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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHEW LYNES, VICTOR MATSKIV, and
JAYANT THOMAS

Appeal 2019-000282
Application 13/827,073
Technology Center 3600

Before BRADLEY W. BAUMEISTER, MICHAEL J. STRAUSS, and
IRVIN E. BRANCH, *Administrative Patent Judges*.

STRAUSS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Pursuant to 35 U.S.C. § 134(a), Appellant² appeals from the Examiner’s decision to reject claims 1, 4–6, 11–13, 15, and 28–32. Claims 2, 3, 7–10, 14, and 16–27 are canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

Appellant describes the present invention as a mobile clinical research associate framework for offline capability. Spec., Title. Independent claim 1 is representative of the appealed claims. It is reproduced below with modified formatting for clarity, labels added, and with emphasis added to the language that recites an abstract idea:

1. A non-transitory computer-readable medium storing computer-executable instructions that when executed by a computer cause the computer to:
 - [(i)] *receive*, from a mobile device via a network communication, *a creation request that requests the computer to create a trip report skeleton, where the trip report skeleton is a template that allows trip report data to be inputted and stored on the mobile device*;
 - [(ii)] *initiate*, by the computer, a first thread and a second thread to *separate operations of the creation request and*

¹ We refer to the Specification, filed March 14, 2013 as amended June 9, 2016 (“Spec.”); Final Office Action, mailed October 6, 2017 (“Final Act.”); Appeal Brief, filed March 8, 2018 (“Appeal Br.”); Examiner’s Answer, mailed August 10, 2018 (“Ans.”); and Reply Brief, filed October 10, 2018 (“Reply Br.”).

² We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Oracle International Corporation. Appeal Br. 2.

- generating the trip report skeleton, wherein the first thread and the second thread are performed asynchronously;*
- [(iii)] process, by the computer, the creation request in the first thread, wherein the first thread performing [sic]:
- [(iii)(a)] *in response to the creation request, scheduling creation of the trip report skeleton in the second thread; and*
 - [(iii)(b)] *transmitting an acknowledgment acknowledging receipt of the creation request to the mobile device;*
- [(iv)] in the second thread, *generating by the computer, the trip report skeleton, wherein the generating comprises:*
- [(iv)(a)] *retrieving a canonical trip report including data fields from a database, and combining the canonical trip report with metadata for rendering the data fields from the canonical trip report on a display of a mobile device;*
 - [(iv)(b)] *creating the trip report skeleton in a Self Describing Object (SDO) from the combined canonical trip report and the metadata;*
- [(v)] *in response to receiving, by the computer from the mobile device, a fetch request to retrieve the trip report skeleton:*
- [(v)(a)] *determining whether the trip report skeleton has been created and:*
 - [(v)(b)] *when the trip report skeleton is not yet created, allowing the fetch request to time out such that the mobile device is enabled to make a subsequent fetch request for the trip report skeleton; and*
 - [(v)(c)] *when the trip report skeleton has been created, transmitting the trip report skeleton to the mobile device; and*
- [(vi)] *wherein the metadata allows the mobile device to render the trip report skeleton including the template and the data fields, wherein the trip report skeleton allows the mobile device to input data into the data fields when the mobile device is offline from the computer to minimize network interactions therebetween.*

REJECTION

Claims 1, 4–6, 11–13, 15, and 28–32 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2–16.

STANDARD OF REVIEW

We review the appealed rejections for error based upon the issues identified by Appellant, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

PRINCIPLES OF LAW

A. SECTION 101

Inventions for “new and useful process, machine, manufacture, or composition of matter” generally constitute patent-eligible subject matter. 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Court’s two-step framework, described in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’

application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 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))).

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

to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (internal quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

B. USPTO SECTION 101 GUIDANCE

In January 2019, the United States Patent and Trademark Office (“USPTO”) published revised guidance on the application of 35 U.S.C. § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Guidance”), *updated by USPTO, October 2019 Update: Subject Matter Eligibility* (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf) (jointly referred to as “the 2019 Guidance”); *see also* October 2019 Patent Eligibility Guidance Update, 84 Fed. Reg. 55942 (Oct. 18, 2019) (notifying the public of the availability of the October update).

Under the 2019 Guidance, we first look to whether the claim recites the following:

(1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

2019 Guidance, 84 Fed. Reg. at 52–55.

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

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, [and] 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.

2019 Guidance, 84 Fed. Reg. at 56.

EXAMINER’S FINDINGS and CONTENTIONS OF ERROR

The Examiner finds claim 1 requires responding to a creation request by acknowledging the request, scheduling creation of a trip report skeleton, combining a trip report with metadata to create a trip report skeleton object,

responding to a fetch request, and determining whether the trip report skeleton has been created. Final Act. 3. The Examiner determines

These steps describe the concept of creating [Self Describing Objects (SDOs)] and processing this object, which corresponds to the concepts identified as abstract ideas by the courts, such as ‘an idea of itself’ [i.e., mental processes³] in *Alice*. An example of “an idea of itself” is the concept of “obtaining and comparing intangible data” (*CyberSource*⁴).

Final Act. 3.

According to the Examiner, “the claims recite the concept of processing a request for [a] trip report skeleton, which, in itself, is also intangible data describing a clinical study (Specification paragraph 0003).” *Id.* The Examiner further addresses technical details recited by the claims including, for example, receipt of the creation request from a mobile device, use of asynchronous threads, transmission of the acknowledgement, fetch request time out, finding these additional limitations do “not impose any meaningful limit on the computer implementation of the abstract idea [or] amount to significantly more than the . . . judicial exception (the abstract idea).” Final Act. 4–5. According to the Examiner

Looking at the limitations as an ordered combination adds nothing that is not already present when looking at the elements taken individually. There is no indication that the combination of elements improves the functioning of a computer or improves

³ See *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (holding claims directed to “a process of organizing information through mathematical correlations” are patent-ineligible under § 101).

⁴ *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)).

any other technology. Their collective functions merely provide conventional computer implementation.

Id. at 5.

The Examiner finds the asynchronous threads are recited at a high level of generality and constitute “a well-understood, routine, and conventional technique.” *Id.* Addressing the recited provision of offline data input into the skeleton, the Examiner finds there is no requirement for an online mode, so that “simply allowing a user to input data locally without regards to network connection is not a technical improvement.” *Id.*

The Examiner concludes:

The claim does not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional element(s) or combination of elements in the claim(s) other than the abstract idea per se amount(s) to no more than: mere instructions to implement the idea on a computer, and/or recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry. Viewed as a whole, these additional claim element(s) do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself.

Id. at 6.

Appellant contends the rejection is deficient based on an absence of citations to relevant court cases finding substantially identical subject matter to be abstract. Appeal Br. 11–12. Appellant further argues the claims are directed to a technical improvement, not an abstract idea, arguing “claim 1 is directed to an improvement to the computer itself by more efficiently

processing trip report requests from mobile devices by separating specific functions into asynchronous threads in a novel technique.” *Id.* at 13.

According to Appellant, separating the functions into asynchronous threads better distributes server resources and allows a fetch request to be timed-out if the skeleton is not ready. *Id.* at 13–15. Appellant further argues the claimed implementation using a self-describing object (SDO) provides an improvement to offline processing and reduces network communications. *Id.* at 15. According to Appellant, rather than being directed to an abstract idea, “[t]he claim addresses a computer network related challenge (a mobile device engaged in lengthy connection with a server while the server is processing a trip report request and creating a template) that is particular to network communication.” *Id.* at 16.

The Examiner responds, finding “[t]he claims recite the concept of processing requests for a ‘trip report skeleton’ [defined] as storing information regarding a clinical study.” Ans. 3 (citing Spec. ¶ 3). The Examiner finds “[e]ssentially, a ‘trip report skeleton’ is a data container or template used to enter data.” *Id.* According to the Examiner, the claimed steps of receiving a request to, create and report the availability of a skeleton involves “[t]he concept of comparing the fetch request to a group of requests currently being processed to determine if the request has been completed amounts to a comparison of abstract data objects, which is similar to at least one concept identified by the courts.” *Id.* (citing *CyberSource*).

The Examiner notes the argued technical improvements are additional elements properly considered under step 2B of the USPTO analysis. Ans. 4. Nonetheless, the Examiner finds the claimed asynchronous threads are well-understood, routine, and conventional in the art and that “[a]t best, Appellant

has merely invoked a well-known technical tool to implement the abstract concept.” *Id.*

In support of the finding, the Examiner cites to Linenbach, US 6,480,847 B1 (issued Nov. 12, 2002), as describing the use of multi-threading to perform tasks simultaneously and independently of each other. *Id.* (citing Linenbach col. 1, ll. 38–48). The Examiner further finds Linenbach discloses allowing a user to retry an operation in a thread that is taking too long to complete operations. *Id.*

Addressing the offline feature, the Examiner finds such functionality is widely available in computers and mobile devices while, at the same time, the claims do not require an Internet connection. *Id.* at 5.

Appellant disputes the Examiner’s findings and conclusions. Reply Br. 2–15. Of particular note, Appellant contends:

The combination of elements recited in the independent claims are not well-understood, routine and conventional. Proper evidence (as required by *Berkheimer*^[5] and the USPTO **Berkheimer Memo of April 19, 2018**^[6]) has not been provided by the Examiner to refute this fact. The Examiner has only made conclusory statements based on dissected claim elements, which fail to meet the requirement for a proper § 101 rejection.

Reply Br. 6.

⁵ *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018).

⁶ USPTO Memorandum of April 19, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (Apr. 19, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF> (“USPTO Berkheimer Memorandum”)

ANALYSIS

Except as noted, we adopt as our own the findings, determinations, and reasons set forth by the Examiner in the (1) action from which this appeal is taken (Final Act. 2–16) and (2) Examiner’s Answer in response to Appellant’s Appeal Brief (Ans. 3–6) and concur with the findings, determinations and conclusions reached by the Examiner. We highlight the following for emphasis.

Step 2A, Prong 1

Under step 2A, prong 1, of the 2019 Guidance, we first look to whether the claim recites any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as fundamental economic principles or practices, or mental processes). 2019 Guidance, 84 Fed. Reg. at 52–54.

Limitation (i) recites “receive . . . a creation request that requests . . . a trip report skeleton . . .” Receiving a request, i.e., information, reasonably can be characterized as reciting mental processes that entail concepts that can be performed in the human mind, i.e., an observation. The 2019 Guidance expressly recognizes mental processes, including observations, evaluations, judgments, and opinions that can be performed in the human mind, as patent-ineligible abstract ideas. Accordingly, limitation (i) reasonably can be characterized as reciting a judicial exception to patent-eligible subject matter.

Limitation (ii) recites “separate operations of the creation request and generating the trip report skeleton.” The act of separating operations reasonably can be characterized as an act of sorting. Sorting, in turn, reasonably can be characterized as an evaluation or judgment that can be

performed in the human mind. Accordingly, limitation (ii) reasonably can be characterized as reciting a mental process that is recognized by the 2019 Guidance.

Limitation (iii)(a) and (iii)(b) recite, *inter alia*, [(iii)(a)] *in response to the creation request, scheduling creation of the trip report skeleton . . .*; and [(iii)(b)] *transmitting an acknowledgment acknowledging receipt of the creation request*;

The act of scheduling the creation of a trip report skeleton (or anything else) reasonably can be characterized as a judgment that can be performed in the human mind. As such, limitation (iii)(a) reasonably can be characterized as reciting a mental process, which the 2019 Guidance recognizes as an abstract idea.

The act of transmitting an acknowledgment reasonably can be characterized as a certain method of organizing human activity. More specifically, transmitting an acknowledgment reasonably can be characterized as managing interactions between people, such as teaching. The 2019 Guidance recognizes such certain methods of organizing human activity as another type of abstract idea.

Limitation (iv) recites

[(iv)] generating . . . the trip report skeleton, wherein the generating comprises:

[(iv)(a)] retrieving a canonical trip report including data fields from a database, and combining the canonical trip report with metadata for rendering the data fields from the canonical trip report on a display of a mobile device; [and]

[(iv)(b)] creating the trip report skeleton . . . from the combined canonical trip report and the metadata.

Retrieving a canonical trip report including data fields from a database, as recited in limitation (iv)(a), reasonably reads on a person visually observing the data fields in a printed database. As such, the retrieving step reasonably can be characterized as constituting a mental observation that can be performed in the human mind.

Combining the canonical trip report with metadata for the purpose of subsequently rendering the data fields from the canonical trip report on a display of a mobile device reasonably reads on compiling a paper report with printed data (or metadata). As such, the combining step reasonably can be characterized as an evaluation, judgment, or opinion that can be performed in the human mind or with the aid of pen and paper.

Accordingly, such combining of the report and metadata reasonably can be characterized as a mental process that the 2019 Guidance recognizes as an abstract idea. *See* October 2019 PEG Update at 9 (“A claim that encompasses a human performing the step(s) mentally with the aid of a pen and paper [still] recites a mental process”) (emphasis omitted).

Limitation (iv)(b)’s step of “creating the trip report skeleton . . . from the combined canonical trip report and the metadata” reasonably reads on creating a report with pen and paper. As such, this step of creating the trip report skeleton reasonably can be characterized as an observation, judgment, or opinion that can be performed in the human mind.

Limitation (v) recites, in part, “in response to receiving . . . a fetch request to retrieve the trip report skeleton,” [performing steps (v)(a) through (v)(c) subject to limitation (vi)]. Thus, limitation (v) requires recognizing a fetch request, which is a type of observation. That is, receiving the recited

fetch request reasonably can be characterized as a mental process that the 2019 Guidance recognizes as an abstract idea.

Limitation (v)(a) recites “determining whether the trip report skeleton has been created.” This determining step reasonably can be characterized as another observation that can be performed in the human mind and, therefore, reasonably can be characterized as a mental process that the 2019 Guidance recognizes as an abstract idea.

Limitation (v)(b) recites what is to be done when the trip report skeleton is not yet created—allowing the fetch request to time out. Thus, the limitation may be characterized as inaction. Deciding to wait and do nothing, as recited by limitation (v)(b), can be accomplished in the human mind. Accordingly, limitation (v)(b) reasonably can be characterized as reciting a mental process.

Limitation (v)(c) recites “transmitting the trip report skeleton” under the condition of “when the trip report skeleton has been created.” Again, this transmission step is recited broadly enough as to be accomplished using pen and paper. As such, the transmission step reasonably can be characterized as a mental process, such as expressing an opinion. Accordingly, limitation (v)(c) reasonably can be characterized as a mental process.

Limitation (vi) recites, in part,

wherein the metadata allows the mobile device to render the trip report skeleton including the template and the data fields, wherein the trip report skeleton allows the mobile device to input data into the data fields when the mobile device is offline from the computer to minimize network interactions therebetween.

That is, limitation (vi) recites requirements for the type of metadata that is attached to the canonical trip report to allow the entry of data into data fields. As such, the description of the metadata merely constitutes a more specific description of the data that is attached to the report in step (iv)(b). For the reasons discussed above in relation to step (iv)(b), then, limitation (vi) also reasonably can be characterized as mental processes that the 2019 Guidance recognizes to be abstract idea.

For these reasons, each of limitations (i) through (vi) reasonably can be characterized as reciting judicial exceptions to patent-eligible subject matter under step 2A, prong 1, of the 2019 Guidance.

Step 2A, Prong 2

Under step 2A, prong 2, of the 2019 Guidance, we next analyze whether claim 1 recites additional elements that individually or in combination integrate the judicial exception into a practical application. 2019 Guidance, 84 Fed. Reg. at 53–55. The 2019 Guidance provides exemplary considerations that are indicative of an additional element or combination of elements integrating the judicial exception into a practical application, such as an additional element reflecting an improvement in the functioning of a computer or an improvement to other technology or technical field. *Id.* at 55; MPEP § 2106.05(a).

Claim 1’s limitation (i) more fully recites “receive, from a mobile device via a network communication, a creation request that requests the computer to create a trip report skeleton, where the trip report skeleton is a template that allows trip report data to be inputted and stored on the mobile device.” In addition to reciting an abstract idea, as explained above,

limitation (i) also can be characterized reasonably as merely constituting insignificant pre-solution activity:

An example of pre-solution activity is a step of gathering data for use in a claimed process, *e.g.*, a step of obtaining information about credit card transactions, which is recited as part of a claimed process of analyzing and manipulating the gathered information by a series of steps in order to detect whether the transactions were fraudulent.

MPEP § 2106.05(g).

Similarly, claim 1's final step of "when the trip report skeleton has been created, transmitting the trip report skeleton to the mobile device" (limitation (v)(c)) does not add any meaningful limitations to the abstract idea because it reasonably may be characterized as merely being directed to the insignificant post-solution activity of transmitting data. *E.g., Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241–42 (Fed. Cir. 2016) (holding that printing or downloading generated menus constituted insignificant extra-solution activity).

Appellant argues the use of asynchronous threads constitutes a technological improvement:

the functioning of the computer itself is improved by separating the functions of processing the request (which are internal computer operations) to create the trip report and generating the trip report as described in the present specification [0011 and 0013]. Conventional systems did not separate the processing of the request to create a trip report and the functions of generating the trip report into separate asynchronous threads. No prior art has been cited that teaches such techniques.

Appeal Br. 14 (bracketing in original).

Appellant's argument is unpersuasive of reversible Examiner error. Appellant does not assert that it has improved the concept of computer

threads by inventing threads that run in an asynchronous manner. *See generally* Spec. In fact, asynchronous threads are not inventive.⁷

Rather, Appellant merely discloses that the invention uses such asynchronous threads so that Appellant's computer method runs more efficiently than if a single thread were employed to both create and then generate the trip report. Spec. 3. As such, Appellant's improvement of using asynchronous threads entails using a generic technical tool to implement the claimed abstract concept of creating a fillable template. It does not entail an improvement to the technology that carries out these abstract idea.

As an analogy, consider a scenario wherein a customer of a brick-and-mortar office supply store places an order with a sales clerk for copies of a customized form (step (i)). The sales clerk acknowledges the order and transmits the order to the appropriate store personnel, such as the operator of a copy machine (steps (ii) and (iii)). The appropriate store personnel would retrieve a standardized form (e.g., a stock sales or real estate agreement or contract having blanks fields for insertion of designated information, such

⁷ *See, e.g.*, Microsoft Computer Dictionary, Fifth Ed. 38 (available at https://burmatarrecords.files.wordpress.com/2009/12/microsoft_computer_dictionary__fifth_edition1.pdf) (defining an asynchronous operation as “[a]n operation that proceeds independently of any timing mechanism, such as a clock:); *id.* (defining asynchronous communications as “[c]omputer-to-computer communications in which the sending and receiving computers do not rely on timing as a means of determining where transmissions begin and end”); *id.* at 39 (defining an asynchronous procedure call as “[a] function call that executes separately from an executing program when a set of enabling conditions exist. After the conditions have been met, the operating system's kernel issues a software interrupt and directs the executing program to execute the call”).

as names and addresses), add the customer requested information (e.g., the name of the company and form identifying information, such as a title or number) to create the customized form (steps (iv), (iv)(a), and (iv)(b) in accordance with limitation (vi)).

In response to the customer requesting the delivery of the customized form, as ordered (step v), the sales clerk would determine whether the customized form had been created (step (v)(a)) and, if so, provide the completed order to the customer (step (v)(c)). If the order was not ready, the sales clerk would inform the customer and suggest the customer check back later (step (v)(b)).

Thus, the analogy illustrates that, overall, claim 1 reasonably can be characterized as a certain method of organizing human activity.

Furthermore, Appellant's purported improvement, under this analogy, entails, instead of waiting until the customized form is completed before acknowledging the receipt of the customer's request, having the sales clerk acknowledge the receipt asynchronously from generating the requested customized form. In this hypothetical analogy, the overall efficiency of processing customer orders may be improved (i.e., the underlying concept) without improving how the orders are received or how the forms are generated (i.e., without improving a technical aspect of form processing.)

Accordingly, Appellant's arguments that asynchronous threads provide technical advantages (Appeal Br. 13–16) are unpersuasive because the problems that these features are used to address are not problems that are unique or limited to computer environments. Although the claimed method is implemented using a computer and specific computer operations and structures, these specifics of the invention find direct analogs in a manual

implementation, as illustrated above. As such, the claimed use of asynchronous threads to create a fillable template reasonably can be characterized as entailing a computerized automation, using a generic tool that is described at a high level, of an improvement to the underlying method of interacting between people.

We also are unpersuaded that the recited timeout requirement is a technological advancement. *See* Appeal Br. 14–15. Instead, notifying a user that a request for services has been received while processing the request, such that the user can issue subsequent requests for the service, is a feature of the underlying concept of providing a customized form or template for data, such as a trip report. Such timeouts were common in everyday events prior to the advent of the Internet. For example, a customer initially may request a product be prepared (i.e., created), and then upon waiting a reasonable amount of time, periodically ask an agent about the status of the order (e.g., whether the product is ready for delivery) and re-submit the request for delivery. Thus, we are unpersuaded that providing a timeout to allow repeated requests for delivery of a product or service, as claimed, constitutes a technological improvement.

We also are unpersuaded that using a Self Describing Object (SDO) for providing the skeleton constitutes a technical improvement. According to Appellant, the use of the SDO allegedly allows offline data entry and, thereby, reduces network communications between a server and a mobile device. *See* Appeal Br. 15–16 (arguing requirements of an SDO). But under a broad but reasonable interpretation, a trip report need only include some form of identification information to satisfy the recited SDO requirement, such as file name, file type, identification of fillable fields. Rather than

providing a technical improvement, then, the use of an SDO merely constitutes a technical-implementation detail that enables the underlying concept of creating a fillable template to be undertaken with the aid of a computer, rather than be manually provided as a printed a form with a form title and/or field names. Like the asynchronous threads and the timeout requirement, using an SDO merely limits the abstract idea to a particular technological environment, but does not, itself, provide a technological improvement.

Thus, the alleged improvement lies in the abstract idea itself, not to any technological improvement. That is, the “focus” of the claim is not “on the specific asserted improvement in computer capabilities” (*Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)), but rather on using the computer as a tool to implement the abstract idea in the particular field of creating a fillable template. *See Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016) (“[M]erely limiting the field of use of the abstract idea to a particular . . . environment does not render the claims any less abstract”).

We also are unpersuaded that separating the “processing of the request to create a trip report and the functions of generating the trip report into separate asynchronous threads” constitutes a technological improvement or otherwise renders the claims patent-eligible merely due to the fact, as Appellant contends, that “[n]o prior art has been cited that teaches such techniques.” Appeal Br. 14. A novel and nonobvious abstract idea is still patent ineligible. *See SAP Am., Inc. v. Investpic, LLC*, 890 F.3d 1016, 1018 (Fed. Cir. 2018) (“Nor is it enough for subject-matter eligibility that claimed techniques be novel and nonobvious in light of prior art, passing muster

under 35 U.S.C. §§ 102 and 103.”); *Synopsys*, 839 F.3d at 1151 (“[A] claim for a new abstract idea is still an abstract idea.”)

Appellant’s reliance on *Research Corp. Techs. Inc. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010) also is unpersuasive. See Appeal Br. 19. This case predates the *Alice* decision and does not employ the *Alice* steps or process set forth in the 2019 Guidance and is, therefore, unhelpful.

Furthermore, the case is distinguishable over the claims now on appeal. In *Research Corp.*, the claims recited methods for halftoning gray scale images using a pixel-by-pixel comparison of the image against a blue noise mask to produce dot profiles thresholded at any level of gray scale images. *Research Corp.*, 627 F.3d at 865. The claims thus recited functional, palpable improvements in computer technology for halftoning. *Id.* at 868–69. Here, claim 1 recites steps for creating and filling a template, rather than computer improvements for deghosting or other computer technology.

We also are not persuaded that the claims are patent-eligible based on any similarity with the subject matter determined to be patent-eligible in *BASCOM*⁸ and *DDR Holdings*,⁹ as argued. See Appeal Br. 19–20. In *BASCOM*, the court determined that “an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.” *BASCOM*, 827 F.3d at 1350. In that case, the installation of a filtering tool at a specific location, remote from the end users, with customizable filtering features specific to each end user, provided

⁸ *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016).

⁹ *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

an inventive concept in that it gave the filtering tool both the benefits of a filter on a local computer and the benefits of a filter on the ISP server. *Id.* No analogous achievement of a technical improvement exists here. Appellant has not shown that any of the presently claimed steps address a technological problem.

Appellant's reliance on *DDR Holdings* (Appeal Br. 20) likewise is misplaced. In *DDR Holdings*, the claims at issue involved web-page displays with "at least one active link associated with a commerce object associated with a buying opportunity of a selected one of a plurality of merchants." *DDR Holdings*, 773 F.3d at 1249.

In determining that the claims in *DDR Holdings* were not abstract, the court noted

these claims stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.

Id. at 1257.

Here, as we noted above, the problem of separating the threads or tasks of requesting the creation of a trip report skeleton and subsequently creating the skeleton does not specifically arise from a technology, such as computers or computer networks.

For the reasons discussed, we agree with the Examiner that the claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements do not effect an improvement to another technology, technical

field, or to the functioning of a computer itself. *See* MPEP § 2106.05(a).

We further determine claim 1 does not recite:

- (i) an application of the abstract idea with, or by use of, a particular machine;
- (ii) a transformation or reduction of a particular article to a different state or thing; or
- (iii) other meaningful limitations beyond generally linking the use of the abstract idea to a particular technological environment.

See id. § 2106.05(b), (c), (e)–(h). Instead, the record reasonably indicates that any claimed improvement is to the underlying abstract idea of providing items to a customer by collecting and using/analyzing data. Thus, claim 1 does not integrate the judicial exception into a practical application.

Step 2B

Under step 2B of the 2019 Guidance, we next analyze whether claim 1 adds any specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field. 2019 Guidance, 84 Fed. Reg. at 56; MPEP § 2106.05(d). In so doing, we analyze the claim elements individually and as an ordered combination. *See Alice*, 573 U.S. at 217–18, 221–22 (“[W]e consider the elements of each claim both individually and ‘as an ordered combination’” to determine whether the claim includes “significantly more” than the ineligible concept) (quoting *Mayo*, 566 U.S. at 78–79); *see also Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016)] (“[A]n inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.”).

The Examiner finds

[The recited] computer components are recited as a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Generic computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system.

Final Act. 4.

Appellant contends the rejection is deficient, arguing the Examiner failed to provide sufficient evidence that the claim elements are well-understood, routine, and conventional. Reply Br. 5–10 (citing *Berkheimer* 881 F.3d at 1369–70 and the USPTO Berkheimer Memorandum).

In particular, Appellant argues “[t]he recited combination of elements is not well-understood, routine, and conventional.” Reply Br. 7. In addition to this generalized allegation directed to claim 1 overall, Appellant argues (i) the Examiner’s reliance on Linenbach is inadequate “to support a conclusion that ‘it [was] well known for multi-threading to split up tasks on a database operation so that they may be performed independently of each other.’” *Id.* at 8 (citing Final Act. 4). Appellant further argues Linenbach “fails to even discuss ‘asynchronous’ threads, which is the primary basis of the Examiner’s rejection.” *Id.* at 9. Appellant still further argues Linenbach fails to discuss “timing-out a fetch request when a trip report skeleton is not created.” *Id.* at 10. Appellant contends that because “no appropriate evidence has been presented, the claim elements, as a whole and as an ordered combination[,] are not ‘well-understood, routine, and conventional.’ Accordingly, the Federal Circuit in *Berkheimer* requires that claim 1 be found patent eligible.” *Id.*

Appellant’s contention is unpersuasive of Examiner error. Although we consider the claim as a whole under Step 2B, we more specifically determine whether the *additional elements* recited in the claim, as opposed to the underlying abstract ideas, provide “a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field,” or whether these elements “simply append[] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality.” 2019 Guidance, 84 Fed. Reg. at 56.

As a threshold matter, Appellant’s repetition of the entirety of claim 1, without specifying which additional elements are contended not to be well-understood, routine and conventional (Reply Br. 7), is unpersuasive. “A statement [that] merely points out what a claim recites will not be considered an argument for separate patentability of the claim.” 37 C.F.R. § 41.37(c)(1)(iv).

We, instead, consider under Step 2B, the specific limitations beyond the judicial exception, as identified above in connection with Step 2A, Prong 2, including the recited mobile device, threads, computer, self describing object, transmission of data to the mobile device, and offline processing.

Appellant’s Specification merely describes the mobile device as a computer. Spec. ¶ 40. Court decisions have recognized that generic computer-system components operating to communicate, manipulate, and display data are well understood, routine, and conventional to a skilled artisan. *See, e.g., Alice*, 573 U.S. at 226–27; *SAP Am.*, 898 F.3d at 1164–65 & n.1, 1170; *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1234, 1241–42

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(Fed. Cir. 2016); *Symantec*, 838 F.3d at 1316–20; *Versata Dev. Group Inc. v. SAP Am. Inc.*, 793 F.3d 1306, 1334 (Fed. Cir. 2015); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–716 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

Likewise, receiving or transmitting data over a network is also recognized as well-understood, routine and conventional. *See, e.g., OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015); MPEP § 2106.05(d).

In addressing the recited asynchronous threads, the Examiner finds Linenbach evidences that “it [was] well known for multi-threading to split up tasks of a database operation so that they may be performed independently of each other (column 1 line 38-48)” and that “if an operation in a thread is taking too long, the user is given the option to retry the operation (column 43-48), all the while without having to wait for the operation to terminate.” Ans. 4.

Appellant argues Linenbach is deficient because the disclosure “has nothing to do with timing-out a fetch request when a trip report skeleton is not created [as claimed].” Reply Br. 10. However, such argument is unpersuasive of Examiner error because the argument fails to address the Examiner’s findings.

In particular, the Examiner cites Linenbach as evidence that asynchronous threads, when considered as a specific limitation *beyond the judicial exception* (i.e., the mental processes of creation request and generating the trip report skeleton), simply *appends* well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Thus, Appellant’s

argument that Linenbach fails to describe the specific abstract concept that is implemented using asynchronous threads (i.e., a specific limitation beyond the judicial exception) is unpersuasive as the argument, itself, does not address the Examiner's findings regarding the asynchronous threads themselves, i.e., that asynchronous threads are well-understood, routine, and conventional.

Likewise, we are unpersuaded by Appellant's argument that Linenbach is deficient because it "discuss[es] a very particular use of multi-threading." Reply Br. 9. There is no indication that Linenbach considers multithreading to be limited to the disclosed usage. Therefore, we agree with the Examiner that Linenbach's disclosure of splitting up functions of an application into independently executable tasks that are separately executed by a collection of threads, thereby allowing the tasks to be accomplished concurrently, (Linenbach col. 1, ll. 39–44) is persuasive evidence that asynchronous threads were well-understood, routine, and conventional.

We are also not persuaded by Appellant's argument that "citing to one prior art reference fails to meet the high standard of determining that something is well-understood, routine and conventional." Reply Br. 8. The Berkheimer Memo sets forth that "merely finding the additional element in a single patent or published application would not be sufficient to demonstrate that the additional element is well-understood, routine, conventional, *unless the patent or published application demonstrates that the additional element are widely prevalent or in common use in the relevant field.*" USPTO Berkheimer Memorandum p.4 (emphasis added). Here, the Background section of Linenbach cited by the Examiner discloses database management systems are in wide spread use and that database application use of

multithreading enhances performance by allowing tasks to be accomplished concurrently. Linenbach col. 1, ll. 24–26, 36–45. Thus, the present situation is not one in which a single reference discloses that only the inventor used an additional element. Linenbach, instead, evidences that asynchronous threads (i.e., multithreading with independently operating threads) were commonly used by others, as well as by inventor Linenbach. Linenbach col. 1, ll. 38–48. Accordingly, we are not persuaded the Examiner erred in the Step 2B analysis.

Because the Examiner correctly concluded claim 1 is directed to a judicial exception, and because Appellant does not identify any error in the Examiner’s determination under step 2B of the 2019 Guidance, we sustain the rejection of claim 1 under 35 U.S.C. § 101. Appellant does not present arguments pertaining to any other claim. Accordingly, we treat claim 1 as representative, and we sustain the rejection of the pending claims under 35 U.S.C. § 101.

CONCLUSION

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1, 4–6, 11–13, 15, 28–32	§ 101	Eligibility	1, 4–6, 11–13, 15, 28–32	

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)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED