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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

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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 ADAM SETH NUNES

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Appeal 2016-004421[1]
Application 12/035,748[2]
Technology Center 3600

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Before HUBERT C. LORIN, NINA L. MEDLOCK, and
BRUCE T. WIEDER, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's final
rejection of claims 1, 2, 4–23, 25, 26, and 28–36. We have jurisdiction
under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Our decision references Appellant's Appeal Brief ("App. Br.," filed
October 2, 2015) and Reply Brief ("Reply Br.," filed March 18, 2016), and
the Examiner's Answer ("Ans.," mailed January 22, 2016) and Final Office
Action ("Final Act.," mailed May 5, 2015).
[2] Appellant identifies Nasdaq, Inc. as the real party in interest. App. Br. 3.

CLAIMED INVENTION

Appellant's claimed invention relates to a computer-implemented method for determining that a security is not available for trading and delaying the time for trade resumption if, during the non-trading period, an imbalance of buy offers and sell offers is detected (*see, e.g.*, Spec. 5–7).

Claims 1, 13, and 25 are the independent claims on appeal. Claim 1, reproduced below with bracketed notations added, is illustrative of the claimed subject matter:

> 1. A computer implemented method, the method comprising:
> at one or more hardware server computers, where each of the one or more hardware server computers each include a respective hardware processor, memory, and storage, and where the one or more hardware server computers communicate with one or more client systems via one or more electronic communication networks (ECNs):
> [(a)] determining that a particular data message type is not available for a first type of processing during an associated non-processing period for the particular data message type;
> during the non-processing period:
> [(b)] determining an initial ending time for the non-processing period;
> [(c)] receiving one or more data messages for the particular data message type from the client systems via the ECNs, wherein each of the data messages includes a data transaction request that indicates a first instruction or a second instruction;
> [(d)] determining, based on the data messages, that an imbalance between the first instruction and the second instruction for the particular data message type exists; and
> [(e)] based on the determining that the imbalance exists, delaying the initial ending time to a delayed ending time for the non-processing period, where the delayed ending time is later than the initial ending time; and

[(f)]   releasing the particular data message type for
the first type of processing, such that the particular data
message type is available for the first type of processing
after the delayed ending time.

REJECTION

Claims 1, 2, 4–23, 25, 26, and 28–36 are rejected under 35 U.S.C.
§ 101 as directed to non-statutory subject matter.

ANALYSIS

Appellant argues claims 1, 2, 4–23, 25, 26, and 28–36 as a group
(App. Br. 7–19). We select independent claim 1 as representative. The
remaining claims stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

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. 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. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*,
134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework
previously set forth in *Mayo Collaborative Services v. Prometheus
Laboratories, Inc.*, 566 U.S. 66 (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 Corp.*, 134 S. Ct.
at 2355. The first step in that analysis is to "determine whether the claims at
issue are directed to one of those patent-ineligible concepts." *Id.* If the
claims are not directed to a patent-ineligible concept, e.g., an abstract idea,

the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered "individually and 'as an ordered combination'" to determine whether there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 566 U.S. at 78).

The Court acknowledged 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 itself is the abstract idea and merely invoke generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

Here, in rejecting the pending claims under § 101, the Examiner analyzed the claims using the *Mayo/Alice* two-step framework, in accordance with the guidance set forth in the USPTO's "2014 Interim Guidance on Patent Subject Matter Eligibility," 79 Fed. Reg. 74618 (Dec. 16, 2014). Quoting the claim language, in particular, steps (a) through (f), as recited in claim 1, the Examiner found that the claims are directed to "mitigating risk," i.e., to a fundamental economic practice and, therefore, to an abstract idea (Final Act. 2–3 (stating that claims describe the procedure taken when managing risk (i.e., volatility detection) and that the claimed steps are "identified as the abstract idea of mitigating risk"); that each step does no more than require a generic computer to perform generic computer functions; that the claims do not purport to improve the functioning of the computer itself or to improve any other technology or technical field; and

that the claims, thus, do not amount to significantly more than the abstract idea itself (*id.* at 3).

Appellant criticizes the Examiner for characterizing the claims as reciting "mitigating risk," and charges that the Examiner also improperly equates volatility detection with managing risk (App. Br. 7–8; *see also id.* at 9, 10). However, the relevant inquiry is not whether the Examiner erred in identifying the claimed method steps[3] as mitigating risk (*see* Final Act. 3) or whether the Examiner improperly equated volatility detection with managing risk (*id.* at 2); instead, the relevant inquiry is whether the claims, which the Examiner found are directed to an abstract idea, involve more than collecting data (e.g., data messages including a first instruction or a second instruction); analyzing the data (e.g., determining, based on the data messages, whether an imbalance between the first and second instructions exists); and presenting/communicating the results of the collection and analysis (e.g., delaying the initial ending time to a delayed ending time if an imbalance exists and releasing the data message type for processing after the delayed ending time), i.e., whether the claims involve more than activities that the Federal Circuit has repeatedly found are within the realm of abstract ideas. *See, e.g., Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (claims held to be directed to an abstract idea where "[t]he

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[3] I.e., (1) determining that a particular data message type is not available for a first type of processing during a non-processing period; (2) determining an initial ending time for the non-processing period; (3) receiving one or more data messages for the particular data message type; (4) determining that an imbalance between a first instruction and second instruction for the data message type exists; (5) delaying the initial ending time to a delayed ending time for the non-processing period when an imbalance exists; and (6) releasing the data message type for processing after the delayed ending time.

advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions."). We find that they do not.

Appellant argues that "the claimed technology cannot be dismissed as an abstract concept" because claim 1 recites one or more hardware server computers that perform the method steps (App. Br. 10; *see also* Reply Br. 3– 5). However, we find no indication in the record, nor does Appellant point us to any indication, that the particular operations recited in claim 1 require any specialized computer hardware or other inventive computer components, or that the claimed invention is implemented using other than generic computer components to perform the claimed method steps, which, as the Examiner observes (Ans. 4–5), require no more than a generic computer to perform generic computer functions, i.e., receiving, processing, and transmitting information. This is not enough for patent-eligibility. *See, e.g., DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) ("After *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.").

It also is significant here, as the Examiner observes (Ans. 4), that although claim 1 recites that the method steps are performed by one or more hardware server computers, these steps all involve acts that can be performed in the human mind, without the use of any machine, or by a human using pen and paper. For example, information alerting participants to the halting and resumption of processing of a particular data message type could be communicated via written correspondence. A person also could

determine, based on the receipt of written messages, whether an imbalance exists and, in that situation, appropriately delay the time for resumption of the processing period. "A method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011); *see also Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) ("[p]henomena of nature . . ., mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work."). Moreover, mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource*, 654 F.3d at 1375 ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.").

Appellant also argues that the Examiner has not established a prima facie rejection under § 101 because the Examiner has not performed the "specific analysis" required to make a prima facie case of patent-ineligibility (Reply Br. 5–6; *see also* App. Br. 9). We disagree.

The Federal Circuit has repeatedly noted that "the prima facie case is merely a procedural device that enables an appropriate shift of the burden of production." *Hyatt v. Dudas*, 492 F.3d. 1365, 1369 (Fed. Cir. 2007) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). The court has, thus, held that the USPTO carries its procedural burden of establishing a prima facie case when its rejection satisfies the requirements of 35 U.S.C. § 132 by notifying the applicant of the reasons for rejection, "together with such information and references as may be useful in judging of the propriety of

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continuing the prosecution of [the] application." *See In re Jung*, 637 F.3d
1356, 1362 (Fed. Cir. 2011). Thus, all that is required of the Office is that it
set forth the statutory basis of the rejection in a sufficiently articulate and
informative manner as to meet the notice requirement of § 132. *Id.*; *see also*
Chester v. Miller, 906 F.2d 1574, 1578 (Fed. Cir. 1990) (Section 132 "is
violated when a rejection is so uninformative that it prevents the applicant
from recognizing and seeking to counter the grounds for rejection.").

Appellant does not contend here that the § 101 rejection was not
understood or that the rejection, otherwise, fails to meet the notice
requirements of § 132. Indeed, Appellant's understanding of the rejection is
clearly manifested by Appellant's response as set forth in the briefs.

Appellant argues that "[r]ather than being directed to an abstract
idea," Appellant's claims are like the claims at issue in *DDR Holdings* (App.
Br. 11). But we find no parallel between the present claims and those at
issue in *DDR Holdings*.

In *DDR Holdings*, the Federal Circuit determined that, although the
patent claims at issue involved conventional computers and the Internet, the
claims addressed a problem particular to the Internet, i.e., retaining website
visitors who, if adhering to the routine, conventional functioning of Internet
hyperlink protocol, would be transported instantly away from a host's
website after "clicking" on an advertisement and activating a hyperlink.
DDR Holdings, 773 F.3d at 1257. The Federal Circuit, thus, held that the
claims were directed to patent-eligible subject matter because they claim a
solution "necessarily rooted in computer technology in order to overcome a
problem specifically arising in the realm of computer networks." *Id.*

Unlike the situation in *DDR Holdings*, Appellant does not identify any problem particular to computer networks and/or the Internet that claim 1 allegedly overcomes. Appellant asserts that "some computer processing systems, e.g., computer-implemented trading exchanges, must be able to handle millions of data transaction requests, e.g., trade order requests, in extraordinarily short times" and that a technical problem in this environment is "how to process millions of data transaction requests. . . in that short time but at the same time detect a potential imbalance between first and second types of data transaction request messages, and provide a technical solution that will work to address that imbalance" (App. Br. 11–12; *see also id.* at 14–15). Appellant argues that the claims provide "a *technological* solution" that allows an electronic trading exchange to handle millions of data processing transaction request messages while at the same time identifying certain of the request messages as not available for a first type of processing, and "during a non-data processing time period, . . . performing a number of other specific data processing steps" (App. Br. 12). Appellant maintains that, as in *DDR Holdings*, "the claimed solution is necessarily rooted in computer technology" (*id.*). But we fail to see how, and Appellant does not explain how, the claims provide the asserted "technological solution" when none of the claims requires processing "millions of data transaction requests." Appellant's argument is not persuasive at least because it is not commensurate with the scope of the claims.

Turning to the second step of the *Mayo/Alice* framework, Appellant argues that even if the claims are directed to an abstract idea, the claims are nonetheless patent-eligible because they "require substantially more than just the alleged abstract idea" (App. Br. 13). Reproducing the limitations of

claim 1, Appellant asserts that "[t]hese elements, individually or as an ordered combination, are 'significantly more' than just the alleged abstract idea" (*id.* at 14). Yet, aside from presenting the claim language, Appellant offers no persuasive argument or technical reasoning to support that assertion.

Citing *Trading Technologies Int'l, Inc. v. CQG, Inc.*, 05-cv-4811, 2015 WL 774655 (N.D. Ill. Feb. 24, 2015), Appellant argues that trading technology is not *per se* non-statutory (App. Br. 17–18). But, we see no indication here that the Examiner applied any such *per se* rule. Nor does Appellant point to anything in *Trading Technologies* that would persuade us of error in the Examiner's rejection.

In *Trading Technologies International v. CQG Inc.*, 675 F. App'x 1001 (Fed. Cir. 2017), the Federal Circuit affirmed the district court's holding that the patented claims (which recited a method and system for displaying market information on a graphical user interface) did not simply claim displaying information on a graphical user interface and were not directed to an abstract idea; instead, the claims required "a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface's structure that is addressed to and resolves a specifically identified problem in the prior state of the art." *Id.* at 1004. Appellant does not argue here that the pending claims contain any improved user interface like the one in *Trading Technologies*.

We also are not persuaded of Examiner error by Appellant's further argument that "[t]he specific and detailed technical features recited in the claims ensure that the claims do **not** monopolize the alleged abstract idea"

(App. Br. 16; *see also* Reply Br. 6–7), i.e., that the claims are patent-eligible because they do not preempt the use of the abstract idea.

There is no dispute that the Supreme Court has described "the concern that drives this exclusionary principle [i.e., the exclusion of abstract ideas from patent eligible subject matter] as one of pre-emption." *Alice Corp.*, 134 S. Ct. at 2354. But, characterizing pre-emption as a driving concern for patent eligibility is not the same as characterizing pre-emption as the sole test for patent eligibility. "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 Corp.*, 134 S. Ct. at 2354). "[P]reemption may signal patent ineligible subject matter, [but] the absence of complete preemption does not demonstrate patent eligibility." *Id.*

We also cannot agree with Appellant's assertion that "[f]urther evidence that the claims recite an inventive concept (e.g., significantly more than the alleged abstract idea to which the claims are directed) is found in the fact that the Examiner has withdrawn all prior art rejections" (App. Br. 16; *see also* Reply Br. 7). A finding of novelty or non-obviousness does not automatically lead to the conclusion that a claim is patent-eligible. "Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry." *Ass'n. for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2117 (2013). Although the second step in the *Mayo/Alice* framework is termed a search for an "inventive concept," the analysis is not an evaluation of novelty or non-obviousness, but rather, a

search for "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.'" *Alice Corp.*, 134 S. Ct. at 2355. A novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90. *See also Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.").

We are not persuaded, for the reasons set forth above, that the Examiner erred in rejecting independent claim 1 under 35 U.S.C. § 101. Therefore, we sustain the Examiner's rejection. We also sustain the rejection of claims 2, 4–23, 25, 26, and 28–36, which fall with claim 1.

DECISION

The Examiner's rejection of claims 1, 2, 4–23, 25, 26, and 28–36 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)(1)(iv).

AFFIRMED