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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* SAMEER ABHINKAR<sup>1</sup>

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Appeal 2018-007662  
Application 13/992,817  
Technology Center 2100

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Before JOHN A. EVANS, JAMES W. DEJMEK, and  
MICHAEL M. BARRY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a Non-Final Rejection of claims 1–30, which constitute all pending claims. *See* Non-Final Act. 1 *and* Appeal Br. 12–15 (Claims App’x). Because the claims on appeal have been twice-rejected, we have jurisdiction under 35 U.S.C. § 6(b). *See Ex parte Lemoine*, 46 USPQ2d 1420, 1423 (BPAI 1994) (precedential).

We affirm.

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<sup>1</sup> Appellant identifies Intel Corporation as the real party in interest. Appeal Br. 3.

*Introduction*

Appellant’s invention relates to executing database queries based on query semantics information. Spec. ¶¶ 1, 6 (explaining that for purposes of this invention, “‘query semantics information’ or ‘semantic information’ generally refer to data associated with a database query which may describe or relate to time characteristics of the database query”). Claims 1, 13, and 21 are independent, of which claim 1 is exemplary:

1. A method comprising:
  - receiving a database query from a client computer;
  - accessing time sensitivity of the database query by analyzing the query itself for time sensitivity information and further by mining additional information not included in the query from the client computer; and
  - selecting, based on the time sensitivity of the database query, one of a plurality of database servers to execute the database query.

Appeal Br. 12 (Claims App’x).

*Rejections and References*

Claims 1–30 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Non-Final Act. 3–4; *see also* Ans. 14–15.

Claims 1–30 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Non-Final Act. 4–6; *see also* Ans. 16–19.

Claims 1–22, 25–27, and 30 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Burger et al. (US 8,280,869 B1; Oct. 2, 2012) (“Burger”) and Barsness et al. (US 2008/0133459 A1; June 5, 2008) (“Barsness”). Non-Final Act. 6–12; *see also* Ans. 19–21.

Claims 23 and 24 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Burger, Barsness, and Nevill-Manning (US 2004/0236739 A1; Nov. 25, 2004). Non-Final Act. 12–13; *see also* Ans. 21–24.

Claims 28 and 29 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Burger, Barsness, and Burger et al. (US 2010/0125565 A1; May 20, 2010) (“Burger ’565”). Non-Final Act. 13–14; *see also* Ans. 24–25.

## ANALYSIS

### A. *The § 112 Written Description Rejection*

Compliance with the written description requirement is a question of fact that is context sensitive. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (“[T]he level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology.”). The test is whether the disclosure “conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* The Specification must adequately describe the claimed subject matter, but “the exact terms need not be used *in haec verba.*” *Lockwood v. Am. Airlines*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).

The Examiner determines the Specification lacks written description support for “mining additional information not included in the query from the client computer,” as recited. Non-Final Act. 4. Appellant argues the Examiner errs because “the specification says that not only can you assess the query itself, but you can also look at the user’s calendar to obtain time sensitivity information. . . . Assessing time sensitivity based on the user’s calendar clearly refers to additional information [calendar entry] not included in the query.” Appeal. Br. 7 (citing Spec. ¶ 31) (brackets by

Appellant). Appellant submits that “[t]he word ‘mining’ has its ordinary meaning of extracting or obtaining. If you extract or obtain information from the calendar you are mining information therefrom. The specification clearly teaches that you ‘obtain’ information from outside the query its effect as a basis for time sensitivity.” *Id.* at 8 (citing Spec. ¶ 14).

The Examiner responds that an ordinarily skilled artisan would understand “mining additional information not included in the query from the client computer” as being a “different algorithm” from examining a user’s calendar to obtain time sensitivity information. Ans. 15 (also finding the Specification’s disclosure of a query optimizer that may “interact with the user’s calendar” does not support the disputed limitation).

We agree with Appellant the Examiner errs in the written description rejection. The Specification’s disclosure of obtaining query semantics information from any location or source, such as a user’s calendar, clearly demonstrates Appellant was in possession of the limitation of “mining additional information not included in the query from the client computer,” as recited. *See, e.g.*, Spec. ¶¶ 13–15, 31. Original claim 8, which recites “obtaining the query semantics information from at least one data source external to the plurality of database servers,” further demonstrates Appellant was in possession of the disputed limitation. *See* Spec. ¶ 11 (original claim 8); *Ariad Pharms. v. Eli Lilly*, 598 F.3d at 1349 (explaining “original claims are part of the original specification” (citing *In re Gardner*, 480 F.2d 879, 879 (CCPA 1973))).

Accordingly, we do not sustain the Examiner’s rejection of claims 1–30 under 35 U.S.C. § 112, first paragraph.

*B. The § 101 Rejection*

*1. Principles of Law*

An invention is patent eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, 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. Pty. Ltd. 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* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). 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, 69 (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 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

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 (internal 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.* (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.*

The PTO recently published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50–57 (Jan. 7, 2019) (“2019 PEG”). Under the 2019 PEG, we first look to whether the claim recites:

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

*See* 2019 PEG at 52, 55–56. Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, does the Office then look to whether the claim:

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<sup>2</sup> All references to the MPEP are to Rev. 08.2017 (Jan. 2018).

(3) adds a specific limitation beyond the judicial exception that are 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 PEG at 56.

## 2. *Analysis*

Appellant argues claims 1–30 together as a group. *See* Appeal Br. 9–10. We select claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(iv) (2017). Thus, for this rejection, all claims stand or fall with claim 1.

### *a. Alice/Mayo Step One, 2019 PEG Prong One*

The Examiner determines claim 1 recites “receiving [a] client’s request/query, accessing time sensitivity based on analyzing the query and mining additional information, and then selecting the database server suitable for executing the client’s query based on time sensitivity information/additional information.” Ans. 17; *see also id.* at 16–17; Non-Final Act. 5. The Examiner concludes claim 1 is, thus, directed to an abstract idea that is “a mental process (thinking) that ‘can be performed in the human mind, or by a human using a pen and paper.’” Ans. 17 (citing MPEP § 2106.04(a)(2)(II)–(III)).

Appellant contends the claimed invention is patent eligible because it “improves the ability of the processor-based system to determine the time sensitivity of a database inquiry.” Appeal Br. 9. In particular, Appellant argues the claimed invention “can then use this determination of time sensitivity to select one of a plurality of database servers to execute the database query.” *Id.* (citing Spec. ¶ 6); *see also* Reply Br. 1–2.

Appellant’s arguments are unpersuasive. Claim 1 recites

receiving a [] query from a client [];

accessing time sensitivity of the [] query by analyzing the query itself for time sensitivity information and further by mining additional information not included in the query from the client []; and

selecting, based on the time sensitivity of the [] query, one of a plurality of [] servers to execute the [] query.

Thus, claim 1 recites selecting a server to respond to a request based on time sensitivity, which is determined by analyzing the request along with mining of additional information. This describes a routine method that humans use for responding to a request based on time sensitivity. Although there is a selection of a “server,” a human can perform the functionality required of the server. For example, the above limitations are similar to a traditional interaction between a customer and a postal worker, where (1) the customer requests that a package be shipped; (2) the postal worker asks the customer when it needs to be delivered; (3) the customer responds; and (4) based on the customer’s request and answer, the postal worker suggests the best service to ship the package.

Thus, claim 1 recites a patent-ineligible abstract idea in the category of a mental process. *Mayo*, 566 U.S. at 71 (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work” (quoting *Gottschalk v. Benson*, 409 U.S. at 63); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371–72 (Fed. Cir. 2011) (concluding claims directed to “detecting credit card fraud based on information relating to past transactions” can be performed in the human mind and were drawn to a patent-ineligible mental process); *FairWarning*

*IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (concluding claims directed to “collecting and analyzing information to detect misuse and notifying a user when misuse is detected” to be mental processes within the abstract-idea category).

*b. Alice/Mayo Step One, 2019 PEG Prong Two*

Having determined that the claims recites a judicial exception, our analysis under the 2019 PEG, we consider whether there are “additional elements that integrate the exception into a practical application.” *See* MPEP § 2106.05(a)–(c), (e)–(h). The Examiner finds the additional limitations recited in the independent claims, i.e., a computer and database servers (claims 1 and 13), and a “semantics module” and a “hardware processor” (claim 21), do not amount to significantly more than an abstract idea. Non-Final Act. 5; Ans. 17–18. We agree.

Appellant’s claimed invention does not change the way in which the technology components recited in claim 1 or in the other independent claims (such as the computer and database servers (claims 1 and 13), and a “semantics module” and “hardware processor” (claim 21)) perform their tasks. Instead, as the Examiner finds, and we agree, the claims simply use the generically recited technology components for their ordinary purposes to carry out an abstract idea. Non-Final Act. 5; Ans. 17–18. For example, claim 1 recites “receiving a database query from a client computer.” This seemingly technological step, however, is merely data gathering—i.e., extra-solution activity that does not confer patent eligibility to the claim. *See* 2019 PEG at 55 n.31. Thus, claim 1 does not apply the judicial exception with any particular machine. *See* MPEP § 2106.05(b).

Appellant’s arguments similarly do not persuade us that claim 1 improves the functioning of a computer or any other technology or technical field, or that it effects a particular transformation of the recited articles, which are simply used for their ordinary purposes, or that it adds any other meaningful (technological) limitations, i.e., limitations beyond simply “linking the use” of the abstract idea to generic technology. *See* MPEP § 2106.05(a), (c), (e)–(f); *see also id.* at (g)–(h) (use of well-known limitations beyond the judicially excepted matter constitutes “insignificant extra-solution activity” (g) and claim limitations “merely indicating a field of use or technological environment in which to apply a judicial exception do not amount to significantly more” (h)).

In particular, we are unpersuaded by Appellant’s reliance on paragraph 6 of the Specification to show that claim 1 improves the functioning of a computer processor. Rather, as the Examiner finds, “the ‘processor’ is a well-known computing tool, which . . . the instant claims merely use . . . to implement the abstract idea, as opposed to claiming a process specifically designed to achieve an improved technological result in conventional industry practice and/or automate existing conventional methods of solving a problem.” Ans. 18–19; *see Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016) (“[T]he first step in the Alice inquiry . . . asks whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.”).

In the Reply Brief, Appellant argues a *prima facie* case under § 101 has not been made because “for the first time on appeal, the Examiner

addresses the ‘improves the operation of the processor test.’” Reply Br. 1. To the extent Appellant argues the Examiner improperly introduced a new ground of rejection in the Answer, this issue is addressable by petition to the Director, not appeal to the Board. *See* 37 C.F.R. §§ 41.40(a), 1.181; MPEP § 1207.03(b). Moreover, Appellant waived this argument by failing to petition the Director “within two months from the entry of the examiner’s answer and before the filing of any reply brief.” 37 C.F.R. § 41.40(a). In any event, Appellant’s assertion is incorrect. The Examiner addressed this issue in the Non-Final Office Action, finding that “the claims do not recite . . . an improvement to the function of the computer itself.” Non-Final Act. 5. The Examiner’s response in the Answer, explaining why the claims do not improve the operation of the processor, is consistent with the determination previously made in the rejection. *See* Ans. 18–19.

Claim 1 does not recite limitations that integrate the judicial exception into a practical application.

*c. Alice/Mayo Step Two*

Next, we consider whether, beyond the judicial exception, claim 1 recites limitations, individually or in combination, that are not “well-understood, routine, and conventional.” *See* 2019 PEG at 56. The Examiner finds the claims recite “well-understood, routine, conventional activities that are merely automated by the use of a general purpose computer.” Non-Final Act. 5; Ans. 18. We agree.

Claim limitations for receiving, analyzing, and servicing a database query from a client computer are tasks that well-known search engines have performed for many years. “[S]earch engines, content-based filtering, and collaborative filtering were all well-known in the art at the time of the

claimed invention.” *See I/P Engine, Inc. v. AOL Inc.*, 576 F. App’x 982, 986 (Fed. Cir. 2014) (citing US Patent 6,314,420 B1, col. 1 ll. 20–45 (issued Nov. 6, 2001) (disclosing that employing a search engine to search the Internet and find information that matches a user’s web-based query for information was well-known in the computer software arts as of 2001).

With respect to the additional limitations of a “client computer,” “database servers,” “semantics module,” and “hardware processor,” the Specification describes these elements in no more than generic and high-level terms—

[t]he client computer . . . may be any computing device such as a personal computer (PC), a desktop computer, a laptop, a tablet, a mainframe, a server, a telephone, a kiosk, a cable box, a personal digital assistant (PDA), a mobile phone, a smart phone, etc. (Spec. ¶ 7);

each database server . . . may be a computer server hosting a database management system, and may be configured to receive and process database queries . . . [and] may . . . also include a processor 132 and storage 134 (*id.* ¶¶ 9, 11);

the semantics module . . . may be implemented in hardware, software, and/or firmware. In firmware and software embodiments it may be implemented by computer executed instructions stored in a non-transitory computer readable medium, such as an optical, semiconductor, or magnetic storage device (*id.* ¶ 21); and

the processor . . . may be any integrated circuit, processor, microprocessor, core of a microprocessor, etc. (*id.* ¶ 11).

Such generic recitations of computing elements fail to transform a patent-ineligible concept into an eligible one. *See Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (generic computer components, such as an “interface,” “network,” and “database,” fail to satisfy the inventive concept requirement; *Alice*, 573 U.S.

at 226 at 2360 (“Nearly every computer will include a ‘communications controller’ and a ‘data storage unit’ capable of performing the basic calculation, storage, and transmission functions required by the method claims.”).

Appellant does not present any persuasive evidence that the recited limitations of claim 1 go beyond that which is well-understood, routine, and conventional. We note that novelty and non-obviousness are “of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89. “It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018). A novel and nonobvious claim directed to an abstract idea is, nonetheless, patent ineligible. *See Mayo*, 566 U.S. at 90.

For the reasons discussed above, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner’s rejection of claims 1–30 under 35 U.S.C. § 101.

### *C. The § 103(a) Rejections*

Appellant argues Examiner error in the § 103(a) rejection of the independent claims based on claim 1. Appeal Br. 9–10. In particular, Appellant argues the Examiner errs in finding Burger teaches or suggests claim 1’s recitation of “accessing time sensitivity of the database query . . . further by mining additional information not included in the query from the client computer” (hereafter, “the disputed limitation”). Appeal. Br. 9–10; Reply Br. 3–4. Appellant’s argument is persuasive.

Burger relates to optimizing a database query by using intermediate information developed in the course of other database queries. Burger 1:5–38. In Burger, a user submits an SQL (Structured Query Language) query, the system evaluates and optimizes (“develops the least expensive plan to perform the request and produces executable steps to execute the plan”). *Id.* 3:61–4:6 (quoting 4:2–4). In the course of optimizing and executing a query, Burger generates intermediate information (referred to a “spool files” or “spools”) stored in a log file, which is available for reuse in optimizing and executing subsequent queries. *Id.* 4:32–5:10, Fig. 4.

The Examiner finds Burger’s disclosure of using intermediate spool information from a prior query in the course of optimizing a current query teaches “mining additional information not included in the query from the client computer,” as recited in the disputed limitation. Non-Final Act. 7 (citing Burger 4:46–49, 8:57–67, Fig. 4); *see also* Ans. 20–21 (citing Burger 4:56–64, Fig. 4, item 430). Appellant contends the Examiner errs because Burger’s obtaining (“mining”) of intermediate information for previous queries does not teach or suggest the disputed limitation’s recitation of “accessing the time sensitivity of the [current] query . . . by mining additional information.” Reply Br. 3 (citing Burger 4:44–48, 8:57–67).

Appellant’s argument is persuasive because, although Burger teaches mining intermediate information that is “additional information not included in the query,” the Examiner does not explain (and we do not discern) how or why the intermediate information from prior queries contains information for use in “accessing time sensitivity of the [current] query,” as the disputed limitation requires. In other words, the Examiner does not sufficiently articulate how or why Burger’s reuse of intermediate information from a

*prior* query teaches (or suggests) “accessing time sensitivity of the [*current*] query . . . *by* mining additional information,” as recited in the disputed limitation.

Accordingly, because there is no determination in the record that the other cited prior art cures the foregoing deficiency, we do not sustain the § 103(a) rejection of claim 1. We likewise do not sustain the § 103(a) rejections of independent claims 13 and 21, each of which recites a similar limitation, and claims 2–12, 14–20, and 22–30, which depend therefrom.

#### DECISION

We affirm the rejection of claims 1–30 under 35 U.S.C. § 101.

We reverse the rejection of claims 1–30 under 35 U.S.C. § 103(a).

We reverse the rejection of claims 1–30 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Because we affirm at least one ground of rejection with respect to each claim on appeal, the Examiner’s decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED