UNITED STATES PATENT AND TRADEMARK OFFICE

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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 ANTHONY A. RENSHAW

_____

Appeal 2018-008907
Application 13/892,644
Technology Center 3600

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Before JON M. JURGOVAN, ADAM J. PYONIN, and KARA L. SZPONDOWSKI, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–3 and 7–18, constituting all claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Axioma, Inc. Appeal Br. 1.

STATEMENT OF THE CASE

Appellant's invention generally relates to estimating risk in an investment portfolio, and more specifically to "improved computer based systems, methods and software for more accurate estimation of the risk or active risk of an investment portfolio by providing more than one estimate of specific risk or specific variance for all assets covered by a factor risk model." Spec. 1. Claim 1, reproduced below, is representative of the claimed subject matter:

> 1.   A computer-based method providing a user tool for comparison of different specific risk or variance estimates of a factor risk model in order to distinguish stocks with significant news from those without, the method comprising:
>
> electronically receiving by a programmed computer a portfolio of assets defined by an N-dimensional column vector for a set of N possible investment opportunities with elements corresponding to investment holdings in said portfolio of assets;
>
> electronically receiving by the programmed computer a factor risk model that predicts an asset risk for each of the N possible investment opportunities in the portfolio of assets, said factor risk model comprising a matrix of factor exposures, a matrix of factor covariances, and two or more different specific matrices modelling either specific covariance or specific risk;
>
> providing a user with a selectable choice amongst the two or more different specific matrices by the user tool;
>
> electronically receiving by the programmed computer a user selection of at least two of the two or more different specific matrices to use;

computing a separate risk prediction for the portfolio of
assets using the factor risk model for each of the at least two
selected specific matrices; and

providing an output comparison for said separate risk
predictions to allow investors to readily choose the risk
prediction and assets which best suit goals including properly
addressing outliers.

REJECTIONS[2]

Claims 1–3 and 7–18 stand rejected as directed to patent-ineligible
subject matter under 35 U.S.C. § 101.

ANALYSIS

An invention is patent eligible if it claims a "new and useful process,
machine, manufacture, or composition of matter." 35 U.S.C. § 101.
However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include
implicit exceptions: "[l]aws of nature, natural phenomena, and abstract
ideas" are not patentable. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216
(2014).

In determining whether a claim falls within an excluded category, we
are guided by the Supreme Court's two-step framework, described in *Mayo*
and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus
Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework,
we first determine what concept the claim is "directed to." *See Alice*, 573
U.S. at 219 ("On their face, the claims before us are drawn to the concept of
intermediated settlement, *i.e.,* the use of a third party to mitigate settlement

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[2] The Examiner withdrew rejections of claims 1–3 and 7–18 under 35 U.S.C.
§ 103(a) in the Answer. Ans. 18.

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, 69 (1972)).

If the claim is "directed to" an abstract idea, we turn to the second
step of the *Alice* and *Mayo* framework, where "we must examine the
elements of the claim to determine whether it contains an 'inventive
concept' sufficient to 'transform' the claimed abstract idea into a patent-
eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A
claim that recites an abstract idea must include 'additional features' to
ensure 'that the [claim] is more than a drafting effort designed to
monopolize the [abstract idea].'" *Id.* (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 published revised guidance on the application of § 101.
USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed.
Reg. 50 (January 7, 2019) ("2019 Guidance"); October 2019 Update:
Subject Matter Eligibility, 84 Fed. Reg. 55,942 (available at the USPTO's
website) ("October 2019 PEG Update"). Under the 2019 Guidance, we first
look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of
>
> abstract ideas (i.e., mathematical concepts, certain methods of

organizing human activity such as a fundamental economic

practice, or mental processes); and

(2) additional elements that integrate the judicial exception into

a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)).

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

is not "well-understood, routine, conventional" in the field (*see*

MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional

activities previously known to the industry, specified at a high

level of generality, to the judicial exception.

See 2019 Guidance, 84 Fed. Reg. at 52–57.

2019 Guidance, Step 2A, Prong 1

The Examiner determines the claims are directed to "a method for

estimating risk of a portfolio," which are abstract ideas, specifically, a

method of organizing human activity and a mathematical relationship. Final

Act. 5–9 (citing *Electric Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350,

1355 (Fed. Cir. 2016) and *Bancorp Servs., L.L.C v. Sun Life Assurance Co.

of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012)).

Appellant argues "the present invention relates to a user tool to

distinguish stocks with significant news from those without in a very

specific way." Appeal Br. 14. According to Appellant, "the present

invention provides new tools that enable users to more effectively analyze

news, related events and to more easily experiment with different responses

thereto to see which are most advantageous during a particular time or under particular market conditions." Appeal Br. 14.

Claim 1 recites (1) "receiving . . . a portfolio of assets defined by an N-dimensional column vector for a set of N possible investment opportunities with elements corresponding to investment holdings in said portfolio of assets"; (2) "receiving . . . a factor risk model that predicts an asset risk for each of the N possible investment opportunities in the portfolio of assets, said factor risk model comprising a matrix of factor exposures, a matrix of factor covariances, and two or more different specific matrices modelling either specific covariance or specific risk"; (3) "providing a user with a selectable choice amongst the two or more different specific matrices by the user tool"; (4) "receiving . . . a user selection of at least two of the two or more different specific matrices to use"; (5) "computing a separate risk prediction for the portfolio of assets using the factor risk model for each of the at least two selected specific matrices"; and (6) "providing an output comparison for said separate risk predictions to allow investors to readily choose the risk prediction and assets which best suit goals including properly addressing outliers."

We agree with the Examiner (*See* Final Act. 5–9; Ans. 20) that these limitations, under their broadest reasonable interpretation and in light of the 2019 Guidance, recite an ineligible concept, as the limitations recite at least one of "mathematical relationships" and/or "mental processes." Final Act. 6–8; *see Electric Power Grp.*, 830 F.3d at 1355; *Bancorp Servs.*, 687 F.3d at 1278. We also note that the limitations recite "[c]ertain methods of organizing human activity" that includes "fundamental economic principles or practices (including . . . mitigating risk)." *See Alice*, 573 U.S. at 212

(computerized scheme for mitigating "settlement risk" is abstract); *Bilski*, 561 U.S. 593, 611 (2010) (hedging against the financial risk of price fluctuations is an abstract idea).

Accordingly, Appellant has not persuaded us the Examiner erred in reciting an abstract idea. *See* Final Act. 5–9; Ans. 20. Therefore, we conclude the claims recite an abstract idea pursuant to Step 2A, Prong One of the guidance. *See* 2019 Guidance, Section III(A)(1) (Prong One: Evaluate Whether the Claim Recites a Judicial Exception).

2019 Guidance, Step 2A, Prong 2

In determining whether the claims are "directed to" the identified abstract idea, we next consider whether the claims recite additional elements that integrate the judicial exception into a practical application.[3] We discern no additional element (or combination of elements) recited in the claims that integrates the judicial exception into a practical application. *See* 2019 Guidance, 84 Fed. Reg. at 54–55.

The Examiner determines the additional limitations in the claims, "a user tool for comparison of different specific risk or variance estimates of a factor risk model," "electronically receiving [data] by a programmed computer," and "computing a risk prediction" are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Final Act. 9; Ans. 20–21. The

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[3] We acknowledge that some of the considerations at Step 2A, Prong Two, properly may be evaluated under Step 2 of *Alice* (Step 2B of the Office guidance). For purposes of maintaining consistent treatment within the Office, we evaluate them under Step 1 of *Alice* (Step 2A of the Office guidance). *See* 2019 Guidance, 84 Fed. Reg. at 55 nn.25, 27–32.

Examiner determines these additional limitations do not improve another technology, technical field, or the functioning of the computer itself. Final Act. 11; Ans. 21.

Appellant recites each of the limitations in claim 1, and argues that the claim provides "an advantageous solution to a problem in the existing art and a technological advance thereon resulting in an improved computing device." Appeal Br. 15. In support, Appellant cites to pages 7 and 10 of the Specification. Appeal Br. 14. Appellant also cites to *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017) and argues that "the specification addresses the advantages offered by the technological improvement." Appeal Br. 16.

Appellant's arguments are not persuasive. Appellant's Specification states

> Among its several aspects, the present invention recognizes a
> problem with existing commercial factor risk models that
> provide only one estimate of specific variance or specific risk
> for each investible asset is that that estimate cannot adequately
> distinguish a specific risk value driven by a long history of
> stationary and similar specific returns versus a specific risk
> that is dominated either by a large, single specific return by a
> prolonged time period in which the trading of that asset was
> driven largely by news about that company's potential
> acquisition, or the like.

Spec. 7. Appellant's Specification further states

> The present invention recognizes that factor risk models with
> only one specific risk or specific variance estimate for each
> asset, do not easily distinguish companies with significant news
> from those without.

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> One goal of the present invention, then, is to provide more than
> one estimate of specific risk or specific variance as part of a
> factor risk model. Comparison of the different specific risk or
> variance estimates for a given asset will help investors easily
> distinguish companies with significant news from those
> without.
>
> Another goal to be solved by the present invention is to provide
> an easy way for investors to control how quickly the investment
> risk predictions and their investment allocations change when
> news is announced for a particular company. That is, by
> selecting and utilizing different specific risk estimates with
> different levels of reactiveness to the returns of a single day,
> investors can obtain investment results that match their
> investment needs.

Spec. 10.

We do not see, and Appellant has not sufficiently explained, where
the cited portions of the Specification describe or teach any improvement to
computer functionality or technology as a result of Appellant's techniques.
Rather, the cited portions of the Specification describe a business problem—
problems with existing commercial risk models—and Appellant's methods
for solving such business problems. *See id.* Appellant has not identified
anything in the Specification to indicate that any improvements to computer
functionality or technology come from the claimed invention itself, rather
than from the capabilities of the recited additional limitations or other
generic computer elements responsible for performing the claimed
limitations. *See Bancorp*, 687 F.3d at 1278 ("[T]he 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."); *OIP
Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015)

("[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent-eligible."). Appellant's Specification supports that the claimed "user tool" and "programmed computer" are generic computer components. *See* Spec. 12 ("implemented as a computer 12 including one or more programmed processors, such as a personal computer, workstation, or server," "display the output on a display, such as display 22, or the output is printed out, using a printer, such as printer 24," "[t]he computer 12 may suitably include a number of standard input and output devices,"); Spec. 15 (describing various tools on the MathWorks website to provide estimates).

Moreover, the additional limitations, e.g., "electronically receiving [data] by the programmed computer," whether considered alone or in combination, simply recite the steps of receiving various types of data. These steps do not integrate the abstract idea into a practical application because these steps are insignificant pre-solution data gathering activity, which is necessary in order to perform the computation of the separate risk prediction for the portfolio of assets. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 ("We have held that mere '[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory.'" (citations omitted)); *see also* 84 Fed. Reg. 55 (court-identified "examples in which a judicial exception has not been integrated into a practical application" include when "an additional element adds insignificant extra-solution activity to the judicial exception"); MPEP § 2106.05(g) (describing "a step of obtaining information about credit card transactions, which is recited as part of a claimed process of analyzing and manipulating the gathered information by a series of steps in order to detect whether the

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transactions were fraudulent" as an exemplary pre-solution activity of data gathering).

Accordingly, we determine the claims do not integrate the judicial exception into a practical application. *See* 2019 Guidance, Section III(A)(2) (Prong Two: If the Claim Recites a Judicial Exception, Evaluate Whether the Judicial Exception Is Integrated Into a Practical Application). We, therefore, agree with the Examiner that the claims are directed to a judicial exception. *See* Final Act. 5–11; Ans. 20–24.

2019 Guidance, Step 2B

Turning to step 2 of the *Alice/Mayo* framework, we look to whether the claims: (a) add a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, or (b) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. 2019 Guidance, 84 Fed. Reg. at 56.

The Examiner determines the additional limitations (e.g., "a user tool for comparison of different specific risk or variance estimates of a factor risk model," "electronically receiving [data] by a programmed computer," and "computing a risk prediction") do not add meaningful limitations to the abstract idea because they operate in a routine manner to apply the abstract idea. Final Act. 9. Specifically, the Examiner determines these elements perform routine and conventional functions of receiving, processing, and

sending data, which courts have recognized as "merely generic." Final Act. 9–10.

Appellant argues the claims provide no risk of preemption of factor risk models. Appeal Br. 15.

Appellant's argument is unpersuasive of Examiner error. Although preemption "might tend to impede innovation more than it would tend to promote it, 'thereby thwarting the primary object of the patent laws'" (*Alice*, 573 U.S. at 216 (citing *Mayo*, 566 U.S. at 70–71)), "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.*, 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."); Ans. 7–8.

When viewed as a whole, nothing in the claim adds significantly more (i.e., an inventive concept) to the abstract idea. The additional elements in the claim, identified above, amount to no more than mere instructions to apply the exception using generic computer components, which is insufficient to provide an inventive concept. *See, e.g.*, Spec. 12–15. Appellant does not direct our attention to anything in the Specification that indicates the claimed computer components perform anything other than well-understood, routine, and conventional processing functions, such as receiving, processing, and sending data. *See Intellectual Ventures 1 LLC v. Erie Indemnity Co.*, 850 F.3d 1315, 1329 (Fed. Cir. 2017) ("the remaining limitations recite routine computer functions, such as the sending and receiving information to execute the database search"); *Electric Power*, 830 F.3d at 1355 ("Nothing in the claims, understood in light of the

specification, requires anything other than off-the-shelf, conventional computer, network, and display technology for gathering, sending, and presenting the desired information"); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) ("That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive"); *Alice*, 573 U.S. at 224–26 (basic calculating, receiving, storing, sending information over networks insufficient to add an inventive concept). In short, each step does no more than require a generic computer to perform generic computer functions.

Furthermore, we are unable discern anything in the claims, even when the recitations are considered in combination, that represents something more than the performance of routine, conventional functions of a generic computer. That is, the claims at issue do not require any nonconventional computer components, or even a "non-conventional and non-generic arrangement of known, conventional pieces," but merely call for performance of the claimed information receiving, processing, and sending data "on a set of generic computer components." *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).

Appellant does not separately argue the dependent claims. *See generall*y Appeal Br. 13–16. Accordingly, for the foregoing reasons we sustain the Examiner's 35 U.S.C. § 101 rejection of claims 1–3 and 7–18.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–3, 7–18	101	Eligibility	1–3, 7–18	

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

AFFIRMED