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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 WINFRIED SCHWARZMANN
_____

Appeal 2018-006682
Application 12/566,917
Technology Center 2100
_____

BEFORE JAMES R. HUGHES, ALEX S. YAP, and
JASON M. REPKO, *Administrative Patent Judges.*

HUGHES, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the
Examiner's decision rejecting claims 1–19, which are all the claims pending
in this application. *See* Final Act. 1–2.[2] We have jurisdiction under
35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R.
§ 1.42(a). Appellant identifies the real party in interest as SAP SE. *See*
Appeal Br. 2.

[2] We refer to Appellant's Specification ("Spec."), filed Sept. 25, 2009;
Appeal Brief ("Appeal Br."), filed Dec. 18, 2017; and Reply Brief ("Reply
Br."), filed June 15, 2018. We also refer to the Examiner's Final Office
Action ("Final Act."), mailed Sept. 7, 2017; and Answer ("Ans.") mailed
May 24, 2018.

CLAIMED SUBJECT MATTER

The claims in this patent application generally "relate to data handling" and, "[m]ore specifically," "to . . . manipulation of validity dependent data sets." Spec. ¶ 1; *see* Spec. ¶ 5 and Abstract. Claims 1, 11, and 14 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1.   A method comprising:
>
> receiving a request of a consuming application;
>
> determining, in a processor, a location of a validity dependent data set;
>
> wherein, when the determination indicates that the location is in a coupled database where a corresponding persistence is not in accordance with a predefined design pattern, the method further comprises performing first operations including:
>
>> defining a set of dimensions for the validity dependent data set;
>>
>> associating at least a first dimension, belonging to the set of dimensions, with a validity independent structure of the data set; and
>>
>> associating at least a second dimension, belonging to the set of dimensions and being different from the first dimension, with one or more validity constraints effective for the data set;
>
> and wherein, after the first operations, and when the determination indicates that the location is not in the coupled database where the corresponding persistence is not in accordance with the predefined design pattern, the method further comprises performing second operations including:
>
>> retrieving, in the processor, the validity dependent data set and its association with the set of dimensions;
>>
>> generating, in the processor, a plural dimensional model of the retrieved data; and

> responding, from the processor, to the request of the consuming application with information derived from the plural dimensional model.

REJECTION

The Examiner rejects claims 1–19 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. *See* Final Act. 2–13.

OPINION

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").[3]

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

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[3] All references to the MPEP are to the Ninth Edition, Revision 08–2017 (rev. Jan. 2018).

integrated, then the claim is not directed to a judicial exception and is patent eligible under 35 U.S.C. § 101. *Id.*

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.[4]

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 1–19 as being directed to patent ineligible subject matter. *See* Final Act. 2–13. Appellant does not separately argue the claims with specificity and, instead, argues claims 1–19 together for this rejection. *See* Appeal Br. 4–14. 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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[4] 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. 2–5; Ans. 2–7. Specifically, the Examiner concludes "[t]he limitations [of claim 1] are directed" to an "abstract idea" (Final Act. 3), in that the limitations recite collecting and analyzing information similar to *Electric Power*—which is "an ordinary mental process" (Final Act. 4). *See* Final Act. 2–4; Ans. 3–4, 6 (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)).

Appellant contends the Examiner erred in rejecting the claims as being directed to patent-ineligible subject matter. *See* Appeal Br. 4–14; 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 independent claims—claims 11 and 14) because: (1) claim 1 is not "directed to an abstract idea" (Appeal Br. 11 (emphasis and quotations omitted); *see* Appeal Br. 12; Reply Br. 4); (2) claim 1 is not a mental process as some of the steps "cannot be performed in the human mind" in that "they involve a transformation or a creation of something that is not merely a figment of a person's imagination" (Appeal Br. 13; *see* Reply Br. 5); (3) the Examiner mischaracterizes claim 1 by "oversimplifying" the claim and describing the claim "at a high level of abstraction" (Appeal Br. 8; *see* Appeal Br. 9; Reply Br. 3–4); and (4) the Examiner did not provided a prima facie rejection in that the Examiner did not clearly identifying the specific

claim limitations that recite the abstract idea and did not sufficiently explain why the limitations at issue set forth an abstract idea (*see* Appeal Br. 9–11; Reply Br. 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. 15 (Claims App.)). Claim 1 recites a "method" comprising "receiving a request of a consuming application." That is, receiving a request from a consuming application (application executed on a computer that utilizes data). *See* Spec. ¶¶ 12, 13, and 24. Although not expressly recited, the request specifies constraints to be applied to particular data (the data set)) such that the application may utilize the data set (the validity dependent data set). *See* Spec. ¶¶ 2, 3, 12, 13, and 24. Hereinafter we refer to this step as "Step A."

Claim 1 further recites "determining, in a processor, a location of a validity dependent data set." Appeal Br. 15 (Claims App.)); *see* Spec ¶ 21; Fig. 2A (202). The "location" is where the validity dependent data set resides. *See* Spec ¶¶ 2, 3, 4, and 20–24; Fig. 2A (202). Hereinafter we refer to this step as "Step B."

Claim 1 also recites "wherein, when the determination indicates that the location is in a coupled database where a corresponding persistence is not in accordance with a predefined design pattern, the method further comprises performing first operations." Appeal Br. 15 (Claims App.). In other words, the processor determination (of Step B) indicates (the processor

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further determines) that—(1) the location is a coupled database, and (2) the persistence (where the data resides) does not conform to a predetermined pattern. *See* Spec ¶¶ 21, 22; Fig. 2A (202-208). Hereinafter we refer to this step as "Step C."

Claim 1 additionally recites performing first operations, including: "defining a set of dimensions for the validity dependent data set"; "associating at least a first dimension, belonging to the set of dimensions, with a validity independent structure of the data set;" and "associating at least a second dimension, belonging to the set of dimensions and being different from the first dimension, with one or more validity constraints effective for the data set." Appeal Br. 15 (Claims App.)); *see* Spec ¶ 22. The first operations are performed by the processor, which generates (defines) dimensions (e.g., structural or validity dimensions) (*see* Spec ¶ 22; Fig. 2A (208); *see also* Spec ¶¶ 29–31 (describing various dimensions)); associates (creates an association between) one or more of the generated dimensions with a validity independent data structure in the data set (*see* Spec ¶¶ 22, 29 (describing associating a dimension with a validity independent data structure); Fig. 2A (214)); and associates one or more of the generated dimensions with one or more constraints of the validity data set (*see* Spec ¶¶ 22, 30 (describing associating a dimension with a validity constraint); Fig. 2A (214)). Hereinafter we refer to these steps as "Step C1," "Step C2," and "Step C3," respectively.

Claim 1 further recites "wherein, after the first operations, and when the determination indicates that the location is not in the coupled database where the corresponding persistence is not in accordance with the predefined design pattern, the method further comprises performing second operations." Appeal Br. 15 (Claims App.). That is, the processor determination (of Step

B) indicates that the location is not in the coupled database. *See* Spec ¶¶ 21, 23; Fig. 2A (202, 204, and 216). Hereinafter we refer to this step as "Step D."

Claim 1 also recites performing a second set of operations (second operations), including "retrieving, in the processor, the validity dependent data set and its association with the set of dimensions." Appeal Br. 15 (Claims App.)). In other words, the processor retrieving the validity dependent data set and its associated dimensions. *See* Spec. ¶ 21; Fig. 2A (210, 212, and 222). Hereinafter we refer to this step as "Step D1." Claim 1 further recites performing a second operation of "generating, in the processor, a plural dimensional model of the retrieved data." Appeal Br. 15 (Claims App.)). That is, the processor generates a multi-dimensional model from the retrieved data. *See* Spec. ¶ 23; Fig. 2A (222); *see also* Spec. ¶ 33; Fig. 5. Hereinafter we refer to this step as "Step D2."

Finally, Claim 1 recites performing a second operation of "responding, from the processor, to the request of the consuming application with information derived from the plural dimensional model." Appeal Br. 15 (Claims App.)). In other words, the processor responds to the request of the consuming application with information (sends information to the consuming application), which information is derived from the plural dimensional model. *See* Spec ¶ 25; Fig. 2A (232). Hereinafter we refer to this step as "Step D3."

In summary, claim 1 recites an information processing (data handling) method (process) for manipulating validity dependent data sets (*see* Spec ¶¶ 1–4) including steps of determining a validity dependent data set location, generating a multi-dimensional model, and providing the resulting information to a consuming application. Hereinafter, we refer to this process

as the "validity dependent data handling process." This is consistent with how Appellant describes the claimed invention—"[t]he present subject matter relates to approaches for handling validity-dependent data sets." Appeal Br. 5 (emphasis and quotations omitted).

Appellant's contentions (*supra*) focus on the Examiner's purported failure to properly characterize claim 1 and present a prima facie rejection (*see, e.g.*, Appeal Br. 8–13). 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 September 7, 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. 2–5. Contrary to Appellant's assertions, 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 abstract because it requires something more than collecting and analyzing information (*see* Appeal Br. 11–12) and claim 1 is not a purely mental process (*see* Appeal Br. 13). Claim 1, however, recites no substantive limitations on how the validity dependent data handling process determines a validity dependent data set location, defines dimensions, associates dimensions, or generates a multi-dimensional model from the validity dependent data set. The limitations are entirely functional in nature, or characterize various data utilized in Steps A, B, C, C1, C2, C3, D, D1, D2, and D3 (*supra*).

A person can perform the functions of limitations A–D3 (delineated above) mentally, or by using pen and paper. *See, e.g.*, Appellant's Figs. 2A, 3–5. Nowhere does Appellant point to specific claim limitations that distinguish over a human process.

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.*, 830 F.3d at 1354 (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.").

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 data handling process for manipulating validity dependent data sets including determining a validity dependent data set location, generating a multi-dimensional model, and providing the resulting information to a consuming application—the validity dependent data handling process—as discussed *supra*. The validity dependent data handling 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

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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 validity dependent data handling process (the judicial exception) (*supra*). The additional elements in claim 1 include the recited "consuming application," the "processor," and "coupled database." Appeal Br. 15 (Claims App). The written description indicates that each of these elements encompass commonplace generic components. Appellant does not describe the "processor," "database," and "application" with any specificity. For example, Appellant's Specification describes the "processor 102" as being "coupled to a database 110 that may store a validity dependent data set 118," and "may also be coupled to a local user node 104 and/or via a network 106

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to a remote user node 108." Spec. ¶ 12; *see* Fig. 1. Appellant's Specification further describes the "[l]ocal user node 104" as having a "user interface 126 which permits a user to select parameters at a consuming application 128" such that the application may make a "request having a set of constraints to be applied to data set 118." Spec. ¶ 12; *see* Spec. 13; Fig. 1. With respect to the process disclosed in Appellant's Figure 2A, Appellant's Specification also describes the processor performing customary functions—"processor 102 loads" a file, the structure of which is a "tag-based markup language such as extensible markup language (XML)," and "processor 102 triggers the transmission" "to a remote system" over a channel that "provides a protocol for transmitting the data set and its association to a set of dimensions." Spec. ¶ 21; *see* Fig. 2A.

Other than disclosing that these additional elements performing their accustomed functions utilizing standard techniques—the processor processing data that is stored or transferred in a standard protocol, the database storing data in a standard format, and the application sending and receiving data—the written description describes these components in functional, result-oriented terms with no technical details. *See, e.g.*, Spec. ¶¶ 21–23 (describing operations performed by the processor with respect to the consuming application and database). 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 independent claims 11 and 14) provides a "technological solution to a technological problem" (Appeal Br. 7) and constitutes an "improvement of computer-related technology" (Appeal Br. 8). *See* Appeal Br. 4–8; Reply Br. 2–3. Specifically, Appellant contends claim 1 solves the technical problem that objects (specifically, the state of objects) in a validity dependent data set "cannot necessarily be sequenced based on their validity constraints" (Appeal Br. 7 (quoting Spec. ¶ 4)), such that it is "possible to generate [a] plural dimensional model of . . . retrieved data" so as to "respond to [a] request from [a] consuming application" (Appeal Br. 7–8). Appellant further contends that the claim recites improvements to computer functionality—similar to *Enfish* (*Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016)). *See* Appeal Br. 4–5. In other words, the claims recite a technological improvement that amounts to more than simply utilizing a computer as a tool to accomplish the validity dependent data handling 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 validity dependent data handling 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) that is utilized as a tool to carry out the functions recited in the

validity dependent data handling process—determining a validity dependent data set location, defining dimensions, associating dimensions, and generating a multi-dimensional model from the validity dependent data set. 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 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, 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. 4–8.

As discussed *supra*, nothing in claim 1, precludes a human from performing the validity dependent data handling process. Performing such data handling 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 providing processing of validity dependent data sets (*see* Appeal Br. 4–8; Spec. ¶¶ 1–4)—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 IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016).

Even if Appellant's claimed process includes an (undisclosed) improved algorithm for determining the location of validity dependent data (sets) and creating a multi-dimensional model of the data, 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.

The Examiner determined that all the limitations of Appellant's claim
1 were "directed towards a generic computer" (Final Act. 3), that the
"limitations alone or in combination are well known in the art and do not
amount to significantly more than the judicial exception" (Final Act. 4), and
that the limitations were "well understood routine conventional activities
previously known to the industry, [and] therefore each step does no more
than require a generic computer to perform generic computer functions"
(Final Act. 4–5). *See* Final Act. 2–5; Ans. 5–7.

Appellant, on the other hand, reiterates the limitations of claim 1 and contends claim 1 "amount to significantly more than any alleged judicial exception." Appeal. Br. 12; *see* Appeal Br. 12, 14; Reply Br. 4–6. Appellant also contends the Examiner "fail[ed] to take into account numerous aspects recited in the independent claims" (Reply Br. 4) and did not provide sufficient evidence that the claim limitations recite well understood, routine, or conventional activities. *See* Appeal Br. 12, 14; Reply Br. 4–6.[5]

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 consuming application, the processor, and the coupled database (*see* Appeal Br. 15 (Claims App))—generic computer elements, in particular the

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[5] 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*. Appellant, however, contends the "Examiner . . . fail[ed] to comply with the requirement[s]" of the *Berkheimer* Memorandum. Reply Br. 5; *see id.* at 5–6.

processor, that carry out common data processing functions recited in the validity dependent data handling process (the abstract idea). Specifically, Appellant's Specification describes a computer system (not recited in the claims) as a collection of conventional (generic) computers components performing traditional computer functions—these components include the above-discussed processor interacting with the application and database. *See, e.g.*, Spec. ¶¶ 12 –13; 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. ¶¶ 21–23 (describing the functions in the validity dependent data handling 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).

To the extent Appellant contends the Examiner failed to comply with the requirements of the *Berkheimer* Memorandum (*supra*), we disagree. The Examiner 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. 4–5 (citing Spec. ¶¶ 4, 14–16); Ans. 5–7 (citing *Alice*, 573 U.S. at 222–24).

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 11 and 14, and dependent claims 2–10, 12, 13, and 15–19, which depend from claims 1, 11, and 14, respectively, and which were not separately argued with specificity.

CONCLUSION

For the reasons discussed above, we determine that claims 1–19 are directed to an abstract idea and do not demonstrate an inventive concept.

Appellant has not shown that the Examiner erred in rejecting claims 1–19 under 35 U.S.C. § 101. We therefore sustain the Examiner's rejection of claims 1–19 under § 101.

CONCLUSION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–19	§ 101	Eligibility	1–19	
Overall Outcome			1–19	

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