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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 ROBERT R. FRIEDLANDER and
JAMES R. KRAEMER[1]

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Appeal 2018-007768
Application 13/342,305
Technology Center 3600

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Before BARBARA A. BENOIT, HUNG H. BUI, and RUSSELL E. CASS,
Administrative Patent Judges.

CASS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final
rejection under 35 U.S.C. § 101 of claims 1–20.[2] Appeal Br. 9–18. The
Examiner's rejection of claims 1–20 under 35 U.S.C. § 103 have been
withdrawn. Ans. 7–18. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

BACKGROUND

The present invention relates to a method and system for identifying an optimal cohort of databases for supporting a proposed solution to a complex problem. Abstract. According to Appellants' Specification, the system receives a synthetic event, which is defined as a hypothetical condition that is dependent upon multiple disparate factors, then develops a complex problem to establish a probability that a specific set of multiple disparate factors is a cause of the synthetic event, and provides a proposed solution to the complex problem. Spec. ¶¶ 23–24. A set of optimization rules are then applied in order to identify an optimal cohort of databases, each of which contains data that determines whether the proposed solution to the complex problem is valid. *Id.* The optimal cohort of databases is optimized by applying a set of predefined rules regarding tradeoffs of factors such as financial cost, resource usage, accuracy, and timeliness. *Id.* Thus, according to the Specification, the set of optimization rules establishes a predetermined balance of cost, timeliness, and accuracy of data that determine a probability that the specific set of disparate factors causes the synthetic event. *Id.*

The Specification provides a number of embodiments directed to different problems to be solved. *Id.* ¶¶ 27–31. In one embodiment, the system is used to estimate the probability that a product will be a financial success. *Id.* ¶ 27. In this embodiment, the multiple disparate factors may include a preferred price range for the product, a preferred availability for the product, and a reliability rating for the product. *Id.* The system then applies a set of optimization rules to identify and optimal cohort of databases based on factors such as the cost of the database, the timeliness of the

database, and the accuracy of the database. *Id.* Based on this process, the system may identify an optimal cohort of databases with data representing results from an opinion survey about the product, current customer responses to other similar products, and the level of commercial success of a competitor's product that is similar to the product at issue. *Id.* Once the optimal cohort of databases is identified, the data from this optimal cohort can be used to solve the complex problem, which establishes the probability that the specific set of disparate factors causes the financial success of the product. *Id.* The Specification includes additional embodiments for estimating the probability of a patient having a specific medical condition, of a political candidate winning an election, of a natural disaster occurring at a specific location within a period of time, and of a government being replaced. *Id.* ¶¶ 28–31.

The Specification explains that the invention uses a Bayesian probability formula to establish probability that the set of disparate factors causes the synthetic event. *Id.* ¶ 32. Specifically, the system uses the following Bayesian probability formula:

$$P(H \mid D) \ = \ \frac{P(D \mid H) * P(H)}{P(D)}$$

Id.

Claim 1 is illustrative of the claimed subject matter, and is reproduced below with formatting modified for clarity:

1.   A processor-implemented method of identifying an optimal cohort of databases used to support a proposed solution

to a complex problem, the processor-implemented method comprising:

[i] a processor receiving a synthetic event that is based on multiple disparate factors, wherein the synthetic event is a hypothetical condition that is dependent upon multiple disparate conditions and states occurring randomly;

[ii] the processor developing a complex problem, wherein the complex problem is to establish a probability that a specific set of disparate factors causes the synthetic event, wherein the complex problem used to establish the probability that the specific set of disparate factors causes the synthetic event is based on:

$$P(H \mid D) = \frac{P(D \mid H) * P(H)}{P(D)}$$

where H represents a hypothesis that the synthetic event will occur if supported by a first set of data from a first cohort of databases, and where D represents a condition in which the synthetic event will occur if supported by a second set of data from a second cohort of databases, and wherein:

P(H|D) is a probability that the synthetic event will occur if supported by the first set of data given (|) a likelihood of the synthetic event occurring if supported by the second set of data (D);

P(D|H) is a probability that the synthetic event will occur if supported by the second set of data given a likelihood of the synthetic event occurring if supported by the first set of data (H);

P(H) is a probability that the synthetic event will occur if supported by the first set of data regardless of what the second set of data holds; and

P(D) is a probability that the synthetic event will occur if supported by the second set of data regardless of what the first set of data holds;

[iii] the processor applying a set of optimization rules to identify an optimal cohort of databases from a remote database server, wherein the optimal cohort of databases is a set of databases in which each database contains data that determines whether the proposed solution to the complex problem is valid, wherein the set of optimization rules establishes a predetermined balance of cost, timeliness, minimizing resource usage, and accuracy of data that describe the multiple disparate factors, and wherein the data determine the probability that the specific set of disparate factors causes the synthetic event; and

[iv] a local computer retrieving data from an identified optimal cohort of databases stored in the remote database server, wherein usage of the identified optimal cohort of databases reduces a level of resources required by the remote database server to serve data to the local computer, and wherein supplying the identified optimal cohort of databases by the remote database server conserves network bandwidth between the local computer and the remote database server by requiring the remote database server to send only the identified optimal cohort of databases to the local computer.

Appeal Br. 36–37 (Claims App.).

PRINCIPLES OF LAW

I.   SECTION 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. 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. *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 Supreme Court's two-step framework, described in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012), and *Alice*. *Alice*, 573 U.S. at 217–18 (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); 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" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 183 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 that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a

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mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 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.* (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.").

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.*

II.   USPTO SECTION 101 GUIDANCE

The United States Patent and Trademark Office ("USPTO") recently published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50

(Jan. 7, 2019) ("2019 Guidance"). Under the 2019 Guidance, we first look to whether the claim recites the following:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes) (referred to as Step 2A, prong 1 in the Guidance); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)) (referred to as Step 2A, prong 2 in the Guidance).

See 2019 Guidance, 84 Fed. Reg. at 52–55.

> Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then move to Step 2B of the Guidance and look to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See 2019 Guidance, 84 Fed. Reg. at 56.

ANALYSIS

I. CLAIM 1

A. *The Examiner's Rejection and Appellants' Contentions*

In support of the rejection of claims 1–20 under 35 U.S.C. § 101 the

Examiner finds that the claims recite an abstract idea that includes the steps

of

> receiving a synthetic event based on multiple disparate factors,
> developing a complex problem to establish the probability,
> applying s set of optimization rules to identify an optimal
> cohort databases, retrieving data from an identified optimal
> cohort of databases to reduce a level of resources, [and]
> retrieving data from an identified optimal cohort of databases to
> reduce a level of resources.

Id. at 3 (emphasis omitted). The Examiner also determines that the claims

are similar to concepts that have been identified as an abstract idea in other

cases including, "organizing information through mathematic[al]

correlations" (pointing to the Bayes' probability formula), "collecting and

comparing known information," "collecting information, analyzing it and

displaying certain results," and "comparing new and stored information and

us[ing] rules to identify options." *Id.* at 3–4 (emphasis omitted).

The Examiner further determines that the claims do not include

additional elements that are sufficient to amount to significantly more than

the judicial exception. *Id.* at 4–5. According to the Examiner, the additional

limitations involve using a "computer to apply a set of optimization rules to

identify an optimal cohort of databases and to retrieve data from the . . .

optimal cohort of databases." *Id.* at 21. However, the Examiner determines

that "the [S]pecification does not describe a new computer, a new network, a

new processor; but only describe[s] general computing components." *Id.*

(citing Spec. ¶¶ 17, 18, 28, 67, 68). The Examiner also determines that the

Specification "fails to provide any technical details for these tangible components, but only describes these components in purely functional terms." *Id.* The Examiner determines that the present claims are distinct from those in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), and *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016) because here "the [S]pecification does not provide any detail of supplying the identified optimal cohort of databases by the remote databases server" or how this "conserves network bandwidth between the local computer and the remote databases." *Id.* at 22. Thus, the Examiner concludes, "the claims of the application recite[] generalized steps to be performed on a computer." *Id.*

Appellants argue that the claims satisfy step 2A of the *Mayo* test because "[t]he present invention . . . overcomes a problem that specifically arises in the realm of computer technology of identifying an optimal cohort of databases used to support a proposed solution to a complex problem." Appeal Br. 11. Specifically, Appellants argue that "the present invention overcomes the problems of 1) having to utilize too many resources in a system and 2) consuming too much bandwidth" as well as "enabling the faster retrieval of information," analogizing this case to *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) and *Enfish*, 822 F.3d 1327. *Id.* at 12 (emphasis omitted). "Since these problems specifically arise in technology," Appellants argue, "the present invention is statutory" under Section 101. *Id.* Appellants further argue that the present invention satisfies Step 2B of the *Mayo* test, analogizing it to the inventions at issue in *In re Abele*, 684 F.2d 902 (CCPA 1982), *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016), *Bascom Global Internet Services, Inc.*

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v. AT&T Mobility LLC, 827 F.3d 1341 (Fed. Cir. 2016), and *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (Fed. Cir. 2011). *Id.* at 12–15.

      B.   *Analysis under Step 2A, Prong 1, of the 2019 Guidance*

Under Step 2A, Prong 1, of the 2019 Guidance, we first must determine whether any judicial exception to patent eligibility is recited in the claim. The 2019 Guidance identifies three judicially excepted groupings: (1) mathematical concepts (including mathematical relationships, mathematical formulas or equations, and mathematical calculations), (2) certain methods of organizing human activity such as fundamental economic practices, and (3) mental processes (concepts performed in the human mind including observation, evaluation, judgment and opinion). 2019 Guidance, 84 Fed. Reg. at 52–53.

Here, claim 1 recites mathematical concepts, including mathematical relationships, formulas, equations, and calculations. Specifically, limitation [ii] of claim 1 recites "developing a complex problem" to "establish a probability that a specific set of disparate factors causes the synthetic event" using a specific mathematical formula, namely:

$$P(H \mid D) \ = \ \frac{P(D \mid H) * P(H)}{P(D)}$$

Appeal Br. 36 (Claims App.). The Specification identifies this mathematical formula as a "Bayesian probability formula" and provides an example of how this formula can be used to calculate a probability result. Spec. ¶¶ 32, 33.

Limitation [i] of claim 1 also recites a mental step in the form of "receiving a synthetic event" that "is a hypothetical condition that is dependent upon multiple disparate conditions and states occurring randomly." Receiving a hypothetical condition to be used in a mathematical equation is an act that can be performed in the mind of an individual without any computer or apparatus, for example by speaking to another individual or reading the hypothetical condition from a piece of paper.[3]

Limitation [ii] of claim 1 recites what each of the variables used in this mathematical equation represents, including H, D, P(H|D), P(D|H), P(H), and P(D). *Id.* This mathematical formula qualifies as a mathematical concept, which is one of the judicially excepted groupings under the 2019 Guidance. 84 Fed. Reg. at 52 (identifying "Mathematical concepts— mathematical relationships, mathematical formulas or equations, mathematical calculations" as one of the judicial exception groupings of subject matter).

Limitation [iii] of claim 1 recites "applying a set of optimization rules to identify an optimal cohort of databases from a remote database server." The Specification explains that the optimization rules are "a set of predefined rules regarding tradeoffs of financial cost, resource usage, accuracy, timeliness, etc.," and that application of these rules "establishes a predetermined balance of cost, timeliness, and accuracy of data that determine a probability that the specific set of disparate factors causes the

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[3] The receiving of a synthetic event also qualifies as insignificant extra-solution activity in the form of mere gathering of data to be used in a mathematical equation. *See* 2019 Guidance, 84 Fed. Reg. 55 n.31; MPEP § 2106.05.

synthetic event." Spec. ¶ 24. Evaluating rules to identify an optimal set of databases can be performed by a human in the mind or using pencil and paper. This step is, therefore, a mental evaluation that qualifies as a mental process under the 2019 Guidance. 84 Fed. Reg. at 52 (identifying "Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, or opinion" as one of the judicial exception groupings of subject matter).

For these reasons, we are persuaded that claim 1 recites judicial exceptions to patent-eligibility under 35 U.S.C. § 101.

C. *Analysis under Step 2A, Prong 2, of the 2019 Guidance*

Having determined that the claims recite a judicial exception, we next determine whether the claims recite "additional elements that integrate the [judicial] exception into a practical application." *See* 2019 Guidance, 84 Fed. Reg. at 54; MPEP §§ 2106.05(a)–(c), (e)–(h). We agree with the Examiner that the present claims do not recite sufficient additional elements to integrate the claimed mathematical concepts and mental processes into a practical application. *See* Final Act. 4–5, 21–23.

In particular, we agree with the Examiner that the additional computer-based limitations of (1) using a "processor" to carry out various steps (receiving a synthetic event, developing a complex problem, and "applying a set of optimization rules,)" and (2) using "a local computer" to retrieve data from databases do not recite an improvement in computer technology that would integrate the judicial exceptions into a practical application . Final Act. 4–5. As the Examiner found, "the [S]pecification does not describe a new computer, a new network, [or] a new processor," but rather describes only generic computing components. *See id.* at 21. For

example, the Specification states that the steps recited in the flowchart describing the invention "can be implemented by computer program instructions" that "may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus." Spec. ¶ 11. The Specification further describes and depicts the computer as including generic components such as a "processor," "system bus," "video adapter," "display," "input/output (I/O) bus," "I/O interface," "keyboard," and "mouse." *Id.* ¶ 15.

In addition, the Specification defines the software for identifying optimal databases in generic fashion. More specifically, the Specification identifies this software using a box labeled "optimal database locating program (ODLP) 148" in Figure 2, which is one of several "[a]pplication programs 144" running in the system memory 136 of the general purpose computer 102. Spec., Fig. 1, ¶ 21. The Specification does not provide technical details of the ODLP 148. The Specification further states that "all of the functions associated with the present invention (including execution of ODLP 148)" can be performed by "software deploying server 150," which is also represented merely by a box in Figure 1, again without technical details. *Id.* Thus, we agree with the Examiner that the Specification "fails to provide any technical details for these tangible components, but only describes these components in purely functional terms," and thus, is distinct from the claims in *Enfish* and *McRO*. *See* Final Act. 21; *Alice*, 573 U.S. at 221 ("merely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention"). *Id.*

We are not persuaded by Appellants' attempts to analogize claim 1 to *DDR* and *Enfish*. Appellants argue that claim 1 is analogous to *DDR* because it "overcomes a problem that specifically arises in the realm of computer technology," namely the problems of "1) having to utilize too many resources in a system and 2) consuming too much network bandwidth." *See* Appeal Br. 11–12. But even if we assume that the invention of claim 1 is meant to address these problems, the claimed *solution* is not one that is "necessarily rooted in computer technology" because the steps of claim 1 recite performing a mathematical calculation and a series of mental steps that can be performed in the mind or with pencil and paper. *DDR*, 773 F.3d at 1257. By contrast, in *DDR*, the Court found that "the claimed *solution* is necessarily rooted in computer technology" because the claims "specify how interactions with the Internet are manipulated to yield a desired result" that "overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink" by reciting "a specific way to automate the creation of a composite web page by an 'outsource provider' that incorporates . . . multiple sources." *Id.* at 1257–59 (emphasis added). The solution recited in claim 1 does not recite a specific way to perform particular activities on the Internet, but rather recites a mathematical formula and mental steps for using that formula along with generic computer components.

Appellants similarly argue that the claimed invention is like *Enfish* because it "improves the operation of the computer by enabling the faster retrieval of information." Appeal Br. 12. In *Enfish*, the claims at issue were "specifically directed to a *self-referential* table for a computer database" which was "a specific type of data structure designed to improve the way a

computer stores and retrieves data in memory" and "function[ed] differently than conventional database structures." *Enfish*, 822 F.3d at 1337, 1139. Here, by contrast, claim 1 does not recite any such data structure or other improvement in computer technology that goes beyond generic computer elements. Indeed, *Enfish* distinguished claims, like claim 1 here, that "recite[] a purely conventional computer implementation of a mathematical formula" or "generalized steps to be performed on a computer using conventional computer activity." *Id.* at 1338.

D. *Analysis under Step 2B of the 2019 Guidance*

Under Step 2B of the 2019 Guidance, we determine whether claim 1 includes additional elements individually or in combination that provide an inventive concept and, therefore, amount to significantly more than the exception itself. 84 Fed. Reg. at 56. Here, Appellants have not persuaded us that claim 1 includes any such "inventive concept," or that claim 1 adds any limitations beyond the judicial exception that are not "well-understood, routine, or conventional" in the field. *See* MPEP § 2106.05(d). As discussed above, the additional computer-based limitations of claim 1 involve standard and conventional computer components, specifically a "processor" for carrying out various steps (receiving a synthetic event, developing a complex problem, and "applying a set of optimization rules") and "a local computer" for retrieving data from databases. Thus, claim 1 simply appends well-understood, routine, and conventional components previously known to the industry, specified at a high level of generality, to the judicial exception. *See* 2019 Guidance, 84 Fed. Reg. at 56.

We do not find Appellants' arguments to the contrary persuasive. First, Appellants argue that claim 1 is like *Abele* (684 F.2d 902) because it

"uses a novel algorithm . . . based on a synthetic event that is dependent upon multiple disparate conditions and states occurring randomly," thus, "invoking an activity that goes far beyond that which is well-understood, routine, and conventional." Appeal Br. 13. As discussed above, however, this "novel algorithm" recites a mathematical formula and is, therefore, is part of the judicial exception itself. By contrast, the claim at issue in *Abele* related to an improved CAT-scan process for graphically displaying X-ray data and was found to be patent-eligible because (1) such X-ray data was representative of physical and tangible objects such as bones, organs and body issues, and (2) such "an improved CAT-scan process [was] comparable to the improved process for curing synthetic rubber in *Diehr*." *Abele*, 684 F.2d at 909.

Second, Appellants argue that claim 1 is statutory because it "uses a novel 'distributed architecture' that improves overall computer functionality of the network and/or the attached devices," and therefore, is analogous to *Amdocs* (841 F.3d 1288). Appeal Br. 14. In *Amdocs*, however, the Court found that the claim at issue was "tied to a specific structure of various components" and "does not merely combine the components in a generic manner, but instead purposefully arranges the components in a distributed architecture to achieve a technological solution to a technological problem specific to computer networks." *Amdocs*, 841 F.3d at 1301. Here, claim 1 does not include a specific structure of components arranged in a novel distributed architecture as in *Amdocs*.

Finally, we are not persuaded by Appellants' attempt to analogize claim 1 to the decisions in *Bascom* and *Classen*. In *Bascom*, the Court found that the claims at issue included an "inventive concept" in the form of "a

filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user." *Bascom*, 827 F.3d at 1350. Here, claim 1 does not recite any such specific inventive technology tool. In *Classen*, the claims found patent-eligible were "directed to a method of lowering the risk of chronic immune-mediated disorder, including the physical step of immunization on the determined schedule," and thus, were "directed to a specific, tangible application." *Classen*, 827 F.3d at 1066. Claim 1 of the instant application includes nothing comparable to a "physical step of immunization" on a desired schedule.

Consequently, Appellants have not persuaded us that the Examiner erred in rejecting claim 1 as being directed to patent-ineligible subject matter. We sustain this rejection, as well as the rejection of independent claims 9 and 17, which include similar limitations, and claims 2–6, 8, 10–16, and 18–20, which Appellants do not argue separately.

E.   *Dependent Claim 7*

Claim 7 depends on claim 3, which depends on claim 2, which in turn depends on claim 1. Claim 7 recites, *inter alia*, that the processor applies "data from physical sensors" at a specific location and "utilize[es] data from the optimal cohort of databases and readings from the physical sensors to solve the complex problem." Appeal Br. 39 (Claims Appendix). Appellants argue that claim 7 "utilizes physical sensors located at the specific location" which "are essential components to the claimed invention" and, therefore, "is clearly directed to more than an abstract idea or a human activity, and is statutory." *Id.* at 19 (emphasis omitted).

We do not find this argument persuasive. The use of "physical sensors" to gather data is merely the use of a generic and conventional

component for data gathering for use in the claimed mathematical formula and associated mental steps. This data gathering is incidental to the claimed judicial exceptions and, therefore, is insignificant to the claimed invention. *See* 2019 Guidance, 84 Fed. Reg. 55 (listing "mere data gathering" as an example of "an additional element [that] adds insignificant extra-solution activity to the judicial exception," which courts have identified as a situation "in which a judicial exception has not been integrated into a practical application"); MPEP § 2106.05(g) (the addition of "insignificant extra-solution activity" such as "a step of gathering data for use in a claimed process" does not "amount to an inventive concept, particularly when the activity is well-understood or conventional"); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (obtaining information about credit card transactions so that the information can be analyzed in order to detect whether the transactions were fraudulent amount to insufficient data-gathering activity). This limitation, therefore, is insufficient to transform the judicial exceptions into a patent-eligible invention.

DECISION

We affirm the Examiner's rejection of claims 1–20 under 35 U.S.C. § 101 as directed to non-statutory subject matter.

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).

AFFIRMED