



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/709,587	05/12/2015	Andrew J. Bernoth	AU920140029US1	5493
11445	7590	09/14/2020	EXAMINER	
IBM Corporation - Endicott Drafting Center 1701 North Street Building 256-3 Endicott, NY 13760			MIRZA, ADNAN M	
			ART UNIT	PAPER NUMBER
			2443	
			NOTIFICATION DATE	DELIVERY MODE
			09/14/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

edciplaw@us.ibm.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW J. BERNOTH, DANIEL J. MARTIN,
SANDEEP R. PATIL, PIYUSH SARWAL,
RIYAZAHAMAD M. SHIRAGUPPI, and
GANDHI SIVAKUMAR

Appeal 2019-002477
Application 14/709,587
Technology Center 2400

Before DANIEL J. GALLIGAN, JESSICA C. KAISER, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

GALLIGAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM and designate our affirmance as a NEW GROUND OF REJECTION under 37 C.F.R. § 41.50(b).

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as International Business Machines Corporation. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Claims 1, 8, and 15 are independent claims.² Claim 1 is reproduced below:

1. A method for monitoring a data packet in a distributed computing environment, the method comprising the steps of:

receiving, by one or more computer processors, a request to monitor a data packet to be transmitted from a first location to a second location over a first network;

determining, by one or more computer processors, a projected time for the transmission of the data packet from the first location to the second location; and

responsive to determining the projected time, determining, by one or more computer processors, whether the data packet arrived at the second location after the projected time plus a variance.

REFERENCES

Name	Reference	Date
Imai	US 2007/0171085 A1	July 26, 2007
Horvitz	US 2009/0002195 A1	Jan. 1, 2009

REJECTIONS

The Examiner rejects claims 1–20 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–4.

The Examiner rejects claims 1–20 under 35 U.S.C. § 103 as being unpatentable over Imai and Horvitz. *Id.* at 5–7.

² This Decision refers to: (1) Appellant’s Specification (“Spec.”) filed May 12, 2015; (2) the Final Office Action (“Final Act.”) mailed January 22, 2018; (3) the Appeal Brief (“Appeal Br.”) filed August 1, 2018; and (4) the Examiner’s Answer (“Ans.”) mailed December 5, 2018.

Our review in this appeal is limited only to the above rejections and the issues raised by Appellant. Arguments not made are waived. *See* MPEP § 1205.02; 37 C.F.R. §§ 41.37(c)(1)(iv) and 41.39(a)(1).

OPINION

Patent-Eligible Subject Matter

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 U.S. 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. *See, e.g., 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 Court’s two-step framework, described in *Alice* and *Mayo*. *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 recites. *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 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.”).

If the claim recites an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, in which “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 (internal 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.* (alterations in original) (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 Office has published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “Guidance”). In October 2019, the USPTO published an update to that guidance. *October 2019 Patent Eligibility Guidance Update*, 84 Fed. Reg. 55,942 (hereinafter “Guidance Update”). Under the Guidance and the Guidance Update, in determining whether a claim falls within an excluded category, we first look to whether the claim recites:

- (1) Step 2A — Prong One: 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) Step 2A — Prong Two: additional elements that integrate the judicial exception into a practical application (*see* MPEP³ §§ 2106.05(a)–(c), (e)–(h)).

See Guidance, 84 Fed. Reg. 54–55 (“Revised Step 2A”). 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 (Step 2B):

- (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

³ All Manual of Patent Examining Procedure (“MPEP”) citations herein are to MPEP, Rev. 08.2017, January 2018.

(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 id. at 56 (“*Step 2B: If the Claim Is Directed to a Judicial Exception, Evaluate Whether the Claim Provides an Inventive Concept.*”).

We analyze the claims and the Examiner’s rejection in view of the Guidance and the Guidance Update, and we adopt the nomenclature for the steps used in the Guidance.

Appellant’s arguments specifically address the limitations recited in independent claim 1 (Appeal Br. 9–12) and do not otherwise present any arguments addressing any particularly identified limitation from any other claim (*see id.* at 4–12). We, thus, select claim 1 as representative of all claims. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Step 1

As an initial matter, the claim must recite at least one of four recognized statutory categories, namely, machine, process, article of manufacture, or composition of matter. MPEP § 2106(I); *see* 35 U.S.C. § 101. Independent claim 1 recites a method.⁴ Thus, independent claim 1 recites a recognized statutory category under § 101, i.e., a process, and we

⁴ Independent claim 8 recites a “computer program product comprising . . . computer readable storage media.” “Computer readable storage media” potentially encompasses a computer program *per se* or a transitory signal *per se* because the Specification does not specifically define “computer readable storage media” to exclude signal propagation media or transitory media. *See, e.g.*, Spec. ¶¶ 35, 36. As such, the claimed “computer program product” may fail to recite any of the recognized statutory categories under § 101. *See In re Nuijten*, 500 F.3d 1346, 1353 (Fed. Cir. 2007). We leave it to the Examiner to determine whether “computer program product” recited in claim 8 and its dependent claims recites one of the recognized statutory categories.

turn to the two-step *Alice/Mayo* analysis applied in accordance with the Guidance.

Step 2A, Prong One in the Guidance

Next, we determine whether the claim, being directed to a statutory class of invention, nonetheless recites a judicial exception. Guidance, 84 Fed. Reg. 51.

The Examiner determines that the claim recites a judicial exception: an abstract idea. *See* Final Act. 2. The Examiner states that the claim “amount[s] to mere collecting information, analyzing it, and displaying certain results of the collection and analysis” and recites “a mental process . . . that ‘can be performed in the human mind, or by a human using a pen and paper.’” *Id.* at 3. According to the Guidance Update, when recited at a high level of generality, collecting, analyzing, and displaying information “recite a mental process when [the claim] contain[s] limitations that can practically be performed in the human mind.” Guidance Update 7. Such mental processes are a category of abstract idea. *Id.* at 2.

We agree that the claim recites limitations encompassing a mental process that can be practically performed in the human mind and, therefore, recites an abstract idea. At this step in our analysis, we focus on the limitations reciting (a) “receiving . . . a request to monitor a data packet to be transmitted from a first location to a second location over a first network,” (b) “determining . . . a projected time for the transmission of the data packet from the first location to the second location,” and (c) “responsive to determining the projected time, determining . . . whether the data packet arrived at the second location after the projected time plus a variance.” Those limitations, in combination, recite a process that predicts when a

monitored data packet should arrive at a location and then determines whether the monitored data packet has actually arrived at the location within some variance, i.e., tolerance, of the predicted time.

The claim is not limited to any particular manner for receiving a monitoring request, determining a projected time, or determining whether an arrival time is later than the projected time including a variance. As such, the claim broadly recites desired results, rather than some computer-specific manner to achieve those results. Receiving a request to perform a data collection task, as recited in limitation (a), can be performed mentally. Making a prediction and verifying that prediction, as recited in limitations (b) and (c), may also be performed mentally. Together, limitations (a)–(c) recite a process that determines whether a particular data packet has arrived at a desired location within a certain predicted time; such a process can be practically performed within the human mind, or via pen and paper.

The portions of the Specification Appellant relies on to summarize the claimed subjected matter (Appeal Br. 2 (citing Spec. ¶¶ 54, 58–59)) further support the determination that the claim recites a mental process that can be practically performed in the human mind. For example, regarding limitation (b), the Specification describes a simple computation to predict the amount of time it takes a data packet to travel between two locations: dividing the size of a packet with the speed of the network, e.g., a 12000 bit package divided by a network speed of 2 million bits per second predicts a travel time of 0.006 seconds. Spec. ¶ 58. Such a process to determine transit time, which divides one given value by another given value, can be practically performed within the human mind. Still further, regarding limitation (c), the Specification describes “compar[ing] the predicted travel time of the

packet . . . to the actual time taken . . . between when the packet was transmitted . . . and when the packet was received” in consideration of a “variance,” e.g., comparing 0.0044 seconds (a predicted time considering a variance) with 0.03 seconds (an actual travel time). *Id.* ¶ 59. Comparing two values is a process that can be practically performed in the human mind.

Accordingly, the claim recites a mental processes, a category of abstract idea. Guidance Update 7.

Step 2A, Prong Two in the Guidance

Next, we determine whether the claim is directed to the abstract concept itself or whether the claim is instead directed to some technological implementation or application of, or improvement to, this concept, i.e., integrated into a practical application. *See, e.g., Alice*, 573 U.S. at 223 (discussing *Diamond v. Diehr*, 450 U.S. 175, 177 (1981)).

We determine that the claim does not integrate the abstract idea, as described above, into a practical application. The claim does not apply the abstract concept described above, i.e., determining whether a packet has arrived within a certain predicted timeframe, to improve some computing technology. Specifically, the claim determines whether or not a data packet has arrived within a certain timeframe but, otherwise, includes no limitation describing the application to, or improvement of, a particular technology. Further, the remaining additional elements recited in the claim, i.e., performing the abstract idea discussed above “by one or more computer processors,” effectively instruct implementation of the abstract idea on a computer, merely using the computer as a tool to perform the abstract idea. The mere use of a computer as a tool to perform the abstract idea, however,

fails to integrate the abstract concept into a practical application. Guidance, 84 Fed. Reg. 55.

Turning to Appellant's arguments, Appellant argues that the claimed specific approach is based in computer technology related to communications systems to solve a problem in the technology, where the problem is that current tier based management of infrastructure elements that follow a "bottom up" approach are intrusive and contribute to the overheads of traffic specific to monitor, and the solution includes enabling combined benefits of differentiated treatment for monitoring of packets for the tenants through a non-intrusive location based mechanism enable[d] through multiple categories of interfaces.

Appeal Br. 11.

However, that argument is not commensurate with the scope of the claim because the claim does not recite Appellant's asserted "specific approach" to "solve a problem in the technology." Appellant has not explained which limitations provide "differentiated treatment for monitoring of packets for the tenants through a non-intrusive location based mechanism enable[d] through multiple categories of interfaces." *See id.* Further, on its face, the claim fails to recite any of the features Appellant asserts. For example, the claim recites a single process for analyzing a data packet's travel time, rather than providing "differentiated treatment." Nor does the claim recite any interface, let alone "multiple categories of interfaces." Furthermore, the claim does not recite any particular application of the abstract idea. The claim determines whether a monitored packet has arrived at a location within a certain predicted time, but does not otherwise recite any particular manner of using that determination to improve computing technology.

Additionally, none of the other indicia of integration in the Guidance is present in the claim. Guidance, 84 Fed. Reg. 55; *see* MPEP §§ 2106.05(a)–(c), (e). For example, the claim does not recite a particular machine and, instead, generically recites “one or more computer processors.” Further, the claim does not transform an article, i.e., some type of tangible or physical object, but instead analyzes information. As such, the claim does not recite the “[t]ransformation and reduction of an article ‘to a different state or thing.’” *Bilski*, 561 U.S. at 604 (alteration in original); MPEP § 2106.05(c). Therefore, we determine that the claim is not directed to a specific asserted technological improvement or otherwise integrated into a practical application. Consequently, we conclude the claim is “directed to” a judicial exception. Guidance, 84 Fed. Reg. 54.

Step 2B

Next, we determine whether the claim includes additional elements that provide significantly more than the recited judicial exception, thereby providing an inventive concept. *Alice*, 573 U.S. at 221 (quoting *Mayo*, 566 U.S. at 72–73).

We determine the additional elements recited in claim 1, i.e., the “one or more computer processors” performing the abstract idea, fail to amount to significantly more than the abstract idea itself. Using a computer to perform data processing tasks, such as collecting and analyzing information, is well-understood, routine, and conventional computing activity. Even considering the combination of collecting information and then analyzing that information, such a data processing procedure is common computer functionality. The Specification suggests as much, stating that the computer

system that performs the abstract idea is “a general-purpose computing device.” Spec. ¶ 33; *see id.* ¶¶ 31, 47, 68.

Appellant argues that the claim

add[s] a specific limitation other than what is well-understood, routine, and conventional in the field at least by “*determining, by one or more computer processors, a projected time for the transmission of the data packet from the first location to the second location; and determining, by one or more computer processors, whether the data packet arrived at the second location after the projected time plus a variance.*”

Appeal Br. 11.

That argument, reproducing the last two limitations of the claim, improperly relies on the abstract idea to provide significantly more than the abstract idea itself. The majority of the claim, aside from the performance of the claim “by one or more computer processors,” recites the abstract idea, as described above. Even if the abstract idea were novel, the novelty of the abstract idea is not enough to save it from ineligibility. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (“[A] claim for a *new* abstract idea is still an abstract idea.”).

Additionally, Appellant argues “the claims do not seek to ‘tie up’ the method steps generally such that others cannot practice them.” Appeal Br. 8. Although “preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). Where claims recite only patent-ineligible subject matter, as they do here, “preemption concerns are fully addressed and made moot.” *Id.* Moreover, the claim *does* seek to tie up the method steps. As discussed above, the claim does not recite any particular manner to receive a data

packet monitoring request, to determine a projected time for transmitting the data packet, or to determine whether the data packet arrives within a certain time frame. As such, the claim covers any manner to achieve those claimed results.

We, thus, conclude that claim 1 does not provide an inventive concept because any additional elements recited in the claim, considered individually and as an ordered combination, do not provide significantly more than the recited judicial exception. Accordingly, we are not persuaded that the claim recites patent-eligible subject matter.

Additionally, although we agree with the Examiner that claim 1 does not recite patent-eligible subject matter, our decision affirming the Examiner's rejection of claim 1 is based on reasoning and determinations that the Examiner does not set forth in rejecting claim 1. Accordingly, we designate our affirmance of the rejection of claim 1 as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

Further, Appellant has not proffered sufficient evidence or argument to persuade us that any of the limitations in remaining claims 2–20 provides a meaningful limitation that transforms those claims into a patent-eligible application. *See* Appeal Br. 4–12. Accordingly, for the reasons set forth above, we affirm the Examiner's rejection of claims 2–20, also designating our affirmance as a new ground.

Obviousness

Appellant contends the Examiner erred in finding Horvitz teaches “responsive to determining the projected time, determining, by one or more computer processors, whether the data packet arrived at the second location

after the projected time plus a variance,” as recited in claim 1 and similarly recited in claims 8 and 15. Appeal Br. 12–16. Appellant generally argues the Examiner does not “provid[e] any additional explanation as to the reasoning for the rejection” over Imai and Horvitz. *Id.* at 13. Appellant further argues Horvitz “build[s] a model to predict variance” but does not teach “the projected time plus a variance.” *Id.* at 15–16.

We are persuaded that the Examiner erred. The Examiner ostensibly relies on Horvitz, or the combination of Imai and Horvitz, to teach “responsive to determining the projected time, determining . . . whether the data packet arrived at the second location after the projected time plus a variance.” *See* Final Act. 5. The Examiner does so by reproducing a portion of paragraph 56 of Horvitz:

[D]ata valuation component 212 can use generated utility values to construct at least one predictive model of variance. For example, the data valuation component 212 can build a model to predict variance of observed road speeds. Variances are predicted on a continuous basis as well as done for a specified range (e.g., during times designated as ‘rush hour.’).

Id. The Examiner then states “[i]t would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated” the previously reproduced portion of Horvitz, but the Examiner provides no further discussion regarding Horvitz. *Id.* at 5–6. Merely reproducing Horvitz’s disclosure provides no reasoning that explains how Horvitz, alone or in combination with Imai, teaches “responsive to determining the projected time, determining . . . whether the data packet arrived at the second location after the projected time plus a variance.” Furthermore, although the Examiner’s Answer discusses the motivation for

the combination (Ans. 4; *see* Final Act. 8), the rationale to combine does not explain how the references teach the disputed limitation.

Because the Examiner’s Final Action and Answer both fail to include any explanation regarding how Horvitz, or the combination of Horvitz and Imai, teaches “responsive to determining the projected time, determining, by one or more computer processors, whether the data packet arrived at the second location after the projected time plus a variance,” we are constrained by the record not to sustain the Examiner’s obviousness rejection of independent claims 1, 8, and 15 over the stated combination of Imai and Horvitz.

Because we determine the Examiner erred, we need not reach the merits of Appellant’s other arguments. *See* Appeal Br. 14–21. Therefore, we reverse the Examiner’s decision to reject claims 1–20 under 35 U.S.C. § 103.

CONCLUSION

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed	New Ground
1–20	101	Eligibility	1–20		1–20
1–20	103	Imai, Horvitz		1–20	
Overall Outcome			1–20		1–20

TIME PERIOD FOR RESPONSE

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides that “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” Section 41.50(b) also provides:

When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the claims, appellant may again appeal to the Board pursuant to this subpart.

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

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;
37 C.F.R. § 41.50(b)