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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HARPAL SANDHU, VIKAS SRIVASTAVA, and JON BARKER

Appeal 2017-007341[1]
Application 14/214,121
Technology Center 3600

Before BART A. GERSTENBLITH, BRADLEY B. BAYAT, and MATTHEW S. MEYERS, *Administrative Patent Judges*.

BAYAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Harpal Sandhu et al. ("Appellants")[2] appeal under 35 U.S.C. § 134(a) from the decision rejecting claims 1–59 under 35 U.S.C. § 101 as directed to non-statutory subject matter. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Our Decision references Appellants' Appeal Brief ("Appeal Br.," filed Dec. 15, 2016), Reply Brief ("Reply Br.," filed Apr. 10, 2017), the Examiner's Answer ("Ans.," mailed Feb. 8, 2017) and the Final Office Action ("Final Act.," mailed May 18, 2016).

[2] Appellants identify "Integral Development, Inc." as the real party in interest. Appeal Br. 3. "NH Expansion Credit Fund Holdings LP" is the current assignee recorded (July 2, 2018) with the USPTO as per reel/frame number 046254/0055.

STATEMENT OF THE CASE

Claimed Subject Matter

This application is titled "Method and Apparatus for Generating and Facilitating the Application of Trading Algorithms Across a Multi-Source Liquidity Market." Spec., Title. Appellants' invention "relates generally to the trading of financial instruments and, more specifically, to a method and apparatus for generating and facilitating the application of trading algorithms across a multi-source liquidity market." *Id.* ¶ 3.

Claims 1, 24, 30, 52, 58, and 59 are the independent claims on appeal. Claim 1, reproduced below with added bracketed notations, is illustrative of the subject matter on appeal:

> 1. A computer-implemented method for generating one or more trading algorithms, comprising the steps of:
>
> [(a)] generating, via one or more processing units, display data representing a plurality of user configurable trading algorithm parameters;
>
> [(b)] obtaining, from a user, algorithm parameter information, wherein the algorithm parameter information comprises information defining at least one characteristic of at least one user configurable trading algorithm parameter of the plurality of user configurable trading algorithm parameters;
>
> [(c)] generating the one or more trading algorithms based, at least in part, on the algorithm parameter information; and
>
> [(d)] facilitating one or more trades in a liquidity market using the one or more generated trading algorithms.

Appeal Br. 19, Claims App.

ANALYSIS

Under 35 U.S.C. § 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.[3] The Supreme Court, however, has long interpreted § 101 to include an implicit exception: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *See, e.g.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) (internal quotation marks and citation omitted).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. The first step in that framework is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts," such as an abstract idea. *Id.* If the claims are not directed to a patent-ineligible concept, the inquiry ends. If, however, the claims are directed to a patent-ineligible concept, the inquiry proceeds to step two to look at the claim for "something more" by "examin[ing] 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." *Id.* at 2354, 2357 (quoting *Mayo*, 132 S. Ct. at 1294, 1298). This inventive concept must do more than simply recite "well-understood, routine, conventional activity." *Mayo*, 132 S. Ct. at 1298.

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[3] The Examiner determines that each of the independent claims is directed to a statutory category of invention. *See* Final Act. 5–7.

Applying the framework in *Alice*, and as the first step of that analysis, the Examiner determines Appellants' claims "are directed to an abstract idea of generating trading algorithms/strategies and facilitating one or more trades using the generated algorithms/strategies." Final Act. 7. Proceeding to the second step, the Examiner determines:

> The additional element(s) other than the abstract idea per se amount(s) to no more than mere instructions to implement the idea on a generic computer. Viewed as a whole, these additional claim element(s) do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself.

Id.

Appellants argue all the pending claims as a group. *See* Appeal Br. 12–17; *see also* Reply Br. 3–11. We select independent claim 1 as the representative claim for this group. Thus, claims 2–59 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Under *Alice* step one, Appellants argue the claims are not abstract because they are "directed to techniques for generating one or more trading algorithms that are based on algorithm parameter information or trading strategies obtained from a user" that improve computer capabilities and the relevant technology. Appeal Br. 13 (citing *Enfish*[4] and *McRO*[5]).

In *Enfish*, the Federal Circuit noted "[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can[.]" *Enfish*, 822 F.3d at 1335. The court asked "whether the focus of the

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[4] *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016).
[5] *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016).

claims is on [a] 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." *Id.* at 1335–36. There, the "plain focus of the claims" was on an improvement to computer functionality itself, a self-referential table for a computer database designed to improve the way a computer carries out its basic functions of storing and retrieving data. *Id.* And, the court in *McRO* asked whether the claims as a whole "focus on a specific means or method that improves the relevant technology" or are "directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery." *McRO*, 837 F.3d at 1314.

In our view, Appellants' reliance on *Enfish* and *McRO* is misplaced. We determine that claim 1 as a whole is focused on a result; that is, generating a trading algorithm based on user parameters for facilitating a trade—a financial management process, for which a computer is invoked merely as a tool. We find no parallel between claim 1 and the claims in *Enfish*, nor any comparable aspect in claim 1 that represents an improvement to computer functionality. *See* Ans. 6 ("[T]he claims are not directed to any improvement in computer operations but instead directed to an abstract idea of providing business solution related to trading of financial instruments and more specifically to generating and facilitating trading algorithms across a multi-source liquidity market [Specification para 0003]."). Unlike *Enfish*, claim 1 is not focused on an improvement to computer capabilities or functionality (i.e., an improved processing unit). *Cf. In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (The claims' focus "was not on an improved telephone unit or an improved server."). There is a fundamental difference between computer functionality improvements, on

the one hand, and uses of existing computers as tools to perform a particular task, on the other. Appellants' characterization of the claims as being directed to generating a trading algorithm based on trading strategies obtained from a user (Appeal Br. 13) is admittedly not focused on a specific means or process that improves computer technology, but rather, on customizing a financial transaction decision making process, for which a computer is used as a tool in its ordinary capacity. *See, e.g.*, Spec. ¶ 10 ("traders are often limited to trading with a single bank, and the algorithms themselves are inflexible, unconfigurable, and incapable of dynamic changes in response to the market"); *id.* ¶ 11 (solution "aimed at alleviating the drawbacks of conventional algorithmic trading technology"). Indeed, Appellants acknowledge that tailoring new trading algorithms based on user strategy information improves the capabilities of electronic trading and optimizes execution and trading strategies. Appeal Br. 14. Thus, the advance over the prior art lies in generating a customizable trading algorithm for facilitating trades that "is optimal for that party's trading needs and goals" (Spec. ¶ 8), which is an improvement in managing a financial transaction, instead of an improvement in computer technology.

Appellants' invention relates to using a generic processor to obtain user trading strategy data that would otherwise be collected by pen-and-paper, and facilitating a trade based on the analyzed data. The individual steps comprising the method, i.e., obtaining data, analyzing same to generate an algorithm, and acting based on that analysis, are similar to others that have been found to be abstract. *See, e.g.*, *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1361–62 (Fed. Cir. 2015) (a method comprising (1) testing prices, (2) gathering statistics about how customers reacted to the

prices, (3) using that data to estimate outcomes, and (4) acting on estimated outcomes (i.e., automatically selecting and offering new prices based on estimated outcome) to be directed to the abstract idea of price optimization); *see also Intellectual Ventures I LLC v. Erie Indem. Co.*, No. 1:14-CV-00220, 2015 U.S. Dist. LEXIS 129153, at *94 (a method of "gathering, storing, and acting on data based on predetermined rules" is directed to an abstract idea). Appellants contend that "the claimed approach cannot be performed by a human being using pen and paper [because] algorithmic trading is performed by a computer and over computer-based electronic trading platforms." Appeal Br. 15.

We are not persuaded by Appellants' argument as to performance of the claimed steps by a physical machine because although the Supreme Court noted in *Bilski v. Kappos*, 130 S. Ct. 3218, 3227 (2010), that the machine-or-transformation test is a "useful and important clue" for determining patent eligibility, the Court, in *Mayo*, emphasized that satisfying the machine-or-transformation test, by itself, is not sufficient to render a claim patent-eligible, as not all transformations or machine implementations infuse an otherwise ineligible claim with an "inventive concept." *See Mayo*, 132 S. Ct. at 1301 ("[S]imply implementing a mathematical principle on a physical machine, namely a computer, [i]s not a patentable application of that principle" (citing *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972))). And, the Court in *Alice* noted:

> The fact that a computer "necessarily exist[s] in the physical, rather than purely conceptual realm" . . . is beside the point. There is no dispute that a computer is a tangible system (in § 101 terms, a "machine"), or that many computer-implemented claims are formally addressed to patent-eligible subject matter. But if that were the end of the § 101 inquiry, an

> applicant could claim any principle of the physical or social sciences by reciting a computer system configured to implement the relevant concept.

Alice, 134 S. Ct. at 2358–59. The Federal Circuit has made clear that the basic character of a process claim drawn to an abstract idea is not changed by claiming only its performance by a machine or apparatus. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375–76 (Fed. Cir. 2011) (citing *In re Abele*, 684 F.2d 902 (CCPA 1982)). And, whether it would be practical for a human to perform the method using pen and paper is immaterial because "relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible." *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (citing *Alice*, 134 S. Ct. at 2359). "[T]he inability for the human mind to perform each claim step does not alone confer patentability. As we have explained, 'the fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.'" *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016).

Appellants' reliance on *DDR Holdings*[6] (Appeal Br. 15) is also unavailing because the claims at issue do not address a problem unique to the internet. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1371 (Fed. Cir. 2015) ("The patent at issue in *DDR* provided an Internet-based solution to solve a problem unique to the Internet that (1) did not foreclose other ways of solving the problem, and (2) recited a specific series of steps that resulted in a departure from the routine and

[6] *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

conventional sequence of events after the click of a hyperlink advertisement. The patent claims here do not address problems unique to the Internet, so *DDR* has no applicability."). Indeed, trading strategy information unique to investors were used prior to the advent of the Internet to facilitate trades.

In determining the abstract idea, "the decisional mechanism courts now apply is to examine earlier cases in which a *similar or parallel* descriptive nature can be seen—what prior cases were about, and which way they were decided." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (emphasis added). In *eResearch Technology, Inc. v. CRF, Inc.*, 186 F. Supp. 3d 463 (W.D. Pa. 2016), *aff'd*, 2017 WL 1033672 (Mem) (Fed. Cir. 2016), the court held "obtaining data, generating an algorithm by quantitative analysis, and translating said algorithm into a more useful rule is directed to an abstract idea." 186 F. Supp. 3d at 478. We see little character difference between the concept here and the abstract idea in *eResearch Technology*, which the Federal Circuit affirmed.

We find unpersuasive Appellants' argument that "the claims pose no danger of preempting an abstract idea." Appeal Br. 16. It is well established by now "the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment." *Alice*, 134 S. Ct. at 2358. "The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability" and "[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice*, 134 S. Ct. at 2354). "Where a patent's claims are deemed only to disclose patent

ineligible subject matter under the [*Alice*] framework, [as they are in this case,] preemption concerns are fully addressed and made moot." *Id.* Even though "preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.*; *see also OIP Techs.*, 788 F.3d at 1362–63 ("[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.").

To qualify as an inventive concept under step two of *Alice*, the implementation of the abstract idea must involve "more than performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" *Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) (alteration in original) (quoting *Alice*, 134 S. Ct. at 2359). We agree with the Examiner and conclude that claim 1 does not contain an inventive concept sufficient to "'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (citation omitted). The introduction of a generic computer into the claim does not alter the analysis. We are not apprised of anything in the claims, understood in light of the Specification, that requires components other than off-the-shelf, conventional computer, and processing units for gathering and analyzing information, that transforms the abstract idea into a patent-eligible application. For example, claim 1 merely recites "[a] computer-implemented method" in the preamble of the claim, and implementing "one or more processing units" in step (a), but the claim does not require that steps (b), (c), and (d) are implemented on a computer. *See, e.g.*, Spec. ¶ 32 ("Processor and storage arrangements of the types illustrated in FIG. 1 are well known to those having ordinary skill in the art."), *id.* ¶ 33

("The display 108 may include any conventional display mechanism such as a cathode ray tube (CRT), flat panel display, projector, or any other display mechanism known to those having ordinary skill in the art.").

Appellants' reliance on the claims' "recit[ation] that one or more trading algorithms are generated based on obtained algorithm parameter information and/or trading strategy selection information" as necessarily amounting to "significantly more" than the abstract idea (Appeal Br. 17) is unpersuasive of error in the rejection because the Examiner explicitly identified this feature of claim 1 as part of the abstract idea. *See* Final Act. 6. In other words, Appellants' argument is flawed because the Examiner explicitly excluded step (c) in the analysis under step two of the *Alice* framework. *See id.* at 7.

In view of the foregoing, we are not persuaded the Examiner erred in concluding that claim 1 is directed to non-statutory subject matter. Accordingly, we sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 101, including claims 2–59, which fall with claim 1.

DECISION

The rejection under 35 U.S.C. § 101 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).

AFFIRMED