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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte LUIS ANTÔNIO BARRON GUERRA VICENTE

_____

Appeal 2017-002339
Application 13/462,091
Technology Center 3600

_____

Before ERIC B. CHEN, AMBER L. HAGY, and DAVID J. CUTITTA II, *Administrative Patent Judges.*

HAGY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 24–46, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] Appellant identifies the real party in interest as BM&F BOVESPA S.A. – Bolsa de Valores, Mercadorias Futuros. (App. Br. 2.)

STATEMENT OF THE CASE

Introduction

According to Appellant, "[t]he invention relates . . . to processes and system of risk assessment for closing out a portfolio and, more specifically, . . . to processes and system that allow a safer transaction and, at the same time, with lower risk and costs for at least one of the parties involved in the transaction." (Spec. 1:9–13.)

Exemplary Claim

Claims 24, 39, 41, and 44 are independent. Claim 24, reproduced below, is exemplary of the claimed subject matter:

> 24. A computer-implemented method for assessing closeout risk of a given portfolio of interest, the computer-implemented method comprising electronic operations performed with an electronic risk assessment system, the electronic risk assessment system including a processor and a memory, the electronic operations including:
>
> obtaining data in the risk assessment system to represent characteristics of the portfolio for use in a projection of a closeout of the portfolio, with execution of operations in the risk assessment system including:
>
> > identifying a set of time periods for the closeout of the portfolio;
> >
> > identifying a plurality of investments associated with the portfolio, wherein the plurality of instruments associated with the portfolio includes assets and contracts from multiple asset types; and
> >
> > identifying a plurality of collaterals associated with the portfolio, wherein the plurality of collaterals associated with the portfolio includes one or more of cash, bonds, or securities, from multiple asset types;

obtaining data in the risk assessment system to represent a plurality of strategies for the projection of the closeout of the portfolio, with execution of operations in the risk assessment system including:

identifying a plurality of strategies for the closeout of the portfolio, wherein the respective strategies for the closeout of the portfolio are defined for a prospective settlement of assets and contracts of the portfolio over a period of time that ii qui dates respective positions in the assets and contracts, and wherein the respective strategies consider respective positions of the plurality of collaterals associated with the portfolio;

performing electronic calculations in the risk assessment system for overall potential losses from the plurality of strategies, with execution of operations of an loss calculation algorithm in the risk assessment system, the operations performed on data including the data to represent characteristics of the portfolio and the data to represent the plurality of strategies, the operations of the loss calculation algorithm including:

evaluating transient losses associated with each of the plurality of strategies and each time period of the set of time periods;

evaluating permanent losses associated with each of the plurality of strategies and each time period of the set of time periods; and

calculating aggregated losses based on the transient losses and the permanent losses, the aggregated losses associated with each of the plurality of strategies;

performing electronic calculations in the risk assessment system for an estimated risk of the respective strategies for the closeout of the portfolio, with execution of operations of an risk estimation algorithm in the risk assessment system, the operations performed on data including the data to represent characteristics of the portfolio and the data to represent the plurality of strategies, the operations of the risk estimation algorithm including:

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calculating a projected closeout risk for the portfolio in each of the plurality of strategies, wherein calculating the projected closeout risk for the portfolio includes generating an estimate of possible losses relating to each time period of the set of time periods.

Rejection

Claims 24–46 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. (Final Act. 4.)

ANALYSIS

The Supreme Court has set forth an analytical "framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71–73 (2012)). In the first step of the analysis, we determine whether the claims at issue are "directed to" a judicial exception, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If not, the inquiry ends. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1346 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016). If the claims are determined to be directed to an abstract idea, then we consider under step two whether the claims contain an "inventive concept" sufficient to "transform the nature of the claim into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (quotations and citation omitted).

Noting that the two stages involve "overlapping scrutiny of the content of the claims," the Federal Circuit has described "the first-stage inquiry" as "looking at the 'focus' of the claims, their 'character as a

whole,'" and "the second-stage inquiry (where reached)" as "looking more precisely at what the claim elements add—specifically, whether, in the Supreme Court's terms, they identify an 'inventive concept' in the application of the ineligible matter to which (by assumption at stage two) the claim is directed." *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). In considering whether a claim is directed to an abstract idea, we acknowledge, as did the Court in *Mayo*, 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. We, therefore, look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that in itself is the abstract idea and merely invokes generic processes and machinery. *See Enfish*, 822 F.3d at 1336.

> *Step One: Whether the Claims Are Directed to a Patent-Ineligible Concept (Abstract Idea)*

The Examiner concludes claims 24–46 are directed to the "abstract idea" of "comparing new and stored information and using rules to identify options and organizing information through mathematical correlations." (Final Act. 4.) The Examiner provides reasoning to support this conclusion, stating that "[w]hile the claims do not explicitly recite 'comparing new and stored information and using rules to identify options', the concept of 'comparing new and stored information and using rules to identify options' is described by the obtaining, identifying, and evaluating steps in claim [24]." (*Id.*)

As the Examiner concludes, and we agree, the claims here are ineligible because they recite nothing but a series of steps of data selection and gathering ("obtaining data"), and manipulation of that data based on

application of mathematical rules and algorithms ("performing electronic calculations"). (Final Act. 4; Ans. 9.) That is all abstract. *See SAP America, Inc. v. InvestPic, LLC*, 890 F.3d 1016, 1021 (Fed. Cir. 2018); *Electric Power*, 830 F.3d at 1354.

In arguing the Examiner has provided "no basis" for concluding the claims are directed to an abstract idea, Appellant argues:

> While various courts have found certain methods of organizing human activity and fundamental economic practices as ineligible for being an "abstract idea", Appellant respectfully disputes the characterization that "comparing new and stored information and using rules to identify options and organizing information through mathematical correlations" is encompassed by the present claims, or that any similar computer implemented process involving information and rules is per se directed to an abstract idea.

(App. Br. 16.)

We disagree. As our reviewing court has explained, "claims focused on 'collecting information, analyzing it, and displaying certain results of the collection and analysis' are directed to an abstract idea." *SAP America*, 890 F.3d at 1021 (quoting *Electric Power*, 830 F.3d at 1353). We agree with the Examiner's conclusion that the claims here are directed to abstract ideas under those principles. In particular, claim 24 claims a "method for assessing closeout risk of a given portfolio of interest," and recites steps of "obtaining data," including "identifying" particular kinds of data (such as "set time periods," and "instruments" and "collaterals" that are "associated with the portfolio"), and "performing electronic calculations" according to particular "algorithm[s]." Although the claims recite considerable detail as to the character of the *information* that is obtained, identified, and input into the calculations, that does not change the character of the *claims*. As our

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reviewing court has explained, "'[i]nformation as such is an intangible,' hence abstract, and 'collecting information, including when limited to particular content (which does not change its character as information), [i]s within the realm of abstract ideas.'" *SAP America*, 890 F.3d at 1021 (quoting *Electric Power*, 830 F.3d at 1353). So, too, is "analyzing information . . . by mathematical algorithms, without more." *Electric Power*, 830 F.3d. at 1354 (citing, e.g., *Parker v. Flook*, 437 U.S. 584 (1978), and *Gottschalk v. Benson*, 409 U.S. 63 (1972)). Thus, the recitation in the claims of specific mathematical algorithms to be applied to the data, as in the dependent claims, also does not remove the claims from the realm of the abstract. Indeed, Appellant concedes "the claims are directed to a computerized technique for data processing." (App. Br. 23.)

Appellant also argues "the present rejection appears to be prejudiced against business method subject matter, assuming a conclusion of ineligibility for any business method in direct violation of Supreme Court guidance." (App. Br. 22; *see also id.* at 22–24.) We disagree. The Examiner's conclusion that the claims are directed to an abstract idea follows Supreme Court and Federal Circuit authorities, as addressed above. Moreover, no prejudice against "business method" inventions per se can be inferred reasonably from the Examiner's rejection, given that Examiner's conclusion that the claims are directed to an abstract idea focuses primarily on the fact that the claims are directed merely to data gathering and manipulation, which is an abstract idea, without particular regard for the *type* of data being gathered and manipulated (specific to assessing closeout risk of a portfolio). (*See* Final Act. 4; Ans. 9.)

Appellant additionally argues the claims represent improvements in computer functionality, and hence are not directed to abstract ideas, citing the Federal Circuit's decisions in *Enfish*, 822 F.3d 1327, and *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016). (Reply Br. 2–5.) We disagree. 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. That is the distinction the Federal Circuit applied in *Enfish* in rejecting a § 101 challenge at the step one stage in the *Alice* analysis. *Enfish*, 822 F.3d at 1335–36. In particular, the claims at issue in *Enfish* focused on a specific type of data structure, i.e., 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, and not on asserted advances in *uses* to which existing computer capabilities could be put. *Id.* at 1335–36. Similarly, in *Amdocs*, the court concluded the claim was patent-eligible because it was directed to a technological problem:

> In other words, this claim entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases). The solution requires arguably generic components, including network devices and "gatherers" which "gather" information. However, the claim's enhancing limitation necessarily requires that these generic components *operate in an unconventional manner* to achieve an improvement in computer functionality.

Amdocs, 841 F.3d at 1288 (emphasis added).

We find no parallel here between Appellant's claims and the claims in *Enfish* or *Amdocs*, nor any comparable aspect in Appellant's claims that represents "an improvement to computer functionality." Indeed, despite

multiple repetitions of the assertion, Appellant does not explain *how* the claims before us represent an improvement to computer functionality, nor does Appellant assert that the recited technical components (a "processor" and "memory") operate in an unconventional manner. Indeed, in Appellant's terms, the claims are directed to "a computer-implemented search algorithm for finding strategies and using the results of the search to project outcomes of a portfolio." (App. Br. 24.) Appellant does not explain how such an algorithm concerns an improvement to *computer capabilities*, instead of relating to an improvement in a *search algorithm* relating to assessing closeout risk of a portfolio (and allowing for a "safer transaction," Spec. 1:11)—a process in which a computer is used as a tool in its ordinary capacity. As such, the claims fit into the familiar class of claims that do not "focus . . . on . . . an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools." *Electric Power*, 830 F.3d at 1354.

In short, we have considered all of Appellant's arguments challenging the characterization of the pending claims as being directed to abstract ideas (App. Br. 15–19; Reply Br. 2–5), but we do not find them to be persuasive of error. Rather, we agree with the Examiner, at step one of the *Alice* analysis, that the claims are directed to one or more abstract ideas. Accordingly, we turn to the second step of the *Alice* analysis, in which we determine whether the additional elements of the claims transform them into patent-eligible subject matter.

Step Two: Whether Additional Elements Transform the Idea into Patent-Eligible Subject Matter

Having found that the claims are directed to an abstract idea, the Examiner also finds that the additional elements or combinations of

elements beyond the abstract idea do not amount to "significantly more" than the abstract idea itself, because "the computer as recited is a generic computer component" that performs "generic computer functions." (Final Act. 4.) The Examiner further finds "[i]n the instant claims, repetitive calculations or a plurality of calculations on data that is obtained prior to the steps of the calculations, both comprise functions that are routine, conventional and well understood." (Ans. 10.)

Appellant first argues that "the Examiner's own concession that the claims recite specific computer operations is enough to show that the claim is not directed to a judicial exception." (App. Br. 19.) We disagree. In essence, Appellant's argument distills down to the notion that using a computer to perform the recited data gathering and electronic calculations makes the claims patentable. As the Supreme Court has explained, however, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Alice Corp.*, 134 S. Ct. at 2358. Thus, automating the recited data gathering and calculations using a computer (even based on the selection of particular data and analysis of that data according to particular rules) does not transform Appellant's claims into patent-eligible subject matter. (*See also* Ans. 10–12.)

Unlike the situation addressed in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), for example, Appellant does not claim to change how the underlying technology operates. The Specification describes only generic technology for executing software that implements the claimed invention. (Spec. 22:13–25 (noting that "the functionalities may be implemented in logic or computer program code stored in a memory and executable by one or more processors which may be directly or indirectly

connected through a network for example").) Moreover, the Examiner finds the tasks recited in the claims—such as "obtaining data" and "performing electronic calculations" on that data—are common computer functions. (*See* Ans. 12.) Appellant does not challenge this finding. Thus, we agree with the Examiner's finding that the solution here is rooted in routine use of conventional computer technology to carry out the claimed abstract idea. (*See id.*)

To the extent Appellant maintains that the claimed subject matter is not directed to an "abstract idea" because it is novel (App. Br. 19–20; Reply Br. 7), Appellant misapprehends the law. As the Federal Circuit has explained, a "'claim for a *new* abstract idea is still an abstract idea.'" *SAP America,* 890 F.3d at 1017 (*quoting Synopsis, Inc. v. Mentor Graphics Corp.,* 839 F.3d 1138, 1151 (Fed. Cir. 2016)). Although the novelty of the claims over the prior art is not before us, even assuming the technique claimed was "'innovative, or even brilliant,'" that would not be enough for the claimed abstract idea to be patent eligible. *See id.*

Appellant also argues that the Examiner's rejection is contrary to decisions by the Federal Circuit in *McRO, Inc. v. Bandai Namco Games America Inc.,* 837 F.3d 1299 (Fed. Cir. 2016), and *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC,* 827 F.3d 1341 (Fed. Cir. 2016). (Reply Br. 6–7.) In particular, Appellant asserts these decisions stand for the proposition that the use of a "computer-driven performance of a process . . . cannot automatically be excluded from subject matter eligibility," and neither can recitation of the use "'generic' and known computer components" necessarily fail to amount to "significantly more" than an abstract idea. (*Id.*)

Appellant's argument is not persuasive of Examiner error because it mischaracterizes the nature of the rejection. Appellant's claims do not stand rejected under § 101 merely because they are computer-implemented processes or because they use generic computer components. Rather, they stand rejected because they are directed to abstract ideas, however allegedly novel or detailed, and the fact that the ideas are implemented in software using generic computer components merely as tools does not salvage the eligibility of those claims. As the Federal Circuit recently explained in *SAP America*: "In accordance with the Supreme Court's conclusion in *Alice*, . . . this court has ruled many times that 'such invocations of computers and networks that are not even arguably inventive are insufficient to pass the test of an inventive concept in the application of an abstract idea.'" *SAP America*, 890 F.3d at 1023 (quoting *Electric Power*, 830 F.3d at 1355; *citing Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055–56 (Fed. Cir. 2017); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1374–75 (Fed. Cir. 2017); *Secured Mail Solutions LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 909 (Fed. Cir. 2017)). The court in *SAP America* further observed:

> Under those decisions, an invocation of such computers and networks is not enough to establish the required "inventive concept" in application. Indeed, we think it fair to say that an invocation of already-available computers that are not themselves plausibly asserted to be an advance, for use in carrying out improved mathematical calculations, amounts to a recitation of what is "well-understood, routine, [and] conventional."

SAP America, 890 F.3d at 1024 (quoting *Mayo*, 566 U.S. at 73).

In that regard, the claims here are critically different from those the Federal Circuit determined to be patent eligible in *McRO*. There, claims

were directed to the creation of something physical—namely, the display of "lip synchronization and facial expressions" of animated characters on screens for viewing by human eyes. 837 F.3d at 1313. The claimed improvement was to how the physical display operated (to produce better quality images), unlike (what is present here) a claimed improvement in a technique for assessing characteristics and risks of a portfolio of interests. As the Federal Circuit recently noted in *SAP America* in upholding the rejection of claims directed to "calculating, analyzing and displaying investment data" and "providing statistical analysis of investment data over an information network" using generic computer technology:

> The claims in *McRO* thus were not abstract in the sense that is dispositive here. And those claims also avoided being "abstract" in another sense reflected repeatedly in our cases (based on a contrast not with "physical" but with "concrete"): they had the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it.

SAP America, 890 F.3d at 1021 (citing *McRO*, 837 F.3d at 1314) (collecting cases).

Similarly, in *BASCOM*, the claims were patent-eligible "because they were directed to improvements in the *way* computers and networks carry out their basic functions." *SAP America*, 890 F.3d at 1022 (citing *BASCOM*, 827 F.3d at 1348–49). In contrast, Appellant's claims are properly characterized, as noted above, as ones in which generic computer technology is used merely as a tool to implement the claimed abstract ideas.

For the foregoing reasons, we are not persuaded the Examiner erred in rejecting independent claim 24 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter, or in rejecting on the same basis independent claims 39, 41, and 44, which Appellant does not argue separately.

Although Appellant argues "the Rejection is incomplete and in error due to its failure to articulate the subject matter of each and every dependent claim" (App. Br. 21), Appellant presents no substantive argument as to dependent claims 26, 30–41, 43, 44, or 46. *See In re Lovin*, 652 F.3d 1349, 1356 (Fed. Cir. 2011) ("We conclude that the Board has reasonably interpreted Rule 41.37 to require applicants to articulate more substantive arguments if they wish for individual claims to be treated separately."). Accordingly, we sustain the Examiner's rejection of these claims on the same basis as their respective independent claims. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellant presents additional argument as to dependent claims 25, 27, 28, 29, 42, and 45, asserting the Examiner's rejection of those claims is in error because the rejection fails to consider the "data structures" recited in those claims. (App. Br. 21.) We disagree. Dependent claims 25, 28, 29, 42, and 45 each recite a "matrix," and further recite the content of data to be stored in the matrix. (App. Br. 29, 30, 36–38 (Claims App'x).) In arguing Examiner error as to the rejection of these claims, Appellant relies only on the contention that "courts have repeatedly found data structures patent-eligible when resident in computer hardware (e.g., embodied in media or a computer system)." (App. Br. 21.) To the extent Appellant contends that all "data structures" are patent eligible, Appellant misapprehends the law. Creation of a data structure (such as a matrix of data) by using a computer merely as a tool to gather and store data does not, alone, render a claim patent eligible. *See Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (holding that the claims were "drawn to the abstract idea of 1) collecting data,

2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory"). The Federal Circuit's analysis in *SAP America* is instructive:

> Some of the claims require various databases and processors, which are in the physical realm of things. But it is clear, from the claims themselves and the specification, that these limitations require no improved computer resources [patent owner] claims to have invented, just already available computers, with their already available basic functions, to use as tools in executing the claimed process.

SAP America, 890 F.3d at 1023.

Thus, use of database structures and tangible computer hardware does not necessarily render a claim patent-eligible. As the Federal Circuit explained in *Enfish*, the relevant inquiry is "whether the claims are directed to an *improvement* in computer functionality" versus a process "for which computers are invoked merely as a *tool*." *Enfish*, 822 F.3d at 1335–36 (emphases added). In *Enfish*, the claims were held to be patent-eligible not because they recited a data structure *per se*, but because they recited "a specific improvement to the way computers operate, embodied in the self-referential table." *Id.* at 1336. Here, in contrast, Appellant does not explain how the matrix recited in dependent claims 25, 28, 29, 42, and 45 improves the way a computer operates.

Dependent claim 27 does not recite a matrix, but recites "performing a risk calculation methodology in accordance with a predefined risk model." Appellant similarly presents no argument why this claimed step represents an improvement in computer functionality, as opposed to carrying out the abstract idea by invoking a computer as a tool.

For the foregoing reasons, we are not persuaded of error in the Examiner's 35 U.S.C. § 101 rejection of dependent claims 25, 27, 28, 29, 42, and 45 and we, therefore, sustain that rejection.

DECISION

The Examiner's 35 U.S.C. § 101 rejection of claims 24–46 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