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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* STEVEN JOSEPH DEMUTH, MATTHEW J. DUFTLER,  
RANIA YOUSEF KHALAF, GEETIKA TEWARI LAKSHMANAN,  
SZABOLCS ROZSNYAI, and MERVE UNUVAR

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Appeal 2018-004099  
Application 13/912,275  
Technology Center 2100

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Before ST. JOHN COURTENAY III, JENNIFER S. BISK, and  
IRVIN E. BRANCH, *Administrative Patent Judges*.

BRANCH, *Administrative Patent Judge*.

## DECISION ON APPEAL

### STATEMENT OF THE CASE<sup>1</sup>

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>2</sup> appeals from the Examiner's decision to reject claims 1, 3–9, and 11–22. Claims 2 and 10 are canceled. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

### CLAIMED SUBJECT MATTER

The claims are directed to “implementing a software tool, as executable by a processor on a computer to exercise any of a plurality of prediction tools.” Spec., Abstract. Claim 1, reproduced below with annotations added, is illustrative of the claimed subject matter:

1. A method for implementing a software tool, as executable by a processor on a computer, said software tool configured to exercise any of a plurality of available alternative prediction tools, each said alternative prediction tool based on a different algorithm and processing mechanism, said method comprising:

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<sup>1</sup> We refer to the Specification, filed June 7, 2013 (“Spec.”); Final Office Action, mailed May 31, 2017 (“Final Act.”); Appeal Brief, filed October 23, 2017 (“Appeal Br.”); Examiner’s Answer, mailed February 5, 2018 (“Ans.”); and Reply Brief, filed March 6, 2018 (“Reply Br.”). We note the Reply Brief has an incorrect application number “Serial No. 13/226,079” in each page header on pages 2–12, although the correct application number “Serial No. 13/912,275” appears on the first page of the Reply Brief. We leave it to the Examiner to require Appellant to explain and/or correct this inconsistency in the event of further prosecution of this application.

<sup>2</sup> 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 International Business Machines Corporation. Appeal Br. 1.

[a] providing questions to a user output port, the questions configured to permit responses from the user to provide a guidance on which of the alternative prediction tools would be most appropriate for a specific application to be executed by the software tool, wherein the questions are configured to determine how two guidance categories influence outcomes in a business process, the first guidance category comprising whether data influences the outcomes, and the second guidance category comprising whether at least one of business semantics and path information influences the outcomes;

[b] receiving inputs from a user input port as responses to said questions; and

[c] using said question responses for determining which specific one of said plurality of available alternative prediction tools to at least one of instantiate, customize, and configure for executing the specific application on said software tool,

[d] wherein said software tool, based on said responses received for said questions, one of:

[d1] automatically selects a most appropriate prediction tool from among said plurality of prediction tools; and

[d2] provides an indication to a user of which prediction tool has been determined as most appropriate.

## REJECTION

Claims 1, 3–9, and 11–22 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–6.

## ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellant’s arguments. We have considered in this Decision only those arguments Appellant actually raised in the Briefs. Any other arguments Appellant could have made but chose not to make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

To the extent consistent with our analysis herein, we adopt as our own the findings and reasons set forth by the Examiner in (1) the action from which this appeal is taken (Final Act. 1–6) and (2) the Examiner’s Answer in response to Appellant’s Appeal Brief (Ans. 2–12) and concur with the conclusions reached by the Examiner. We highlight the following for emphasis.

35 U.S.C. § 101

Appellant’s contentions are unpersuasive with regard to the rejection of claims 1, 3–9, and 11–22 under 35 U.S.C. § 101. Section 101 defines patentable subject matter: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The U.S. Supreme Court, however, has “long held that this provision contains an important implicit exception” that “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (quotation omitted). “Eligibility under 35 U.S.C. § 101 is a question of law, based on underlying facts.” *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018).

To determine patentable subject matter, we undertake a two-part test. “First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts” of “laws of nature, natural phenomena, and abstract ideas.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). “The inquiry often is whether the claims are directed to ‘a specific means or method’ for improving technology or whether they are simply directed to an abstract end-result.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322,

1326 (Fed. Cir. 2017) (citation omitted). A court must be cognizant 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), and “describing the claims at . . . a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016). Instead, “the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

If the claims are directed to an abstract idea or other ineligible concept, then we continue to the second step and “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 79, 78). The Court describes the second step as a search for “an ‘inventive concept’—*i.e.*, 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.’” *Id.* (quoting *Mayo*, 566 U.S. at 72–73).

The Office recently published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Revised Guidance”); *see also* USPTO, *October 2019 Update: Subject Matter Eligibility*, available at [https://www.uspto.gov/sites/default/files/documents/peg\\_oct\\_2019\\_update.pdf](https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf) (Oct. 17,

2019) (“Oct. 2019 Guidance”). Under the Revised Guidance, we look to whether the claim recites

- (1) a judicial exception, such as a law of nature or any of the following groupings of abstract ideas:
  - (a) mathematical concepts, such as mathematical formulas;
  - (b) certain methods of organizing human activity, such as a fundamental economic practice; or
  - (c) mental processes, such as an observation or evaluation performed in the human mind;
- (2) any additional limitations that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)); and
- (3) any additional limitations beyond the judicial exception that, alone or in combination, were not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)).

*See* Revised Guidance, 84 Fed. Reg. at 52, 55, 56. Under the Revised Guidance, if the claim does not recite a judicial exception, then it is eligible under § 101, and no further analysis is necessary. *Id.* at 54. Similarly, under the guidance, “if the claim as a whole integrates the recited judicial exception into a practical application of that exception,” then no further analysis is necessary. *Id.* at 53, 54.

In connection with Step 1, the Examiner determines that, because “all of the claims are directed to a method,” “the claims fall[] within one of the four statutory categories,” so “it must be determine[d] if the claims are directed to a judicial exception.” Ans. 3.

*USPTO Step 2A, Prong 1*

In connection with Step 2A the Examiner determines “the claims fall within the judicial exception of an abstract idea. Specifically the abstract idea [is] similar to ‘customizing information and presenting it to users based on particular characteristics.’” *Id.* (citing (*Int. Ventures v. Erie Indemnity Co.*)). The Examiner determines:

the steps that are defining the abstract idea are the steps of “providing questions to a user that allow the user to provide guidance on the selection of alternative prediction tools by determining how two guidance categories influence outcomes in a business process, receiving inputs from a user in response to the question, using the responses to determine a specific prediction tool, automatically selecting a most appropriate prediction tool, and providing an indication to a user about which tool has been selected.” The claims disclose receiving input from a user and presenting the user with customized information. These steps are similar to concepts and ideas that have been identified as abstract by the courts.

*Id.* 3–4.

For the reasons discussed *infra* under Step 2A, prong two, and Step 2B (Inventive Concept), we agree with the Examiner’s determination that the claims recite an abstract idea.

Claim 1 recites a method of implementing a software tool on a computer that includes the following steps:

[a] providing questions to a user output port, the questions configured to permit responses from the user to provide a guidance on which of the alternative prediction tools would be most appropriate for a specific application to be executed by the software tool, wherein the questions are configured to determine how two guidance categories influence outcomes in a business process, the first guidance category comprising whether data

influences the outcomes, and the second guidance category comprising whether at least one of business semantics and path information influences the outcomes;

[b] receiving inputs from a user input port as responses to said questions; and

[c] using said question responses for determining which specific one of said plurality of available alternative prediction tools to at least one of instantiate, customize, and configure for executing the specific application on said software tool,

[d] wherein said software tool, based on said responses received for said questions, one of:

[d1] automatically selects a most appropriate prediction tool from among said plurality of prediction tools; and

[d2] provides an indication to a user of which prediction tool has been determined as most appropriate.

These limitations recite collecting, analyzing, and outputting data, and they reasonably can be characterized as “[m]ental processes” that entail steps of “observation, evaluation, judgment, [and] opinion.” Memorandum 84 Fed. Reg. at 52; *see also* Update at 7; Final Act. 28; *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (“The focus of the asserted claims . . . is on collecting information, analyzing it, and displaying certain results of the collection and analysis”); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1094 (Fed. Cir. 2016) (Determining as abstract the claims which “here, are directed to collecting and analyzing information to detect misuse and notifying a user when misuse is detected.”).

For the reasons discussed above, we conclude method claim 1 recites steps that could be performed alternatively as mental processes that are considered to be an abstract idea under the Revised Guidance.

*USPTO Step 2A, Prong 2*

We are unpersuaded the claims integrate the judicial exception into a practical application. In particular, claim 1 requires only generalized capabilities and functionalities of a generic computer including outputting data (“providing questions”), receiving data (“receiving inputs”), processing the received data (“determining” and “select[ing]”), and outputting information (“provid[ing]”).

Claim 1 additionally requires “a processor on a computer.” The Specification describes no more than standard hardware. *See* Spec. 19; Fig. 5. “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223. Thus, these limitations do not constitute additional elements that integrate the judicial exception into a practical application. *See* MPEP § 2106.05(a)–(c), (e)–(h).<sup>3</sup>

Appellant argues that the independent claims “define a very narrow mechanism that solve a newly-identified problem in this art and that does not preempt conventional methods such as demonstrated in the references used in the prior art rejection now withdrawn.” Appeal Br. 11 ¶ 2. *See also* similar repeated arguments regarding the purported lack of preemption: Appeal Br. 14–20; Reply Br. 1–7, 10, and 11.

Our reviewing court provides applicable guidance: “While preemption may signal patent ineligible subject matter, the absence of

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<sup>3</sup> We further note that the claim language does not recite more than implementing a software tool that is executable by a processor on a computer.

complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); *see also OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (“that 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”).

Regarding the prior art rejection now withdrawn by the Examiner (*see* argument Appeal Br. 11, ¶ 2), any analysis based upon obviousness is not relevant to our analysis for patent eligibility under 35 U.S.C. § 101. *See Return Mail, Inc. v. U.S. Postal Service*, 868 F.3d 1350, 1370 (Fed. Cir. 2017). Moreover, “[g]roundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013); *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.”); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 n.3 (Fed. Cir. 2016) (noting that an eligibility finding does not turn on the novelty of using a user-downloadable application for the particular purpose recited in the claims).

Thus, the claims do not include additional elements that integrate the judicial exception into a practical application because the additional elements: (1) do not improve the functioning of a computer or other technology; (2) are not applied with any particular machine (except for a generic computer); (3) do not effect a transformation of a particular article to

a different state; and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception. *See* MPEP § 2106.05(a)–(c), (e)–(h). Thus, claim 1 does not integrate the judicial exception into a practical application.

*USPTO Step 2B*

Because claim 1 recites a judicial exception and does not integrate that exception into a practical application, we reach the issue of whether the claim adds a specific limitation beyond the judicial exception that is not “well-understood, routine, [and] conventional” in the field.

Revised Guidance, 84 Fed. Reg. at 56.

In connection with Step 2B, the Examiner determines:

the claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional element(s) or combination of elements in the claim(s) other than the abstract idea per se amount(s) to no more than: (i) mere instructions to implement the idea on a computer, and/or (ii) recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry which has been treated by the courts as an attempt to link the abstract idea to a particular technological environment, *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*.

For independent claim 1, the claim recites a method for selecting a prediction tool by implementing customizing information and presenting it to users . . . . The claim discloses a method and includes the additional elements of a software tool, a processor, a computer, a user output port, a user input port, and a user display mechanism. Such limitations are not enough to add

significantly more to the abstract idea. All of the additional elements are generally recited and not discussed in detail and amount to a recitation of generic computer structure. Considering all the limitations in combination, the claimed additional elements do not show any inventive concept in applying the abstract idea, such as improving the performance of a computer or any other technology.

Dependent claim claims 3-9, 11, 12, 21, and 22, when analyzed as a whole are held to be patent ineligible under 35 U.S.C. 101 because the additional recited limitation(s) fail(s) to establish that the claim(s) is/are not directed to an abstract idea. Claim 3 recites details regarding the guidance categories and data importance, but these limitations are considered to be part of the abstract idea; the claim does not have any additional elements. Claim 4 notes that the question response may be used to customize training data for training a model implemented by the prediction tool, but this is considered part of the abstract idea. Claim 5 discloses machine learning tools based on logistic regression and decision trees, but the tools are not described in detail and they are considered part of the abstract idea. Claim 6 discloses a probabilistic graph model and fragmentation enabled decision tree may be implemented by the prediction tools, but this limitation is considered part of the abstract idea. Claim 7 discloses details regarding the outputs to a user and contains a software tool (additional element), however the additional element is described generally and does not amount to significantly more. Claim 8 discloses training models using historical data and making predictions for partially-executed event sequences, but this is considered to be part of the abstract idea. Claim 9 discloses questions that relate to event sequences, which is considered to be part of the abstract idea. Claim 11 notes that the method is embodied on a non-transitory computer-readable storage medium (additional element), but the medium is generally described and does not amount to significantly more. Claim 12 recites additional elements including a ROM, RAM, memory device, and a first computer interconnected to a second computer, however these elements are generally described and are generic computer elements that are well-known, routine, and conventional. Claim 21 provides additional details regarding

user response and training data selection, which is considered to be part of the abstract idea. Claim 22 recites details related to the user response and importance of data attributes, and this is considered to be part of the abstract idea.

For independent claim 13, the claim recites a method for selecting a prediction tool by implementing customizing information and presenting it to users based on particular. The claim discloses a method and includes the additional elements of a software-implemented prediction tool, a processor, and a computer. Such limitations are not enough to add significantly more to the abstract idea. All of the additional elements are generally recited and not discussed in detail and amount to a recitation of generic computer structure. Considering all the limitations in combination, the claimed additional elements do not show any inventive concept in applying the abstract idea, such as improving the performance of a computer or any other technology.

Dependent claim claims 14-19, when analyzed as a whole are held to be patent ineligible under 35 U.S.C. 101 because the additional recited limitation(s) fail(s) to establish that the claim(s) is/are not directed to an abstract idea. Claim 14 recites details regarding providing questions to the user to determine which training data to use, which is considered part of the abstract idea. Claim 15 recites determining a prediction probability value of user-specified attributes and modifying said attributes, however this is considered part of the abstract idea. Claim 16 discloses that the questions are directed to event sequence characteristics which is also considered to be part of the abstract idea. Claim 17 recites fragmentation enabled decision tree and a probabilistic graph model, but these limitations is considered part of the abstract idea. Claim 18 notes that the method is embodied on a non-transitory computer-readable storage medium (additional element), but the medium is generally described and does not amount to significantly more. Claim 19 recites additional elements including a ROM, RAM, memory device, and a first computer interconnected to a second computer, however these elements are generic computer elements that are well-known, routine, and conventional.

For independent claim 20, the claim recites a method for selecting a prediction tool by implementing customizing information and presenting it to users based on particular. The claim discloses a method and includes the additional elements of a software-implemented prediction tool, a processor, a computer, a user output port, a user input port, and a user display mechanism. Such limitations are not enough to add significantly more to the abstract idea. All of the additional elements are generally recited and not discussed in detail and amount to a recitation of generic computer structure. Considering all the limitations in combination, the claimed additional elements do not show any inventive concept in applying the abstract idea, such as improving the performance of a computer or any other technology.

*Id.* 4–7.

We agree with the Examiner. Appellant has not identified any specific limitations of claim 1 that is not “well-understood, routine, [and] conventional” in the field as per MPEP § 2106.05(d). Instead, Appellant describes the invention in a manner consistent with its being “well-understood, routine, [and] conventional,” such that the claimed computer, processor, and ports of claim 1 require no more than a general-purpose computer processor and generic memory executing computer program instructions on information in a generic memory. *See* Spec. 19–20. Consistent with the Specification, the claim 1 processor fails to go beyond that which is well-understood, routine, and conventional. This is indicative of the absence of an inventive concept where the claims simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Revised Guidance, 84 Fed. Reg. at 56. Furthermore, the functionalities recited by claim 1 are recited at a high level of generality that do not set

forth limited rules for implementing the functionalities sufficient to confer patent eligibility.

Therefore, we conclude claim 1, viewed “both individually and as an ordered combination,” does not recite significantly more than the judicial exception to transform the claim into patent-eligible subject matter. *See Alice*, 573 U.S. at 217 (internal quotations omitted) (quoting *Mayo*, 566 U.S. at 79).

Regarding Appellant’s pre-emption argument (Reply Br. 1–11), we note that this is merely one factor in determining if an abstract idea is significantly more than the abstract idea itself and is not dispositive of eligibility.

Accordingly, for the reasons discussed, claim 1 is directed to mental processes identified as abstract ideas. Furthermore, the claims do not recite limitations that amount to significantly more than the abstract idea itself. Accordingly, we sustain the rejection of independent claim 1 under 35 U.S.C. § 101 and, for the same reasons, the rejection of independent claims 13 and 20, together with the rejection of grouped dependent claims 3–9, 11, 12, 14–19, 21, and 22. *See* 37 C.F.R. § 41.37(c)(1)(iv).

## CONCLUSION

We sustain the Examiner’s determination to reject claims 1, 3–9, and 11–22 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

DECISION SUMMARY

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/ Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 3-9, 11-22	101	Eligibility	1, 3-9, 11-22	

TIME PERIOD FOR RESPONSE

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