an abstract idea and merely require generic computer implementation, they do not move into section 101 eligibility territory.") (quotations omitted). "The mere fact that the inventor applied coined labels to conventional structures does not make the underlying concept inventive." *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1342 (Fed. Cir. 2017).

Here, "with 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." *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016). For example, the human mind (with or without pen and paper) is capable of storing historical data, assigning a relative score, calculating a summation, determining a highest value and the corresponding relative score, and

determining which of a set of potential fraud items to analyze. *See also Elec. Power*, 830 F.3d at 1354 ("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"). The Supreme Court is clear that "mental processes . . . are not patentable." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972).

For the same reasons, we are not persuaded by Appellants' arguments that the claims are "**inextricably tied to computer technology**." App. Br. 9–10; Reply Br. 3–5. Neither the problem nor the solution is unique to computers. As the Federal Circuit has said, "relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible." *OIP Techs.*, 788 F.3d at 1363. Moreover, as discussed above, the Federal Circuit has already held that storing data, sorting data, estimating outcomes, and selecting a new item based on estimated outcomes are all well-understood, routine, conventional activities, whether alone or in combination. *E.g.*, *Versata*, 793 F.3d at 1334; *OIP Techs.*, 788 F.3d at 1363.

Accordingly, we sustain the Examiner's rejection of claim 50, and claims 51–69, which Appellants do not substantively argue separately. *See* App. Br. 7–16; 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

For the reasons above, we affirm the decision rejecting claims 50–69.

No time for taking 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