



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.
14/091,599	11/27/2013	Charles Q. Miller	40229-104	5187
26486	7590	10/01/2019	EXAMINER	
BURNS & LEVINSON, LLP 125 HIGH STREET BOSTON, MA 02110			FEACHER, LORENA R	
			ART UNIT	PAPER NUMBER
			3683	
			NOTIFICATION DATE	DELIVERY MODE
			10/01/2019	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):

docketing@burnslev.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHARLES Q. MILLER, ALLEN D. BIERBA, DONALD D.
DUDENHOEFFER and ARON L. BIERBAUM

Appeal 2018-009209
Application 14/091,599
Technology Center 3600

Before ST. JOHN COURTENAY III, LARRY HUME, and
JOYCE CRAIG, *Administrative Patent Judges*.

HUME, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision rejecting claims 1–22, which are all claims pending in the application. Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “Applicant(s)” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Priority 5 Holdings, Inc. App. Br. 3.

STATEMENT OF THE CASE²

The Invention

The claims are directed to systems and methods for planning and optimizing the recovery of critical infrastructure/key resources that may be damaged as a result of predetermined occurrences. Spec. ¶ 2.

Exemplary Claim

Claim 1, reproduced below, is representative of the subject matter on appeal:

1. A computer implemented method for planning and optimizing recovery of critical infrastructure resources, the method comprising:

a) determining, from execution of a computer readable code, the execution of the computer readable code performing an event driven simulation, impact of at least one predetermined environmental condition on one or more critical infrastructure resources subjected to said at least one predetermined environmental condition and on one or more other critical infrastructure resources dependent on the one or more critical infrastructure resources; each one critical infrastructure resource having rules for impact of predetermined environmental conditions and the recovery time; wherein, during execution of the computer readable code, critical infrastructure resource conditions are continuously updated based on rules for impact of predetermined environmental conditions and for recovery time, as performed in the event driven simulation;

² Our decision relies upon Appellant’s Appeal Brief (“App. Br.,” filed March 15, 2018); Reply Brief (“Reply Br.,” filed Sept. 4, 2018); Examiner’s Answer (“Ans.,” mailed July 5, 2018); Final Office Action (“Final Act.,” mailed Oct. 17, 2017); and the original Specification (“Spec.,” filed Nov. 27, 2013).

b) obtaining, from execution of the computer readable code, deployment information for one or more predetermined Recovery Assets; each one of the one or more predetermined Recovery Assets being staged, before deployment, at a predetermined staging location; and

c) obtaining, from execution of the computer readable code, consequences resulting from deployment of the one or more predetermined Recovery Assets;

wherein said computer readable code is embodied in non-transitory computer usable media and executed by one or more processors.

Rejection on Appeal

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

CLAIM GROUPING

Based on Appellant’s arguments (App. Br. 8–24) and our discretion under 37 C.F.R. § 41.37(c)(1)(iv), we decide the appeal of patent-ineligible subject matter Rejection R1 of claims 1–22 on the basis of representative claim 1.

ISSUE

Appellant argues (App. Br. 8–24; Reply Br. 4–14) the Examiner’s rejection of claim 1 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter is in error. These contentions present us with the following issue:

Under the USPTO’s Revised Guidance, informed by our governing case law concerning 35 U.S.C. § 101, is claim 1 patent-ineligible under § 101?

PRINCIPLES OF LAW

A. 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. § 101.³ 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. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

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*. *Alice Corp. Pty Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 217–18 (2014) (citing *Mayo*, 566 U.S. at 75–77). 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 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);

³ This threshold analysis of whether a claim is directed to one of the four statutory categories of invention, *i.e.*, a process, machine, manufacture, or composition of matter, is referred to as “*Step 1*” in the USPTO’s patent-eligibility analysis under § 101. *See* MPEP § 2106.

mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diehr*, 450 U.S. at 191); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187, and 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

Abstract ideas may include, but are not limited to, fundamental economic practices, methods of organizing human activities, and mathematical formulas or relationships. *Alice*, 573 U.S. at 217–21. Under this guidance, we must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one

inquiry is meaningful. *Id.* at 217 (“[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.”).

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 (citation 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.*

B. USPTO Revised Guidance

The PTO recently published revised guidance in the Federal Register concerning the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (January 7, 2019) (hereinafter “Revised Guidance”) (<https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf>).

Under the Revised 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);⁴ and

⁴ Referred to as “*Revised Step 2A, Prong 1*” in the Revised Guidance (hereinafter “*Step 2A(i)*”).

(2) additional elements that integrate the judicial exception into a practical application (*see* Manual for Patent Examining Procedure (“MPEP”) §§ 2106.05(a)–(c), (e)–(h)).⁵
See Revised Guidance 52–53.

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.⁶
See Revised Guidance 56.

Step 2A(i) – Abstract Idea

Informed by our judicial precedent, the Revised Guidance extracts and synthesizes key concepts identified by the courts as abstract ideas to explain that the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation:

- (a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;
- (b) Certain methods of organizing human activity — fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or

⁵ Referred to as “*Revised Step 2A, Prong 2*” in the Revised Guidance (hereinafter “*Step 2A(ii)*”).

⁶ Items (3) and (4) continue to be collectively referred to as “*Step 2B*” of the Supreme Court’s two-step framework, described in *Mayo* and *Alice*.

behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions); and

(c) Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion).

Under the Revised Guidance, if the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas above), then the claim is patent-eligible at *Step 2A(i)*. This determination concludes the eligibility analysis, except in situations identified in the Revised Guidance.⁷

However, if the claim recites a judicial exception (i.e., an abstract idea enumerated above, a law of nature, or a natural phenomenon), the claim requires further analysis for a practical application of the judicial exception in *Step 2A(ii)*.

Step 2A(ii) – Practical Application

If a claim recites a judicial exception in *Step 2A(i)*, we determine whether the recited judicial exception is integrated into a practical application of that exception in *Step 2A(ii)* by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

⁷ In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in of the Guidance for analyzing the claim should be followed. *See* Revised Guidance, Section III.C.

The seven identified “practical application” sections of the MPEP,⁸ cited in the Revised Guidance under *Step 2A(ii)*, are:

- (1) MPEP § 2106.05(a) Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field
- (2) MPEP § 2106.05(b) Particular Machine
- (3) MPEP § 2106.05(c) Particular Transformation
- (4) MPEP § 2106.05(e) Other Meaningful Limitations
- (5) MPEP § 2106.05(f) Mere Instructions To Apply An Exception
- (6) MPEP § 2106.05(g) Insignificant Extra-Solution Activity
- (7) MPEP § 2106.05(h) Field of Use and Technological Environment

See Revised Guidance 55.

If the recited judicial exception is integrated into a practical application as determined under one or more of the MPEP sections cited above, then the claim is not directed to the judicial exception, and the patent-eligibility inquiry ends. *See* Revised Guidance 54. If not, then analysis proceeds to *Step 2B*.

Step 2B – “Inventive Concept” or “Significantly More”

Under our reviewing courts’ precedent, it is possible that a claim that does not “integrate” a recited judicial exception under *Step 2A(ii)* is nonetheless patent eligible. For example, the claim may recite additional

⁸ *See* MPEP §§ 2106.05(a)–(c), (e)–(h). Citations to the MPEP herein refer to revision [R-08.2017]. Sections 2106.05(a), (b), (c), and (e) are indicative of integration into a practical application, while §§ 2106.05(f), (g), and (h) relate to limitations that are not indicative of integration into a practical application.

elements that render the claim patent eligible even though a judicial exception is recited in a separate claim element.⁹ The Federal Circuit has held claims eligible at the second step of the *Alice/Mayo* test (USPTO *Step 2B*) because the additional elements recited in the claims provided “significantly more” than the recited judicial exception (e.g., because the additional elements were unconventional in combination).¹⁰ Therefore, if a claim has been determined to be directed to a judicial exception under *Revised Step 2A*, we must also evaluate the additional elements individually and in combination under *Step 2B* to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself).¹¹

Under the Revised Guidance, we must consider in *Step 2B* whether an additional element or combination of elements: (1) “Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present;” or (2) “simply appends well-understood, routine, conventional activities previously known to the industry, specified

⁹ See, e.g., *Diehr*, 450 U.S. at 187.

¹⁰ See, e.g., *Amdocs (Israel), Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300, 1304 (Fed. Cir. 2016); see also *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016); and *DDR Holdings v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014).

¹¹ The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.” See Revised Guidance, III.B.¹²

In the *Step 2B* analysis, an additional element (or combination of elements) is not well-understood, routine or conventional unless the examiner finds an evidentiary basis, and expressly supports a rejection in writing with, one or more of the following:

1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
2. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s).
3. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
4. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s). . . .

¹² In accordance with existing *Step 2B* guidance, an Examiner’s finding that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with at least one of the four specific types of evidence required by the USPTO *Berkheimer* Memorandum, as shown above. For more information concerning evaluation of well-understood, routine, conventional activity, see MPEP § 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum (USPTO Commissioner for Patents Memorandum dated Apr. 19, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (hereinafter “*Berkheimer Memo*”).

See Berkheimer Memo.

The analysis in *Step 2B* further determines whether an additional element or combination of elements:

(a) Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present; or

(b) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.

Revised Guidance, *and see Berkheimer Memo.*

If the Examiner or the Board determines under *Step 2B* that the element (or combination of elements) amounts to significantly more than the exception itself, the claim is eligible, thereby concluding the eligibility analysis.

However, if a determination is made that the element and combination of elements does not amount to significantly more than the exception itself, the claim is ineligible under *Step 2B*, and the claim should be rejected for lack of subject matter eligibility.

ANALYSIS

Step 1 – Statutory Category

Claim 1, as a method (process) claim, recites one of the enumerated categories of eligible subject matter in 35 U.S.C. § 101. Therefore, the issue before us is whether it is directed to a judicial exception without significantly more.

Step 2A(i): Does the Claim Recite a Judicial Exception?

The Examiner determined that claim 1 is directed to “analyzing information and producing a result of the simulation.” Final Act. 3–4.

We conclude claim 1 does not recite the judicial exceptions of either natural phenomena or laws of nature. We evaluate, *de novo*, whether claim 1 recites an abstract idea based upon the Revised Guidance.

First, we look to the Specification to provide context as to what the claimed invention is. In this case, the Specification discloses that the invention “relate[s] generally to systems and methods for planning and optimizing the recovery of critical infrastructure/key resources that may be damaged as a result of predetermined occurrences.” Spec. ¶ 2.

Appellant’s Abstract describes the invention as:

Methods and system for planning and optimizing the recovery of critical infrastructure resources, where the method includes determining, from execution of a computer readable code, impact of at least one predetermined environmental condition on a number of critical infrastructure resources subjected to said predetermined environmental conditions and on other critical infrastructure resources dependent on said number of critical infrastructure resources, each of the number of critical infrastructure resources having rules for impact of predetermined environmental conditions and for recovery time, obtaining, from execution of the computer readable code, deployment information for predetermined Recovery Assets, each one of the predetermined Recovery Assets being staged, before deployment, at a predetermined staging location, and obtaining, from execution of the computer readable code, resulting consequences from deployment of the predetermined Recovery Assets.

Spec. 29.

In TABLE ONE below, we identify in *italics* the specific claim limitations that we conclude recite an abstract idea. We additionally identify in **bold** the additional (non-abstract) claim limitations that are generic computer components and techniques:

TABLE ONE

Independent Claim 1	Revised Guidance
<p>A computer implemented method for planning and optimizing recovery of critical infrastructure resources, the method comprising:</p>	<p>A process (method) is a statutory subject matter class. <i>See</i> 35 U.S.C. § 101.</p>
<p>[a] <i>determining</i>, from execution of a computer readable code, the execution of the computer readable code performing an event driven simulation, <i>impact</i> of at least one predetermined environmental condition on one or more critical infrastructure resources subjected to said at least one predetermined environmental condition and on one or more other critical infrastructure resources dependent on the one or more critical infrastructure resources; each one critical infrastructure resource having rules for impact of predetermined environmental conditions and the recovery time; wherein, during execution of the computer readable code, critical infrastructure resource conditions are continuously updated based on rules for impact of predetermined environmental conditions and for recovery time, as performed in the event driven simulation;</p>	<p>Abstract idea, i.e., “determining . . . impact” could be performed alternatively as a mental process. <i>See</i> Revised Guidance 52.</p>

Independent Claim 1	Revised Guidance
<p>[b] <i>obtaining</i>, from execution of the computer readable code, deployment <i>information</i> for one or more predetermined Recovery Assets; each one of the one or more predetermined Recovery Assets being staged, before deployment, at a predetermined staging location;</p>	<p>Abstract idea, i.e., “obtaining . . . information” could be performed as a mental process. <i>See Revised Guidance 52.</i></p> <p>Obtaining information, i.e., data gathering, could alternatively be considered as insignificant extra-solution activity. Revised Guidance 55, n.31; <i>see also</i> MPEP § 2106.05(g).</p>
<p>[c] <i>obtaining</i>, from execution of the computer readable code, <i>consequences</i> resulting from deployment of the one or more predetermined Recovery Assets;</p>	<p>Abstract idea, i.e., “obtaining . . . consequences” could be performed alternatively as a mental process.” <i>See Revised Guidance 52.</i></p>

Claims App’x.

We conclude the claimed invention, as a whole, recites mental processes, i.e., determining impact of environmental conditions on infrastructure resources.

This type of activity, i.e., planning and optimizing recovery of critical infrastructure resources, as recited in limitations (a) through (c), for example, and aside from any computer-related aspects, e.g., the recited “computer” and “computer readable code,” includes longstanding conduct that existed well before the advent of computers and the Internet, and could be carried out by a human with pen and paper. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (“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*.”¹³

Under the broadest reasonable interpretation standard,¹⁴ we conclude limitations (a), (b), and (c) recite steps that would ordinarily occur when planning and optimizing recovery of critical infrastructure resources. See Final Act. 3. For example, obtaining deployment information from a predetermined Recovery Asset is an operation that can be performed by a human in the mind or with a pen and paper.

Thus, under *Step 2A(i)*, we agree with the Examiner that claim 1’s method for planning and optimizing recovery of critical infrastructure

¹³ Our reviewing court recognizes that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). That need not and, in this case does not, “impact the patentability analysis.” *Id.* at 1241. Further, “[t]he Board’s slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* Moreover, merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract.”); see also *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas).

¹⁴ During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using “the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

resources is an abstract idea. We conclude claim 1, under our Revised Guidance, recites a judicial exception of mental processes, i.e., concepts performed in the human mind (including an observation, evaluation, judgment, and opinion), and thus is an abstract idea.

Step 2A(ii): Judicial Exception Integrated into a Practical Application?

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the “practical application” *Step 2A(ii)* in which we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

As to the specific limitations, we conclude none of the additional elements integrate the exception into a practical application.

As identified in *Step 2A(i), supra*, we find each of the limitations of claim 1 recite abstract ideas and/or data gathering. However, none of the limitations integrate the judicial exception of mental processes into a practical application as determined under one or more of the MPEP sections cited above.¹⁵ The claim as a whole merely uses instructions to implement

¹⁵ Guidance relating to integration of the judicial exception into a practical application is provided in MPEP § 2106.05(a) (Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field); MPEP § 2106.05(b) (Particular Machine); MPEP § 2106.05(c) (Particular Transformation); MPEP § 2106.05(e) (Other Meaningful Limitations); MPEP § 2106.05(f) (Mere Instructions To Apply An

the abstract idea on a computer, uses computer readable code or, alternatively, merely uses a computer as a tool to perform the abstract idea.

Under analogous circumstances, the Federal Circuit has held that “[t]his is a quintessential ‘do it on a computer’ patent: it acknowledges that [such] data . . . was previously collected, analyzed, manipulated, and displayed manually, and it simply proposes doing so with a computer. We have held such claims are directed to abstract ideas.” *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1367 (Fed. Cir. 2019); *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1351 (Fed. Cir. 2016) (“Though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology.”).

Appellant argues their claimed invention optimizes disaster recovery efforts:

Appellants' claimed invention is a system and methodology by which disaster recovery or other recovery efforts can be optimized in a manner that is approved or directed by a user (typically, a governmental authority or an organization), while taking into account all available Recovery Assets and potential. or actual damage, It represents a claimed advance over the technology at the time of the invention, as indicated by the Government Accountability Office, The GAO, in its Government Accountability Office Report to Congress (GAO-13-11), Critical Infrastructure Protection, Oct 2012, pg, 23, (included by Appellants in their response to the Examiner’s

Exception); MPEP § 2106.05(g) (Insignificant Extra-Solution Activity); and MPEP § 2106.05(h) (Field of Use and Technological Environment).

first Office Action) recognized the innovative nature of the claimed invention as it was being developed.

App. Br. 18. Further, “Appellant[] respectfully state[s] that the end result of Appellant[‘s] claims advances the prior art by planning and optimizing the recovery of critical infrastructure/key resources that may be damage[d] as a result of unintended occurrences.” App. Br. 19.

We are not persuaded by Appellant’s citation to the GAO because, on this record, there is no explanation of how the GAO’s laudatory report explicitly relates to the *claims*. We are also not persuaded because the claimed invention does not actually optimize recovery of critical infrastructure, but instead creates a plan for recovery.

Therefore, the claim as a whole merely uses instructions to implement the abstract idea on a computer or, alternatively, merely uses a computer and computer readable code as a tool to perform the abstract idea. Thus, on this record, Appellant has not shown an improvement or practical application under the guidance of Manual of Patent Examining Procedure section 2106.05(a) (“Improvements to the Functioning of a Computer or to Any Other Technology or Technical Field”) or section 2106.05(e)(“Other Meaningful Limitations”). Nor does Appellant advance any arguments in the Brief(s) that are directed to the *Bilski* machine-or-transformation test, which would only be applicable to the method (process) claims on appeal. *See* MPEP §§ 2106.05(b) (Particular Machine) and 2106.05(c) (Particular Transformation).

Therefore, we conclude the abstract idea is not integrated into a practical application, and thus the claim is directed to the judicial exception.

Step 2B – “Inventive Concept” or “Significantly More”

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the “inventive concept” step. For *Step 2B* we must “look with more specificity at what the claim elements add, in order to determine ‘whether they identify an “inventive concept” in the application of the ineligible subject matter’ to which the claim is directed.” *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)).

In applying step two of the *Alice* analysis, our reviewing court guides we must “determine whether the claims do significantly more than simply describe [the] abstract method” and thus transform the abstract idea into patentable subject matter. *Ulramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any “additional features” in the claims that constitute an “inventive concept,” thereby rendering the claims eligible for patenting even if they are directed to an abstract idea. *Alice*, 573 U.S. at 221. Those “additional features” must be more than “well-understood, routine, conventional activity.” *Mayo*, 566 U.S. at 79.

Limitations referenced in *Alice* that are not enough to qualify as “significantly more” when recited in a claim with an abstract idea include, as non-limiting or non-exclusive examples: adding the words “apply it” (or an equivalent) with an abstract idea;¹⁶ mere instructions to implement an

¹⁶ *Alice*, 573 U.S. at 221–23.

abstract idea on a computer;¹⁷ or requiring no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.¹⁸

Evaluating representative claim 1 under step 2 of the *Alice* analysis, we conclude it lacks an inventive concept that transforms the abstract idea of planning and optimizing recovery of critical infrastructure into a patent-eligible application of that abstract idea.

The patent eligibility inquiry may contain underlying issues of fact. *See Mortg. Grader*, 811 F.3d at 1325. In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer*, 881 F.3d at 1368.

As evidence of the conventional nature of the recited “computer” and “computer readable code” in method claim 1 and system claim 12, we note the Specification discloses these elements in general terms. *See Spec.* ¶¶ 82, 83.

Thus, because the Specification describes the additional elements in general terms, without describing the particulars, we conclude the claim limitations may be broadly but reasonably construed as reciting conventional

¹⁷ *Alice*, 573 U.S. at 221, *e.g.*, simply implementing a mathematical principle on a physical machine, namely a computer (citing *Mayo*, 566 U.S. at 84–85).

¹⁸ *Alice*, 573 U.S. at 225, *e.g.*, using a computer to obtain data, adjust account balances, and issue automated instructions.

computer components and code, particularly in light of Appellant's Specification, as referenced above.¹⁹

With respect to this step of the analysis, Appellant argues:

As the Federal Circuit stated in *Berkheimer v. HP Inc.*: "The question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact Like indefiniteness, enablement, or obviousness, whether a claim recites patent eligible subject matter is a question of law which may contain underlying facts." *Berkheimer v. HP Inc.*, Opinion 2017-1437, p. 12 (Fed. Cir. February 8, 2018).

Appellant[] respectfully state[s] that the Examiner has not presented any facts to counter the Department of Homeland Security's designating the simulation as a Qualified Anti-Terrorism Technology under the SAFETY Act, and the American Association of Port Authorities' awarding the 2013 AAPA Information Technology Award to Greater LaFourche Port Commission, LaFourche Parish, LA (Port Fourd1on) for the use of the present event-driven simulation in the GLPC-C4 system. The Department of Homeland Security and the committee 20 awarding the 2013 AAPA Information Technology Award would not have given recognition to well understood, routine and conventional activities.

App. Br. 20–21.

We are not persuaded by Appellant's arguments because the claims do not recite any specific element specifically discussed with respect to the Department of Homeland Security designations.

¹⁹ Claim terms are to be given their broadest reasonable interpretation, as understood by those of ordinary skill in the art and taking into account whatever enlightenment may be had from the Specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

With respect to the *Step 2B* analysis, we conclude, similar to *Alice*, the recitation of a method that includes a “computer” or “code” (claim 1) as argued by Appellant, and similarly for claim 12, is simply not enough to transform the patent-ineligible abstract idea here into a patent-eligible invention under *Step 2B*. See *Alice*, 573 U.S. at 221 (“[C]laims, which merely require generic computer implementation, fail to transform [an] abstract idea into a patent-eligible invention.”).

We conclude the claims fail the *Step 2B* analysis because claim 1, in essence, merely recites various computer-based elements along with no more than mere instructions to implement the identified abstract idea using the computer-based elements.

Therefore, in light of the foregoing, we conclude, under the Revised Guidance, that Appellant’s claim 1, considered as a whole, is directed to a patent-ineligible abstract idea that is not integrated into a practical application and does not include an inventive concept. Accordingly, we sustain the Examiner’s § 101 rejection of independent claim 1, and grouped claims 2–22, which fall therewith. See *Claim Grouping, supra*.

CONCLUSION

Under our Revised Guidance, governed by relevant case law, claims 1–22 in the rejection under 35 U.S.C. § 101 are directed to patent-ineligible subject matter, and we sustain the rejection.

Appeal 2018-009209
Application 14/091,599

DECISION

We affirm the Examiner's decision rejecting claims 1–22.

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED