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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* GUANGYU ZOU, MARINA L. THARAYIL, ALVARO E. GIL,  
DEEPTHI CHANDRA, and LAURA ELISA CELIS

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Appeal 2018-006935  
Application 14/190,205  
Technology Center 3600

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Before MAHSHID D. SAADAT, JAMES R. HUGHES, and  
SCOTT E. BAIN, *Administrative Patent Judges*.

HUGHES, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision rejecting claims 1, 3–15, 17–20, and 22–24. Claims 2, 16, and 21 have been canceled. *See* Final Act. 1–2.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Conduent Business Service, LLC. *See* Appeal Br. 2.

<sup>2</sup> We refer to Appellant's Specification (“Spec.”), filed Feb. 26, 2014; Appeal Brief (“Appeal Br.”), filed Mar. 16, 2018; and Reply Brief (“Reply Br.”), filed June 19, 2018. We also refer to the Examiner's Final Office Action (“Final Act.”), mailed Oct. 16, 2017; and Answer (“Ans.”) mailed April 19, 2018.

We AFFIRM.

### CLAIMED SUBJECT MATTER

The claims in this patent application generally relate to “crowdsourcing” and, “[m]ore particularly, the presently disclosed embodiments are related to methods and systems for creating a simulator for a crowdsourcing platform.” Spec. ¶ 1; *see* Spec. ¶¶ 4–7 and Abstract. Claims 1, 13, 15, and 22 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for creating a simulator for a crowdsourcing platform, the method comprising:

receiving, by one or more processors through a transceiver over a communication network, parameters comprising statistical data about one or more entities associated with the crowdsourcing platform, wherein the statistical data is determined based on historical data associated with the one or more entities, and the one or more entities comprise requestors, tasks, and workers;

calculating a first statistical distribution of a set of the parameters associated with the requestors, wherein the first statistical distribution is calculated using one or more curve fitting techniques based on values of the set of parameters associated the requestors;

calculating a second statistical distribution of a set of the parameters associated with the workers, wherein the second statistical distribution is calculated using one or more curve fitting techniques based on values of the set of parameters associated the workers;

generating, by the one or more processors, a plurality of rules indicative of interactions between the one or more entities associated with the crowdsourcing platform, wherein generating the plurality of rules comprises:

generating a non-deterministic set of rules based on at least one of the first statistical distribution and the second statistical distribution;

estimating, by the one or more processors, a first level of service of the crowdsourcing platform based on the plurality of rules over a predefined time period;

receiving an observed level of service of the crowdsourcing platform based on processing of one or more tasks by the crowdsourcing platform during the predefined time-period;

modifying, by the one or more processors, the plurality of rules based on a comparison between the first level of service and the observed level of service of the crowd sourcing platform, wherein the modified plurality of rules are used to simulate task processing by the crowdsourcing platform for potential tasks, and wherein modifying the plurality of rules further comprises:

varying one or more characteristics of at least one of the first statistical distribution and the second statistical distribution based on a comparison between the first level of service and the observed level of service of the crowdsourcing platform, and

modifying the non-deterministic set of rules based on the variation in the one or more characteristics of at least one of the first statistical distribution and the second statistical distribution; and

simulating a processing time for the crowdsourcing platform to complete the potential tasks based on current conditions of the crowdsourcing platform and the modified plurality of rules, wherein the simulated processing time is presented to a provider of the potential tasks.

## REJECTION

The Examiner rejects claims 1, 3–15, 17–20, and 22–24 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. *See* Final Act. 4–8.

## ANALYSIS

### *Subject Matter Eligibility—35 U.S.C. § 101*

Under 35 U.S.C. § 101, a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has “long held that this provision contains an important implicit exception: [l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77–80 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 573 U.S. at 217. The framework requires us first to consider “whether the claims at issue are directed to one of those patent-ineligible concepts.” *Alice*, 573 U.S. at 217. If so, we then examine “the elements of [the] 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 78, 79). That is, we examine the claim for an “inventive concept,” “an element or combination of elements

that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice*, 573 U.S. at 217–18 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

The Patent Office recently published revised guidance concerning this framework and the application of § 101. USPTO’s 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “2019 Revised Guidance”). Under that guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, mental processes, or certain methods of organizing human activity such as a fundamental economic practice or managing personal behavior or relationships or interactions between people) (hereinafter “Step 2A, prong 1”); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)) (hereinafter “Step 2A, prong 2”).<sup>3</sup>

*See* 2019 Revised Guidance, 84 Fed. Reg. at 51–52, 55.

A claim that integrates a judicial exception into a practical application applies, relies on, or uses the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. *See* 2019 Revised Guidance, 84 Fed. Reg. at 54. When the judicial exception is so integrated, then the claim is not directed to a judicial exception and is patent eligible under 35 U.S.C. § 101. *Id.*

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<sup>3</sup> All references to the MPEP are to the Ninth Edition, Revision 08–2017 (rev. Jan. 2018).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then evaluate whether the claim provides an inventive concept. *See* 2019 Revised Guidance 84 Fed. Reg. at 56; *Alice*, 573 U.S. at 217–18.

For example, we 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.<sup>4</sup>

*See* 2019 Revised Guidance, 84 Fed. Reg. at 56. With these principles in mind, we turn to the merits of the § 101 rejection. The Examiner rejects Appellant’s claims 1, 3–15, 17–20, and 22–24 as being directed to patent ineligible subject matter. *See* Final Act. 4–8. Appellant does not separately argue the claims with specificity and, instead, argues claims 1, 3–15, 17–20, and 22–24 together for this rejection. *See* Appeal Br. 16–32. Accordingly, we address the Examiner’s rejection of independent claim 1 and the claims not separately argued by Appellant as a group based on claim 1, as permitted by 37 C.F.R. § 41.37(c)(1)(iv).

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<sup>4</sup> Items (3) and (4) are collectively referred to as “Step 2B” hereinafter and in the 2019 Revised Guidance.

*Statutory Subject Matter*

We find that claim 1 recites a “method” (*infra*). A “method” is a process, which is a statutory category of invention (subject matter) (USPTO’s Step 1).

*Abstract Idea*

The Examiner rejects Appellant’s claim 1 as being directed to patent ineligible subject matter. *See* Final Act. 4–6; Ans. 3–6. Specifically, the Examiner concludes claim 1 (and the other pending claims) “is directed to a judicial exception (i.e., . . . an abstract idea) without significantly more” (Final Act. 4), in particular, the “abstract idea of . . . receiving parameters comprising statistical data about entities associated with crowdsourcing.” Final Act. 4. The Examiner also concludes the abstract idea includes: calculating statistical distributions from the parameters; generating rules indicative of interactions between entities, where the rules are non-deterministic and generated based on the statistical distributions; estimating a level of service based on the rules; and simulating a processing time to complete the potential tasks based in part on the rules. *See* Final Act. 4–6. The Examiner further concludes claim 1 (and the other pending claims) “are abstract because the claims are an idea itself” “similar to how collecting and analyzing information to detect misuse and notifying a user when misuse is detected was an abstract idea in *FairWarning* and how organizing and manipulating information through mathematical correlations was an abstract idea in *Digitech*.” Final Act. 6 (citing *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089 (Fed. Cir. 2016) and *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014)).

Appellant contends the Examiner erred in rejecting the claims as being directed to patent-ineligible subject matter. *See* Appeal Br. 16–32; Reply Br. 2–6. Specifically, Appellant contends, with respect to the first step of the *Alice* analysis, that the Examiner erred in rejecting claim 1 (and the other pending claims) because: (1) claim 1 is not directed to an abstract idea, “the Office overgeneralized the claims” (Appeal Br. 17; *see* Appeal Br. 16–22; Reply Br. 4–6); (2) “the Office erred in finding” claim 1 is “not analogous to the patent eligible claims in *McRO*” (Appeal Br. 16; *see* Appeal Br. 16–18, 22–26; Reply Br. 2–4 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016))); (3) “the Office erred in finding” claim 1 recites “subject matter similar to the patent ineligible claims” in *FairWarning* and *Digitech* (Appeal Br. 16; *see* Appeal Br. 16–19, 27–29; Reply Br. 4–6); (4) the limitations of claim 1 could not be accomplished mentally or using a pen and paper, the limitations of claim 1 are not conventional or well-known, and the Examiner’s allegations (concerning concepts that are conventional or well-known) “are not supported by evidence made of record” (Appeal Br. 21; *see* Appeal Br. 20–22; Reply Br. 2–4); and (5) “the claims recite a technological improvement” (Appeal Br. 21) and “the Office failed to consider technological problems identified by the Specification and the solutions to those problems, which are appropriately claimed” (Appeal Br. 19) (*see* Appeal Br. 16–26; Reply Br. 2–4).

For the reasons discussed below, we conclude Appellant’s claim 1 (and the other pending claims) recites abstract ideas, these abstract ideas are not integrated into a practical application, nor do they include an inventive

concept. In view of the 2019 Revised Guidance, we clarify and expand the Examiner’s reasoning as follows.

We begin our analysis by broadly but reasonably construing Appellant’s claim 1 (*see* Appeal Br. 34–35 (Claims App.)). Claim 1 recites a “method for creating a simulator for a crowdsourcing platform,” i.e., a process for simulating (creating a simulation for) a crowdsourcing platform—an online portal that acts as a mediator between requestors (task providers) and the workers, where tasks are posted on the online portal by requestors and workers select the tasks and post responses for the tasks. *See* Spec. ¶¶ 2, 21. The method comprises “receiving . . . parameters comprising statistical data about one or more entities associated with the crowdsourcing platform, wherein the statistical data is determined based on historical data associated with the one or more entities, and the one or more entities comprise requestors, tasks, and workers.” The “receiving” (receipt of parameters) is performed by “one or more processors through a transceiver over a communication network.” That is, receiving statistical data (parameters comprising statistical data) derived from historical data associated with the crowdsourcing platform entities utilizing a processor, transceiver, and network. *See* Spec. ¶¶ 56–57; *see also* Spec. ¶¶ 58–65. Hereinafter we refer to this step (sub-process or function) as “Step A.” The “method” recited in claim 1 includes non-abstract elements (physical structure) performing the functionality of Step A. These additional (non-abstract) elements, include at least one processor, a transceiver, and a communication network. *See* Spec. ¶¶ 49–53; Fig. 2; *see also* Spec. ¶¶ 35–48; Fig. 1.

Claim 1 further recites “calculating a first statistical distribution of a set of the parameters associated with the requestors . . . using one or more curve fitting techniques based on values of the set of parameters associated the requestors.” In other words, the process includes calculating a statistical distribution from collected, received statistical data associated with requestor entities using one or more curve fitting techniques, i.e., constructing a curve or mathematical function. *See* Spec ¶¶ 40, 74–77; Fig. 4A. Hereinafter we refer to this step as “Step B.”

Claim 1 also recites “calculating a second statistical distribution of a set of the parameters associated with the workers . . . using one or more curve fitting techniques based on values of the set of parameters associated the workers.” Similar to Step B, the process includes calculating a statistical distribution from collected, received statistical data associated with worker entities using curve fitting techniques, i.e., constructing a curve. *See* Spec ¶¶ 40, 74–77; Fig. 4B. Hereinafter we refer to this step as “Step C.”

Claim 1 additionally recites “generating . . . a plurality of rules indicative of interactions between the one or more entities associated with the crowdsourcing platform” “by the one or more processors.” That is, generating entity interaction rules utilizing the processor (*see* Step A (*supra*)). *See* Spec. ¶¶ 77–78. Further, claim 1 recites “generating a non-deterministic set of rules based on at least one of the first statistical distribution and the second statistical distribution”; i.e., generating the entity interaction rules includes generating a non-deterministic set of rules from the statistical distributions. The non-deterministic rules are statistical models generated based on statistical data as opposed to deterministic rules that are mathematical equations. In other words, the non-deterministic rules are

probabilistic (rely on and probabilities), not certain. *See* Spec. ¶¶ 78, 82–84. Hereinafter we refer to these steps as “Step D” and “Step D1,” respectively.

Claim 1 also recites “estimating . . . a first level of service of the crowdsourcing platform based on the plurality of rules over a predefined time period” “by the one or more processors.” In other words, the process includes estimates a first level of service (of the crowdsourcing platform) over a predefined time period based on the rules. The estimation is performed by the processor(s) (*see* Step A (*supra*)). *See* Spec. ¶ 91. Hereinafter we refer to this step as “Step E.”

Claim 1 further recites “receiving an observed level of service of the crowdsourcing platform based on processing of one or more tasks by the crowdsourcing platform during the predefined time-period.” That is, the process receives data (observations or measurements) concerning the level of service provided by the crowdsourcing platform while performing one or more tasks during the predefined time-period, i.e., receiving data collected from observing the crowdsourcing platform’s performance. *See* Spec. ¶¶ 93, 99–101. Hereinafter we refer to this step as “Step F.”

Claim 1 modifies the rules (*see* Step D) in order to more accurately estimate a level of service (*see* Step E) that corresponds to an observed level of service (*see* Step F). Claim 1 recites “modifying . . . the plurality of rules based on a comparison between the first level of service and the observed level of service . . . wherein the modified plurality of rules are used to simulate task processing by the crowdsourcing platform for potential tasks.” In other words, the process includes modifying the entity interaction rules based on a comparison between the estimated first level of service and the observed level of service. The estimation is performed by the processor(s)

(*see* Step A (*supra*)). *See* Spec. ¶¶ 94, 98–105. Hereinafter we refer to this step as “Step G.”

Claim 1 also recites “varying one or more characteristics of at least one of the first statistical distribution and the second statistical distribution based on a comparison between the first level of service and the observed level of service of the crowdsourcing platform.” In other words, the modification sub-process further includes varying characteristics of the statistical distributions (*see* Step B and Step C) based on the comparison (*see* Step G). Hereinafter we refer to this step as “Step G1.”

Claim 1 also recites “modifying the non-deterministic set of rules based on the variation in the one or more characteristics of at least one of the first statistical distribution and the second statistical distribution.” That is, the modification sub-process further includes modifying the generated non-deterministic entity interaction rules (*see* Step D1) based on the variation in the characteristics (on the modification) of the statistical distributions. Hereinafter we refer to this step as “Step G2.”

Finally, Claim 1 recites “simulating a processing time for the crowdsourcing platform to complete the potential tasks based on current conditions of the crowdsourcing platform and the modified plurality of rules, wherein the simulated processing time is presented to a provider of the potential tasks.” In other words, the process includes simulating (performing a simulation of) a processing time for the crowd sourcing platform (to complete a potential task or tasks) based on the modified entity interaction rules (*see* Step G) and presenting the results (simulated processing time) to task provider (the provider of the potential tasks)—i.e.,

re-estimating the level of service using the modified rules. *See* Spec ¶¶ 107, 110. Hereinafter we refer to this step as “Step H.”

In summary, claim 1 recites a process for simulating a crowdsourcing platform by receiving statistical data, calculating statistical distributions, generating entity interaction rules, including non-deterministic entity interaction rules, based on the statistical distributions, and simulating a processing time for the crowd sourcing platform. Hereinafter, we refer to this process as the “crowdsourcing simulation process.” This is consistent with how Appellant describes the claimed invention—“the process of [claim 1] leads to ‘a generation of an efficient simulation model for simulating a crowdsourcing platform.’” Appeal Br. 20 quoting (Spec. ¶ 119).

Appellant’s contentions (*supra*) focus on the Examiner’s purported failure to properly characterize claim 1. *See, e.g.*, Appeal Br. 16–26. Here, in rejecting the claims (in particular claim 1) under 35 U.S.C. § 101, the Examiner analyzed the claims using the Mayo/Alice two-step framework, consistent with the guidance set forth in the USPTO’s “2014 Interim Guidance on Patent Subject Matter Eligibility,” 79 Fed. Reg. 74618 (Dec. 16, 2014), in effect at the time the rejection was made, i.e., on October 16, 2017. The Examiner notified Appellant of the reasons for the rejection “together with such information and references as may be useful in judging of the propriety of continuing the prosecution of . . . [the] application.” 35 U.S.C. § 132. *See* Final Act. 4–6. In doing so, the Examiner set forth a prima facie case of unpatentability such that the burden of production shifted to Appellant to demonstrate that the claims are patent-eligible.

Appellant also contends (*supra*) claim 1 is not a purely mental process and could not be accomplished using a pen and paper (*see* Appeal Br. 20–

22; Reply Br. 2–4), and that the Examiner failed to glean from claim 1 (and the other pending claims) that the claims recite a technological improvement (*see, e.g.*, Appeal Br. 16–26). Claim 1, however, recites no substantive limitations on how the crowdsourcing simulation process calculates statistical distributions, generates entity interaction rules based on the statistical distributions, or simulates a processing time for the crowd sourcing platform. The limitations are entirely functional in nature, or characterize various data utilized in Steps A, B, C, D, D1, E, F, G, G1, G2, and H (*supra*). A person can perform the functions of limitations A–H (delineated above) mentally, or by using pen and paper. *See, e.g.*, Appellant’s Figs. 3, 4A, 4B, 5. Nowhere does Appellant point to specific claim limitations that distinguish over a human process.

Although Appellant contends the claims describe purported technological improvements or advances provided by the recited crowdsourcing simulation process, claim 1 (and the other pending claims) does not explicitly recite any specific improvements to technology, i.e., performing any improved processing or analysis. Claim 1, instead, simply recites receiving data, analyzing data (performing statistical analysis) and calculating statistical distributions, calculating entity interaction rules from the distributions, and estimating a level of service (e.g., a completion time) from the rules. In each instance, the particular means of accomplishing the functionality is not recited in the claim. The processors, transceiver, and communication network (recited in Step A) are additional elements that are not part of the abstract idea analysis.

Performing data analysis, as well as the collection and provision (outputting) of information related to such analysis, has been determined by

our reviewing court to be an abstract concept (a mental process) that is not patent eligible. Indeed, even if such analysis requires one to access and gather data from a database or utilize a pen and paper in the analysis (such as to graphically represent a data set), such analysis may still be an abstract mental process. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (“[E]ven if some physical steps are required to obtain information from the database . . . such data-gathering steps cannot alone confer patentability.” A claim focused on verifying credit card transaction information is directed to “unpatentable mental processes” because the claim’s steps “can be performed in the human mind, or by a human using a pen and paper.”); *see also SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1165, 1167–68 (Fed. Cir. 2018) (Claims reciting “[a] method for providing statistical analysis” (*id.* at 1165), were determined to be “directed to an abstract idea” (*id.* at 1168). “As many cases make clear, even if a process of collecting and analyzing information is limited to particular content or a particular source, that limitation does not make the collection and analysis other than abstract” (*id.* (citation and quotation marks omitted)); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (identifying the abstract idea of collecting, displaying, and manipulating data); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (characterizing collecting information, analyzing information by steps people go through in their minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1345, 1347 (Fed. Cir. 2014) (finding the “claims

generally recite . . . extracting data . . . [and] recognizing specific information from the extracted data” and that the “claims are drawn to the basic concept of data recognition”); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”).

Further, the exchange of information to simulate a crowdsourcing platform, which is the focus of Appellant’s claims may be categorized as certain methods of organizing human activity. Appellant’s Specification describes crowdsourcing as “distributing tasks by soliciting the participation of loosely defined groups of individual crowdworkers” (Spec. ¶ 20; *see* Spec. ¶¶ 2, 117) and a crowdsourcing platform as “a business application, wherein a broad, loosely defined external group of people, communities, or organizations provide solutions as outputs for any specific business processes received by the application as inputs” (Spec. ¶ 21; *see* Spec. ¶¶ 2, 117). The Supreme Court additionally guides that contractual relations, like crowdsourcing, constitute “a fundamental economic practice long prevalent in our system of commerce.” *Bilski v. Kappos*, 561 U.S. 593, 611 (2010); *see also Alice*, 573 U.S. at 221–22. Although Appellant contends claim 1 recites technical solutions to technical problems (*see* Appeal Br. 19) and “the simulation and modeling can be utilized to improve the performance of the crowdsource environments, such as selecting crowdworkers and routing work tasks in the computer network” (Appeal Br. 20), Appellant’s Specification shows that the focus of Appellant’s claims is a process of organizing human activity. Thus, claim 1 is directed to a combination of

abstract ideas, including methods of organizing human activity and mental processes.

In summary, we conclude Appellant’s claim 1 recites a judicial exception (USPTO’s Step 2A, Prong 1; *see* 2019 Revised Guidance). Specifically, claim 1 recites a process for simulating a crowdsourcing platform by receiving statistical data, calculating statistical distributions, generating entity interaction rules, and simulating a processing time (level of service) for the crowd sourcing platform. The crowdsourcing simulation process consists of mental processes performed in the human mind (or utilizing pen and paper) including observation, evaluation, or judgment. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52, 53 (listing “[m]ental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion)” as one of the “enumerated groupings of abstract ideas” (footnote omitted)). The revised guidance explains that “mental processes” include acts that people can perform in their minds or using pen and paper, even if the claim recites that a generic computer component performs the acts. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14 (“If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind.”). Because each of the limitations discussed above encompasses an act that people can practically perform in their minds or using pen and paper, claim 1 recites mental processes. Appellant’s arguments have not persuaded us otherwise.

*Practical Application*

We next consider whether claim 1 integrates the abstract idea into a practical application (USPTO’s Step 2A, Prong 2). *See Revised Guidance*, 84 Fed. Reg. at 51. In doing so, we consider whether there are any additional elements beyond the abstract idea that, individually or in combination, “integrate the [abstract idea] into a practical application, using one or more of the considerations laid out by the Supreme Court and the Federal Circuit.” *Revised Guidance*, 84 Fed. Reg. at 54–55.

Appellant’s claim 1 recites additional elements beyond the abstract crowdsourcing simulation process (the judicial exception) (*supra*). The additional elements in claim 1 include the recited “processors,” “transceiver,” and “communication network”—in particular the processor(s), which perform the functionality of Steps A, D, E, and G. The written description indicates that each of these elements encompass commonplace generic components. *See Spec.* ¶¶ 49–53; Fig. 2; *see also Spec.* ¶¶ 35–48; Fig. 1. Appellant does not describe the “processors,” “transceiver,” and “communication network” with any specificity. For example, Appellant’s Specification describes the “processor 202” as including “suitable logic, circuitry, and/or interfaces that are operable to execute one or more instructions stored in the memory . . . to perform predetermined operations” and that the “processor 202 may be implemented using one or more processor technologies known in the art.” *Spec.* ¶ 51.

Other than disclosing these additional elements performing their accustomed functions utilizing standard techniques—the processor receiving (statistical) data, and the processor performing data analysis and manipulation (generating entity interaction rules and estimating a level of

service (processing completion time) using undisclosed and unclaimed algorithms)—the written description describes these components in functional, result-oriented terms with no technical details. *See, e.g.*, Spec. ¶¶ 49–53 (describing operations performed by the processor, transceiver, and network). These descriptions show that additional elements are generic. *See Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986) (“[A] patent need not teach, and preferably omits, what is well known in the art.”); *Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1331 (Fed. Cir. 2017) (“The claimed mobile interface is so lacking in implementation details that it amounts to merely a generic component (software, hardware, or firmware) that permits the performance of the abstract idea, i.e., to retrieve the user-specific resources.”).

Appellant contends claim 1 (as well as other pending claims) “improve[s] a technological process” (Appeal Br. 17), “improve[s] the performance of the crowdsourcing environments” (Appeal Br. 20), “recite[s] a technological improvement” (Appeal Br. 21). *See* Appeal Br. 17–22; Reply Br. 2–3. Specifically, Appellant contends “the Office failed to consider technological problems identified by the Specification and the solutions to those problems, which are appropriately claimed” (Appeal Br. 19), in that the Specification describes “simulation and modeling can be utilized to improve the performance of the crowdsourcing environments, such as selecting crowdworkers and routing work tasks in the computer network” and claim 1 “specifically recite[s] this solution” (Appeal Br. 20). Appellant also contends (at length) that claim 1 and the other pending claims are analogous to the claims found patent-eligible in *McRO*. *See* Appeal Br. 16–26; Reply Br. 2–4. In other words, the claims recite a technological

improvement that amounts to more than simply utilizing a computer as a tool to accomplish the crowdsourcing simulation process.

Appellant's contentions correspond to the reasoning in MPEP §§ 2106.05(a)–(c), where additional elements integrate the judicial exception into a practical application. We, however, disagree with Appellant's contentions. Appellant's additional elements, in particular the processor, do not apply or use the crowdsourcing simulation process (the judicial exception) in a manner that imposes a meaningful limit on the judicial exception, such that it is more than a drafting effort designed to monopolize the exception. *See Alice*, 573 U.S. at 221–24 (citing *Mayo*, 566 U.S. at 78–85). Rather, Appellant's claim recites a generic computer element (a processor or processors) that is utilized as a tool to carry out the functions recited in the crowdsourcing simulation process—receiving statistical data, performing statistical analysis and calculating statistical distributions, calculating entity interaction rules from the distributions, and estimating a level of service (e.g., a task completion time) from the rules. Utilizing a computer as a tool to perform common data processing functions that are part of a mental process (an abstract idea) does not impose a meaningful limit on the abstract idea. *See* MPEP § 2106.05(f); *see also Alice*, 573 U.S. at 223 (finding “if [the] recitation of a computer amounts to a mere instruction to implement an abstract idea on a computer that addition cannot impart patent eligibility” (quotations and internal citations omitted)).

Appellant's claim 1 can be distinguished from patent-eligible claims such as those in *Enfish* that are directed to “a specific improvement to the way computers operate.” *Enfish*, 822 F.3d at 1336. Appellant's claims can also be distinguished from patent-eligible claims such as those that solve a

technology-based problem (*see BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016)), or a method “rooted in computer technology in order to overcome a problem specifically arising in the realm of computer [technology]” (*DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)). Contrary to Appellant’s arguments (*see supra* and Appeal Br. 29–32 (contending the claims recite an “inventive concept” that is “significantly more” than the abstract idea), claim 1 is not a technological improvement or an improvement in a technology. Appellant’s claim 1 does not “improve the functioning of the computer itself” or “any other technology or technical field.” *Alice*, 573 U.S. at 225. Nor does it provide a technological solution to a technological problem. *See DDR Holdings*, 773 F.3d at 1257; MPEP § 2106.05(a). Appellant fails to sufficiently and persuasively explain how the instant claims are directed to an improvement in the way computers operate, nor has Appellant identified any technical advance or improvement or specialized computer components. *See* Appeal Br. 16–26; Reply Br. 2–4.

As discussed *supra*, nothing in claim 1 precludes a human from performing the crowdsourcing simulation process. Performing such data analysis functionality is the reason computers exist. The mere automation of a process that can be performed by a human is not sufficient to show an improvement in computer functionality, and the fact that a computer may increase efficiency—by modeling and simulating the crowdsource environment (*see* Appeal Br. 19–21, 24–25 (citing Spec. ¶¶ 3, 119))—does not change the abstract-idea analysis. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015) (holding that “merely adding computer functionality to increase the speed or

efficiency of the process does not confer patent eligibility on an otherwise abstract idea”); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (“[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.”); *see also FairWarning*, 839 F.3d at 1095.

Appellant misconstrues the relevant precedent, particularly *McRO*. Even if, *arguendo*, Appellant’s claimed process includes an (undisclosed) improved algorithm for modeling (generating rules) and simulating a processing completion time (estimating a level of service)—which we did not find (*supra*)—claim 1 does not specify any improvement in how a computer (the processor) performs the underlying data processing and analysis necessary to perform the algorithm. In other words, only the abstract ideas in claim 1 are potentially new (although we make no determination as to novelty or obviousness), not the way a computer (the processor) operates.

In summary, “the focus of the claims is not on such an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools.” *Elec. Power Grp.*, 830 F.3d at 1354; *see also* MPEP § 2106.05(f) (emphasis omitted) (instructing Examiners to consider “[w]hether the claim invokes computers or other machinery merely as a tool to perform an existing process” in determining whether the claim recites mere instructions to apply the exception), cited in 2019 Revised Guidance, 84 Fed. Reg. at 55, n.30. Thus, we conclude the claims are directed to an abstract idea that is not integrated into a practical application.

*Inventive Concept*

Having concluded Appellant’s claims are directed to an abstract idea under the 2019 Revised Guidance (Step 2A analysis), we consider whether claim 1 has an inventive concept, that is, whether the claim has additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78, 79). As discussed above, this requires us to evaluate whether the additional claim elements add “a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field” or “simply append[] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality.” Revised Guidance, 84 Fed. Reg. at 56. We evaluate the elements of the claims “individually and ‘as an ordered combination.’” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78, 79). *See also*, *BASCUM*, 827 F.3d at 1350 (“an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.”).

The Examiner determined that all the limitations of Appellant’s claim 1 were “directed to a judicial exception . . . without significantly more” (Final Act. 4), and the process steps of claim 1 and the other pending claims “require nothing more than a generic computer to perform routine and conventional computer functions.” (Final Act. 6). *See* Final Act. 4–6; Ans. 4–5.

Appellant, on the other hand, reiterates portions of the Specification (*see* Appeal Br. 30 (citing Spec. ¶ 119)) and the limitations of claim 1 and contends claim 1 and the other pending claims “recite a specific, discrete implementation of improving crowdsource processes,” which is “‘significantly more’ than an abstract idea” (Appeal Br. 31) similar to

*BASCOM* and *DDR Holdings*. See Appeal. Br. 29–32. Appellant also contends “the Office’s allegations about concepts that are conventional or well-known are not supported by evidence made of record” (Appeal Br. 21) and did not provide sufficient evidence that the claim limitations recite well understood, routine, or conventional activities. See Appeal Br. 20–22.<sup>5</sup>

Appellant fails to persuade us of error in the Examiner’s rejection with respect to the second *Alice* step (USPTO’s Step 2B). We agree with the Examiner that Appellant’s claim 1 (and the other pending claims) does not evince an “inventive concept” that is significantly more than the abstract idea itself. In particular, Appellant fails to explain how the additional elements (above) add specific limitations beyond the judicial exception that are not well-understood, routine, and conventional in the field.

As previously discussed, claim 1 (and the other pending claims) merely recites additional non-abstract elements (above)—specifically the processor(s), transceiver, and communication network—generic computer elements, in particular the processor, that carry out common data processing functions recited in the crowdsourcing simulation process (the abstract idea). Specifically, Appellant’s Specification describes a computer system (not recited in the claims) as a collection of conventional (generic) computer components performing traditional computer functions—these components

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<sup>5</sup> Appellant’s Reply Brief was filed after the publication of the *Berkheimer* decision (*Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018)) and the USPTO’s *Berkheimer* Memorandum (*Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (Berkheimer v. HP, Inc.)*) (April 19, 2018) available at <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF>. Appellant makes no explicit arguments with respect to *Berkheimer*.

include the above-discussed processor. *See, e.g.*, Spec. ¶¶ 49–53; Fig. 2; *see also* Spec. ¶¶ 35–48; Fig. 1. Also, to the extent that the written description describes the functions performed by these elements, Appellant’s Specification describes the functions at a high level of generality and largely does not describe the particulars of how the claimed invention implements these functions. *See, e.g.*, Spec. ¶¶ 55–103 (describing the functions in the crowdsourcing simulation process). Such conventional computer processes operating on conventional computer hardware “do not alone transform an otherwise abstract idea into patent-eligible subject matter.” *FairWarning*, 839 F.3d at 1096 (citing *DDR Holdings*, 773 F.3d at 1256); *see also Berkheimer* Memorandum at 3 (explaining that a specification that describes additional elements “in a manner that indicates that the additional elements are sufficiently well-known that the specification does not need to describe the particulars of such additional elements to satisfy 35 U.S.C. § 112(a)” can show that the elements are well understood, routine, and conventional).

Appellant does not direct us to any disclosure in the Specification that indicates the additional elements, either individually or as an ordered combination, perform anything other than well-understood, routine, and conventional processing functions, such as generating and manipulating data. *See Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378 (Fed. Cir. 2017) (holding that considering claims reciting data retrieval, analysis, modification, generation, display, and transmission as an “‘ordered combination’” reveals that they “amount to ‘nothing significantly more’ than an instruction to apply [an] abstract idea” using generic computer technology) (internal citation omitted). In short, as previously discussed,

claim 1 (and the other pending claims) does no more than use generic hardware to implement the claimed abstract idea.

To the extent Appellant contends the Examiner failed to comply with the requirements of the *Berkheimer* decision (*supra*), we disagree. The Examiner generally cited to Appellant's Specification as well as case precedent to support the Examiner's determinations that the claims recite well-understood, routine, and conventional components and activities. *See* Final Act. 6 (citing *FairWarning* and *Digitech*); Ans. 4–5.

For at least the reasons above, we are not persuaded of Examiner error in the rejection of claim 1 under 35 U.S.C. § 101. Thus, we sustain the Examiner's rejection under § 101 of independent claim 1, independent claims 13, 15, and 22, and dependent claims 3–12, 14, 17–20, 23, and 24, which depend from claims 1, 13, and 15, respectively, and which were not separately argued with specificity.

#### CONCLUSION

For the reasons discussed above, we determine that claims 1, 3–15, 17–20, and 22–24 are directed to an abstract idea and do not demonstrate an inventive concept.

Appellant has not shown that the Examiner erred in rejecting claims 1, 3–15, 17–20, and 22–24 under 35 U.S.C. § 101. We therefore sustain the Examiner's rejection of claims 1, 3–15, 17–20, and 22–24 under § 101.

CONCLUSION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 3-15, 17-20, 22-24	§ 101	Eligibility	1, 3-15, 17-20, 22-24	
<b>Overall Outcome</b>			1, 3-15, 17-20, 22-24	

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