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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* NITHYA RAJAMANI and  
ANUPAM SARONWALA

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Appeal 2018–007685  
Application 12/824,701  
Technology Center 3600

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Before HUBERT C. LORIN, NINA L. MEDLOCK, and  
MATTHEW S. MEYERS, *Administrative Patent Judges*.  
LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner’s decision to reject claims 1–25. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as International Business Machines Corporation. Appeal Br. 3.

### CLAIMED SUBJECT MATTER

The claimed subject matter relates to “maintain[ing] right relationships with key decision making individuals” (Spec., para. 1).

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method comprising:

utilizing at least one processor to execute computer code that performs the steps of:

*representing supplier nodes in a supplier side of a machine-generated network representation, wherein the machine-generated network representation comprises the supplier side and a client side and wherein the machine-generated network representation is represented as a social network from a perspective of the supplier side;*

*representing client nodes in the client side of the machine-generated network representation, the client nodes corresponding to at least one customer of at least one supplier node and wherein each of the client nodes comprises a global orientation towards the supplier side and a current orientation towards the supplier side;*

*establishing a supplier-client relationship in the network representation, wherein establishing comprises identifying at least one interaction between the at least one customer of at least one supplier node and at least one client node and wherein each of the at least one interactions affects the global orientation and the current orientation and wherein an orientation outcome is identified from the at least one interaction, wherein the orientation outcome identifies a level of positive or negative outcome resulting from the at least one interaction;*

*recording a supplier-client relationship score from at least one supplier node participating in the supplier-client relationship, the score corresponding to relationship strength of the supplier-client relationship, wherein the relationship strength is based on the at least one interaction and the orientation outcome of the at least one interaction;*

*calculating a global net orientation score of a client node, corresponding to a general relationship strength of the client node with respect to the supplier nodes in aggregate, wherein the global net orientation score is calculated based upon the recorded supplier-client relationship scores associated with the client node and wherein the global net orientation score is reflected in the global orientation of the client node;*

*iteratively amending the supplier-client relationship score after a predetermined time period and based upon recorded interactions and orientation outcomes of the recorded interactions between the supplier and client and amending the global net orientation score of the client node based upon the amended supplier-client relationship score and providing an analysis of the supplier-client relationship, wherein the analysis identifies coverage with individuals from the client node, whether the supplier-client relationship is fault-tolerant, and identifies areas of concern comprising individuals from the client node having a negative orientation towards the supplier and wherein the machine-generated network representation is updated based upon the amended supplier-client relationship score;*

*analyzing an effect, on the global net orientation score of a client node, of a proposed interaction in the supplier-client relationship, wherein the analyzing comprises updating the supplier-client relationship score based upon the proposed interaction, updating the global net orientation score based upon the updated supplier-client relationship score and determining the difference between the amended global net orientation score and the updated global net orientation score;*  
*and*

*providing a recommendation with respect to the proposed interaction based upon the analyzed effect on the global net orientation score.*

## REJECTION

Claims 1–25 are rejected under 35 U.S.C. § 101 as being directed to judicially-excepted subject matter.

## OPINION

### *Preliminary comments*

The Appellant argued these claims as a group. *See* Appeal Br. 23–35. We select claim 1 as the representative claim for this group, and the remaining claims 2–25 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

The 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019), hereinafter “2019 Revised 101 Guidance,” supersedes the earlier guidance that was in effect at the time the Appeal Brief was filed. *Id.* at 51 (“Eligibility–related guidance issued prior to the Ninth Edition, R–08.2017, of the MPEP (published Jan. 2018) should not be relied upon.”). Accordingly, our analysis will not address the sufficiency of the Examiner’s rejection against the Office’s previous guidance. Rather, our analysis will comport with the 2019 Revised 101 Guidance.

### *Introduction*

35 U.S.C. § 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor.”

In that regard, claim 1 covers a “process” and is thus statutory subject matter for which a patent may be obtained.<sup>2</sup> This is not in dispute.

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<sup>2</sup> This discussion corresponds to Step 1 of the 2019 Revised 101 Guidance which requires determining whether a “claim is to a statutory category.”

Section 101, however, “contains an important implicit exception: Laws 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)).

In that regard, notwithstanding claim 1 covers statutory subject matter, the Examiner has raised a question of patent eligibility on the ground that claim 1 is directed to an abstract idea.

*Alice* identifies a two-step framework for determining whether claimed subject matter is directed to an abstract idea. *Alice*, 573 U.S. at 217. *Alice step one – the “directed to” inquiry*

According to *Alice* step one, “[w]e must first determine whether the claims at issue are *directed to* a patent-ineligible concept.” *Id.* at 218 (emphasis added).

The Examiner determined, *inter alia*, that “[t]he present claims recite a business process that could be implemented mentally or on paper, but a general purpose computer is recited for implementation.”

The claimed invention is directed to nonstatutory subject matter because the claimed invention recites a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. The method of exemplary claim 1 sets out six steps whereby: (a) supplier nodes are represented in a network representation; (b) client nodes are represented in a network representation; (c) a supplier-client relationship is established in the network representation; (d) a score from a supplier node corresponding to the relationship strength of the supplier-client relationship is recorded; (e) a score (“global net

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84 Fed. Reg. at 53; *see also id.* at 53–54 (“consider[ ] whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. 101”).

orientation score") corresponding to a relationship strength of the client node with respect to the supplier is calculated; (f) the supplier-client relationship score and global net orientation score after a predetermined time period is amended; and (g) the effect of an interaction in the relationship is analyzed and (h) a recommendation is provided based on the analysis. All these steps are known operations for creating a relationship representation, analyzing the relationship using the representation, and providing a result of the analysis, albeit performed in the context of a supplier-client environment. The use of known operations distinguished only by context adds little to patentably transform the relationship representation abstract idea. Cf. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011) ("The Court [*Parker v. Flook*, 437 U.S. 584 (1978)] rejected the notion that the recitation of a practical application for the calculation could alone make the invention patentable."). Also, many of the recited steps are not linked to any device and thus could be practiced mentally. Adding mental steps cannot patentably transform an otherwise abstract idea into an inventive concept. In *re Comiskey*, 554 F.3d 967, 979 (Fed. Cir. 2009) ("[Mental processes-or processes of human thinking-standing alone are not patentable even if they have practical application.").

Final Act. 4–5.

The Appellant contends, *inter alia* that, “the claims are directed to a specific solution to a problem and are thus directed to improvements in a technological field, specifically, the technological field of understanding relationship dynamics.” Appeal Br. 27.

Applicant respectfully submits that the claims are not directed to an abstract idea. Rather, Applicant respectfully submits that the claims are directed to providing recommendations regarding proposed interactions between a supplier and client based upon identifying the effect of the proposed interaction on the client-supplier relationship, where the effect is determined using a machine-generated

representation including nodes representing the supplier and client and an identified relationship between the supplier and client and based upon a determined effect on a global net orientation score assigned to a client node that is adjusted based upon positive and negative interactions between the supplier and client. *See Claim 1*. Applicant respectfully submits that this is not an abstract idea. Applicant respectfully submits that the claims are directed to technological improvements to the technological field of understanding relationship dynamics. *See Specification* at [001] - [002] and [0024]. Specifically, the claimed limitations provide a method for providing recommendations regarding proposed interactions that provide a user a technique for managing relationships in a manner that is most beneficial for the supplier. *See Claim 1*. Accordingly, Applicant respectfully submits that the claims are not simply directed to an abstract idea.

*Id.* at 27–28. *See also id.* at 28 (“Applicant respectfully points to the specification which identifies that the claimed invention achieves benefits over conventional techniques for understanding relationship dynamics. *See Specification* at [0023] - [0027].”) and 29:

Applicant respectfully submits that the claims are directed to an improvement in existing computer technology, as the specification identifies benefits of the currently claimed limitations over conventional techniques for understanding relationship dynamics. Specifically, the claimed limitations provide a technique that can assess relationships and proposed interactions within the relationship and provide a recommendation with regard to a proposed interaction that is automated and consistent because a computer performs the assessments. *See Claim 1*.

Accordingly, there is a dispute over what claim 1 is directed to. Is it directed to “creating a relationship representation, analyzing the relationship using the representation, and providing a result of the analysis, albeit

performed in the context of a supplier-client environment” (Final Act. 4) or “improvements in a technological field” (Appeal Br. 27)?

*Claim Construction*<sup>3</sup>

We consider the claim as a whole<sup>4</sup> giving it the broadest reasonable construction<sup>5</sup> as one of ordinary skill in the art would have interpreted it in light of the specification<sup>6</sup> at the time of filing.

Claim 1 calls upon “at least one processor to execute computer code that performs” eight steps. The steps are, generally: (a) “representing” A; (b)

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<sup>3</sup> “[T]he important inquiry for a § 101 analysis is to look to the claim.” *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013). “In *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can.*, 687 F.3d 1266, 1273 (Fed. Cir. 2012), the court observed that ‘claim construction is not an inviolable prerequisite to a validity determination under § 101.’ However, the threshold of § 101 must be crossed; an event often dependent on the scope and meaning of the claims.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1347–48 (Fed. Cir. 2015).

<sup>4</sup> “In determining the eligibility of respondents’ claimed process for patent protection under § 101, their claims must be considered as a whole.” *Diamond v. Diehr*, 450 U.S. 175, 188 (1981).

<sup>5</sup> 2019 Revised 101 Guidance, page 53, footnote 14 (If a claim, under its *broadest reasonable interpretation* . . . .) (emphasis added.)

<sup>6</sup> “First, it is always important to look at the actual language of the claims. . . . Second, in considering the roles played by individual limitations, it is important to read the claims ‘in light of the specification.’” *Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1378 (Fed. Cir. 2017) (J. Linn, dissenting in part and concurring in part), *citing Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016), among others.

“representing” B; (c) “establishing” C; (d) “recording” D; (e) “calculating” E; (f) “iteratively amending” D “after a predetermined time period and based upon” F; (g) “analyzing” G; and (h) “providing” H;

where

A is “supplier nodes in a supplier side of a machine-generated network representation, wherein the machine-generated network representation comprises the supplier side and a client side and wherein the machine-generated network representation is represented as a social network from a perspective of the supplier side”;

B is “client nodes in the client side of the machine-generated network representation, the client nodes corresponding to at least one customer of at least one supplier node and wherein each of the client nodes comprises a global orientation towards the supplier side and a current orientation towards the supplier side”;

C is “a supplier-client relationship in the network representation, wherein establishing comprises identifying at least one interaction between the at least one customer of at least one supplier node and at least one client node and wherein each of the at least one interactions affects the global orientation and the current orientation and wherein an orientation outcome is identified from the at least one interaction, wherein the orientation outcome identifies a level of positive or negative outcome resulting from the at least one interaction”;

D is “a supplier-client relationship score from at least one supplier node participating in the supplier-client relationship, the score corresponding to relationship strength of the supplier-client relationship, wherein the relationship strength is based on the at least one interaction and the orientation outcome of the at least one interaction”;

E is “a global net orientation score of a client node, corresponding to a general relationship strength of the client node with respect to the supplier nodes in aggregate, wherein the global net orientation score is calculated based

upon the recorded supplier-client relationship scores associated with the client node and wherein the global net orientation score is reflected in the global orientation of the client node”;

F is “recorded interactions and orientation outcomes of the recorded interactions between the supplier and client and amending the global net orientation score of the client node based upon the amended supplier-client relationship score and providing an analysis of the supplier-client relationship, wherein the analysis identifies coverage with individuals from the client node, whether the supplier-client relationship is fault-tolerant, and identifies areas of concern comprising individuals from the client node having a negative orientation towards the supplier and wherein the machine-generated network representation is updated based upon the amended supplier client relationship score”;

G is “an effect, on the global net orientation score of a client node, of a proposed interaction in the supplier-client relationship, wherein the analyzing comprises updating the supplier-client relationship score based upon the proposed interaction, updating the global net orientation score based upon the updated supplier-client relationship score and determining the difference between the amended global net orientation score and the updated global net orientation score”; and,

H is “a recommendation with respect to the proposed interaction based upon the analyzed effect on the global net orientation score.”

The “at least one processor to execute computer code that performs” is known and generic.<sup>7</sup> *See* Spec., para. 18 (“computer system 100 . . . may be an electronic device such as a laptop or desktop personal computer”).

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<sup>7</sup> *Cf. Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332, 1341 (Fed. Cir. 2017) (“the claims recite [ ] a generic computer element—a processor— . . .”); *Planet Bingo, LLC v. VKGS LLC*, 576 F. App’x. 1005, 1008 (Fed. Cir. 2014) (nonprecedential) (“the claims at issue [

We reasonably broadly construe claim 1 as being directed to developing a relationship representation employing a generic computer.

*The Abstract Idea*<sup>8</sup>

Just above where we reproduce claim 1, we identify in italics the limitations we believe recite an abstract idea.

The recited italicized limitations, individually and collectively, describe mental processes; that is: (a) “representing”; (b) “representing”; (c) “establishing”; (d) “recording”; (e) “calculating”; (f) “iteratively amending ... after a predetermined time period”; (g) “analyzing”; and (h) “providing” various types of information. These concepts are akin to making observations and evaluations that can be performed in the human mind and thus are matters that fall within the “Mental processes” enumerated grouping of abstract ideas, both as to each claim limitation and the claim as a whole.<sup>9</sup>

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] require ‘a computer with a central processing unit,’ ‘a memory,’ ‘an input and output terminal,’ ‘a printer,’ in some cases ‘a video screen,’ and ‘a program . . . enabling’ the steps of managing a game of bingo. . . the claims recite a generic computer implementation of the covered abstract idea.”); *Smartflash LLC v. Apple Inc.*, 680 F. App’x 977, 984 (Fed. Cir. 2017) (nonprecedential) (“we find here that ‘interfaces,’ ‘program stores,’ and ‘processors’ are all generic computer components.”)

<sup>8</sup> This corresponds to Step 2A of the 2019 Revised 101 Guidance. Step 2A determines “whether a claim is ‘directed to’ a judicial exception,” such as an abstract idea. 2019 Revised 101 Guidance, 84 Fed. Reg. at 53. Step 2A is a two prong inquiry.

<sup>9</sup> This corresponds to Prong One [“Evaluate Whether the Claim Recites a Judicial Exception”] (b) of Step 2A of the 2019 Revised 101 Guidance. “To determine whether a claim recites an abstract idea in Prong One, examiners are now to: . . . (b) determine whether the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section 1 of the

*Improvement in the Functioning of a Computer*<sup>10</sup> (*Appellant’s Argument*)

The Examiner’s characterization of what the claim is directed to (“creating a relationship representation, analyzing the relationship using the representation, and providing a result of the analysis, albeit performed in the context of a supplier-client environment” (Final Act. 4)) is similar to our own (developing a relationship representation employing a generic computer), albeit ours is described at a higher level of abstraction. *Cf. Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240–41 (Fed. Cir. 2016) (“An abstract idea can generally be described at different levels of abstraction. As the Board has done, the claimed abstract idea could be described as generating menus on a computer, or generating a second menu from a first

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[2019 Revised 101 Guidance].” *Id.* at 54. This case implicates subject matter grouping “(c)”:

(c) Mental processes – concepts performed in the human mind (including an observation, evaluation, judgment, opinion).

*Id.* at 52.

<sup>10</sup> This corresponds to Prong Two (“If the Claim Recites a Judicial Exception, Evaluate Whether the Judicial Exception Is Integrated Into a Practical Application”) of Step 2A of the 2019 Revised 101 Guidance. 2019 Revised 101 Guidance, 84 Fed. Reg. at 54. “A claim that integrates a judicial exception into a practical application will apply, rely on, or use 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.” *Id.* One consideration, implicated here, that is “indicative that an additional element (or combination of elements)[ ] may have integrated the exception into a practical application” (*id.* at 55) is if “[a]n additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field” (*id.*).

menu and sending the second menu to another location. It could be described in other ways, including, as indicated in the specification, taking orders from restaurant customers on a computer.”) Presumably, the Appellant would challenge our characterization in a way similar to the Appellant’s challenge of the Examiner’s characterization as set forth in the briefs.

We have reviewed the record and are unpersuaded as to error in our or the Examiner’s characterization of what claim 1 is directed to.

Appellant argues that the “the claims are directed to a specific solution to a problem and are thus directed to improvements in a technological field, specifically, the technological field of understanding relationship dynamics.” Appeal Br. 32. Appellant seeks to make the case that

the claims are directed to an improvement in existing computer technology, as the specification identifies benefits of the currently claimed limitations over conventional techniques for understanding relationship dynamics. Specifically, the claimed limitations provide a technique that can assess relationships and proposed interactions within the relationship and provide a recommendation with regard to a proposed interaction that is automated and consistent because a computer performs the assessments.

*Id.* at 29.

We are unpersuaded that claim 1 is directed to a technological problem with “processors.” To the extent that the Appellant means to argue that the recited steps functionally improve the “processor” (claim 1), neither Appellant nor the Specification adequately explains how that is so.

Appellant directs our attention to paras. 23–27 of the Specification as “describ[ing] the specific technical improvements to programming that permit the system to understand relationship dynamics in novel, nonobvious ways.” *Id.* at 31. We reproduce paras. 23–27:

[0023] In accordance with embodiments of the invention, the network is populated individually by a service delivery team, by recording their relationship interactions on a regular basis with client side management at a peer level and above. The details of the interaction are anonymized outside of an individual's access, so privacy is maintained. A global analysis reports whether each relationship with a key decision maker is fault-tolerant overall, wherein there are multiple channels in client organization being leveraged by service provider to influence the key decision maker perceptions. Analyses at individual levels can suggest how individuals can improve their reach to key decision makers (e.g., via suggesting alternative paths through individuals in the client organization who have been reported to have a net positive orientation). Apart from the reach, the analysis can also suggest the weaker spots in the client organization where positive efforts need to be made to enable over-recovery of service failure. For example, consider a situation where client x is involved in a service interaction with supplier y and though the delivery is done well in the end, there were some unexpected failures and delays in execution of the service due to which the perception of client x (e.g., at the level of Executive Director) might not be an ideal one with respect to the provider. In that context, assume as well that there was another favorable effort executed in connection with a client z in the same organization (e.g., IT department manager). It should thus be appreciated that if z (or someone in the command line chain of y) communicates this favorable impression of y to x, whether formally or informally, perception of the client x can be enhanced overall even if client x does not have a need to know.

[0024] It will be appreciated herein that a tool in accordance with embodiments of the invention, and analysis employed in connection therewith, can be helpful to guide a team that is geographically dispersed while also assisting new team members in understanding relationship dynamics. The tool is also helpful to assess the impact of a governance change in a client organization.

[0025] In accordance with embodiments of the invention, a social network of service provider and service recipient teams is developed, and this network is analyzed from a global perspective of the provider organization, that is, the representation and analysis and recommendations are internally driven by a service provider organization. Informal and formal relationships alike can be noted in the network representation. The nodes in the networks are team members from the provider and client organizations. The key decision makers in the client organizations are marked out in the graph. Each of the client nodes (node where client team members are represented), has an orientation which reflects whether the person has a positive orientation or negative orientation overall, globally and at a current point in time, towards the service provider organization. The client organization and the internal relationships can initially be assumed to be embodied by formal and functional relationships that are already well known and established, and yet can be adapted at later times based on further learning and input.

[0026] In accordance with embodiments of the invention, each service provider member updates on a regular basis (e.g., weekly), their interactions with client individuals at peer and higher levels and updates on the strength of interactions and how much of a positive or negative outcome resulted from it (e.g., on a scale of 0 to 10). The actual details from an individual perspective need not be revealed to anyone apart from the individual constructing it; instead, what becomes exposed globally is the aggregate orientations, connection paths

in the network and the strength of the connections, where permitted by individual supplier nodes.

[0027] In accordance with embodiments of the invention, each client node is updated at regular intervals even if there are no obtained in connection with relationships that are affected through any particular incidents. This is so that at a global level actions can be taken to over-recover from, or compensate for, the situations in a subtle manner when they happen, and even when they don't, the overall network updates the orientations based on the history and any new events. At an individual level, each provider member gets an update on how much of coverage they have with the key decision makers and channels they can leverage to improve their coverage. At global level, the relationship owner gets a picture on the complete coverage with key individuals (e.g., executives) and whether it is fault-tolerant (e.g., survives losing a single breakage in a relationship). It also shows areas of concern globally (e.g., individuals on the client side having a net negative orientation) which needs to be corrected through service recovery strategies. All of this takes place, in accordance with embodiments of the invention, while maintaining individual network strengths in privacy.

We do not see any “specific technical improvements to programming” mentioned there.

It is true that specific asserted improvements in, for example, computer capabilities, when claimed, can render claimed subject matter not directed to an abstract idea. *Cf. McRO, Inc. v. Bandai Namco Games America, Inc.*, 837 F.3d 1299, 1316 (Fed. Cir. 2016) (“When looked at as a whole, claim 1 is directed to a patentable, technological improvement over the existing, manual 3–D animation techniques.”). But, there is insufficient evidence in the record before us that the claimed subject matter reflects any such improvement.

“The ‘abstract idea’ step of the inquiry calls upon us to look at the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter.” *Affinity Labs of Texas v. DirectTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); see also *Enfish*, 822 F.3d at 1335. See also *Ancora Technologies, Inc. v. HTC America, Inc.*, 908 F.3d 1343, 47 (Fed. Cir. 2018):

We examine the patent’s “‘claimed advance’ to determine whether the claims are directed to an abstract idea.” *Finjan, Inc. v. Blue Coat System, Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018). “In cases involving software innovations, this inquiry often turns on whether the claims focus 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.’” *Id.* (quoting *Enfish*, 822 F.3d at 1335–36); see *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1285–86 (Fed. Cir. 2018). Computers are improved not only through changes in hardware; “[s]oftware can make non-abstract improvements to computer technology . . . .” *Enfish*, 822 F.3d at 1335; see *Finjan*, 879 F.3d at 1304. We have several times held claims to pass muster under *Alice* step one when sufficiently focused on such improvements.

The Specification’s description of the problem and solution shows the advance over the prior art by the claimed invention is in developing a relationship representation, not on any improvement in computer functionality. According to the Specification,

In management literature, it is well known that relationships play a key role in increasing client loyalty and hence revenue growth of a firm. However, continuing to manage the relationships has been mostly an informal and "soft" exercise

that is done at the discretion of an individual and driven by appropriate incentives to drive beneficial interactions. The social interactions are also managed at an individual level rather than an organizational level, whereas maintaining service level agreements are discussed as "hard" factors in several formal and informal interactions at more global levels.

Para. 2.

We have carefully reviewed the Specification but can find no disclosure of a technical improvement. It is true that in various places in the Specification various “improvements” are suggested. Notwithstanding many of the discussed improvements depend on using a processor, there is no suggestion in the Specification that the subject matter claimed means to solve a problem associated with the processor. The heart of the invention, as claimed, is using a generic “processor” to practice the claimed scheme, which “processor” is plainly generic and does not change upon implementation of the recited scheme. *Cf. Intellectual Ventures I LLC v. Erie Indemnity Company*, 850 F.3d 1315, 1328 (Fed. Cir. 2017) (“[T]he heart of the claimed invention lies in creating and using an index to search for and retrieve data . . . an abstract concept.”)

The Specification attributes no special meaning to (a) “representing”; (b) “representing”; (c) “establishing”; (d) “recording”; (e) “calculating”; (f) “iteratively amending . . . after a predetermined time period”; (g) “analyzing”; and (h) “providing” with respect to the “processor” (claim 1). In our view, consistent with the Specification, these are common processing functions one of ordinary skill in the art at the time of the invention would have associated with generic “processors.” *Cf. OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015):

Beyond the abstract idea of offer-based price optimization, the claims merely recite “well-understood, routine conventional activit[ies],” either by requiring conventional computer activities or routine data-gathering steps. *Alice*, 134 S. Ct. at 2359 (quoting *Mayo*, 132 S. Ct. at 1294) (alterations in original). . . . For example, claim 1 recites “sending a first set of electronic messages over a network to devices,” the devices being “programmed to communicate,” storing test results in a “machine-readable medium,” and “using a computerized system ... to automatically determine” an estimated outcome and setting a price. Just as in *Alice*, “all of these computer functions are ‘well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Alice*, 134 S. Ct. at 2359 (quoting *Mayo*, 132 S. Ct. at 1294) (alterations in original); *see also buySAFE[, Inc. v. Google, Inc.]*, 765 F.3d [1350,] 1355 [(Fed. Cir. 2014)] (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”).

Claim 1 describes a method whereby various types of information are (a) “representing”; (b) “representing”; (c) “establishing”; (d) “recording”; (e) “calculating”; (f) “iteratively amending ... after a predetermined time period”; (g) “analyzing”; and (h) “providing” via a “processor.” As we have indicated the “processor” (claim 1) is generic and conventional. The generic “processor” broadly claimed distinguishes over other generic processors by the certain types of information that are processed. But, that informational content difference alone is not patentably consequential. This is so because “[c]laim limitations directed to the content of information and lacking a requisite functional relationship are not entitled to patentable weight because such information is not patent eligible subject matter under 35 U.S.C. § 101.” *Praxair Distribution, Inc. v. Mallinckrodt Hospital Products IP Ltd.*, 890 F.3d 1024, 1032 (Fed. Cir. 2018).

The (a) “representing”; (b) “representing”; (c) “establishing”; (d) “recording”; (e) “calculating”; (f) “iteratively amending ... after a predetermined time period”; (g) “analyzing”; and (h) “providing,” as claimed, do not ask the “processor” (claim 1) to go beyond its common functions. Although instructions a processor must follow to invoke the performance of certain steps can be patentably significant (*see Enfish*, and *Ancora Techs.*, 908 F.3d at 1343), here the instant record does not sufficiently support the view that the recited steps are caused to be performed by instructions having a non-generic effect on the “processor” (claim 1). To the contrary, the record supports viewing the recitation of a “processor” (claim 1) as amounting to a mere instruction to implement the recited scheme on a generic processor. *Cf. Alice* 573 U.S. at 225–26 (“Instead, the claims at issue amount to ‘nothing significantly more’ than an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer.”)

Rather than being directed to any specific asserted improvement in technological capabilities, the record supports the view that the claimed subject matter is directed to using a generic processor to perform the recited scheme so as to “provid[e] a recommendation with respect to [a] proposed interaction based upon [an] analyzed effect on [a] global net orientation score” (claim 1).<sup>11</sup>

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<sup>11</sup> *See* the 2019 Revised 101 Guidance, 84 Fed. Reg. at 55:

The courts have also identified examples in which a judicial exception has not been integrated into a practical application:

The claim provides no additional structural details<sup>12</sup> that would distinguish the “processor” (claim 1) from that which was well known as being generic at the time the application was filed.

Rather, claim 1 describes it functionally, by describing certain resulting steps; that is, (a) “representing”; (b) “representing”; (c) “establishing”; (d) “recording”; (e) “calculating”; (f) “iteratively amending ... after a predetermined time period”; (g) “analyzing”; and (h) “providing” various types of information. But, in that regard, there is insufficient evidence showing they affect the “processor” (claim 1) in any structural way.

Accordingly, within the meaning of the 2019 Revised 101 Guidance, we find there is no integration into a practical application.

We have considered all the Appellant’s arguments challenging the Examiner’s determination under step one of the *Alice* framework and find them unpersuasive. For the foregoing reasons, the record supports the Examiner’s determination that claim 1 is directed to an abstract idea.

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- An additional element merely recites the words “apply it” (or an equivalent) with the judicial exception, or merely includes instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea.

<sup>12</sup> *Cf. Move, Inc. v. Real Estate Alliance Ltd.*, 721 F. App’x 950, 954 (Fed. Cir. 2018) (nonprecedential). “Claim 1 is aspirational in nature and devoid of any implementation details or technical description that would permit us to conclude that the claim as a whole is directed to something other than the abstract idea identified by the district court.”

*Alice step two – Does the Claim Provide an Inventive Concept?*<sup>13</sup>

Step two is “a search for an ‘inventive concept’—*i.e.*, 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 221 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012)).

In that regard, the Examiner states:

it is noted that claim 1 calls for “machine-generated network representation” and “at least one processor.” But any general-purpose computer available at the time the application was filed would have satisfied these limitations. The Specification supports that view. See Spec., e.g., para. 56 (“a process such as that broadly illustrated in FIG. 6 can be carried out on essentially any suitable computer system or set of computer systems.”) “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea ‘while adding the words “apply it” is not enough for patent eligibility.’” *Alice*, 134 S. Ct. at 2358.

Final Act. 5.

We agree with the Examiner.

Appellant argues, *inter alia*, that

claim 1 requires something more than a generic computer by providing recommendations regarding proposed interactions between a supplier and client based upon identifying the effect of the proposed interaction on the client-supplier relationship, where the effect is determined using a machine-generated representation including nodes representing the

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<sup>13</sup> This corresponds to Step 2B of the 2019 Revised 101 Guidance, 84 Fed. Reg. at 56 (“[I]f a claim has been determined to be directed to a judicial exception under revised Step 2A, examiners should then evaluate the additional elements individually and in combination under Step 2B to determine whether they provide an inventive concept (*i.e.*, whether the additional elements amount to significantly more than the exception itself).”).

supplier and client and an identified relationship between the supplier and client and based upon a determined effect on a global net orientation score assigned to a client node that is adjusted based upon positive and negative interactions between the supplier and client. Claim 1. Without Applicant’s contribution to the technology, the state of the art would remain that recited in Applicant’s specification at [001] - [002] and [0024].

Appeal Br. 33.

We addressed the Appellant’s argument as to purported specific asserted improvements in technology under step one of the *Alice* framework. This is consistent with the case law. *See Ancora*, 908 F.3d at 1347 (“We have several times held claims to pass muster under *Alice* step one when sufficiently focused on such improvements.”). Such an argument can also challenge a determination under step two of the *Alice* framework. *See buySAFE*, 765 F.3d at 1354–55. “[R]ecent Federal Circuit jurisprudence has indicated that eligible subject matter can often be identified either at the first or the second step of the *Alice/Mayo* [framework].” 2019 Revised 101 Guidance, 84 Fed. Reg. at 53; *see also id.* n.17.

Be that as it may, we are unpersuaded that claim 1 presents an element or combination of elements indicative of a specific asserted improvement in technological capabilities, thereby rendering the claimed subject matter sufficient to ensure that the patent in practice amounts to significantly more than a patent upon using a generic processor to develop a relationship representation.

We have reviewed the Specification and, as explained above, we can find no suggestion of any technical improvements associated with the performance of the recited steps. The Specification is focused on developing a relationship representation, not on the “processor” (claim 1). Rather than

focusing on said “processor”, the Specification focuses on (a) “representing”; (b) “representing”; (c) “establishing”; (d) “recording”; (e) “calculating”; (f) “iteratively amending ... after a predetermined time period”; (g) “analyzing”; and (h) “providing” various types of information that will lead to “a recommendation with respect to the proposed interaction based upon the analyzed effect on the global net orientation score” (claim 1), the “processor” (claim 1) acting merely as a conduit for practicing said scheme. *Cf. In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607,612 (Fed. Cir. 2016) (“Put differently, the telephone unit itself is merely a conduit for the abstract idea of classifying an image and storing the image based on its classification. Indeed, the specification notes that it ‘is known’ that ‘cellular telephones may be utilized for image transmission,’ [U.S. Patent 6,038,295,] col. 1 ll. 31–34, and existing telephone systems could transmit pictures, audio, and motion pictures and also had ‘graphical annotation capability,’” *id.* at col. 1 ll. 52–59.”)

We are unpersuaded that the record supports interpreting the steps recited in the claim as resulting in a technological improvement as the Appellant has argued. As discussed above, the “processor” (claim 1) was notoriously well-known, and the recited steps it performs ask nothing more of it than to use it for its commonly-associated information-processing functions. Much like the “data storage unit” and “computer, coupled to said storage unit” in the claims of *Alice* (U.S. Patent 7,149,720, claim 1), “the claims here do [not do] more than simply instruct the practitioner to implement the abstract idea [...] on a generic computer.” *Alice*, 573 U.S. at 225. *See also Bancorp Services, L.L.C. v. Sun Life Assur. Co. of Canada*

(*U.S.*), 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“[T]he use of a computer in an otherwise patent-ineligible process for no more than its most basic function—making calculations or computations—fails to circumvent the prohibition against patenting abstract ideas and mental processes.”).

For the reasons discussed above, we are unpersuaded that the record supports interpreting the steps recited in the claim as yielding any improvement in technology.

We cited the Specification to show that it discloses that the claimed “processor” (claim 1) is conventional. In doing so, we have followed “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP Inc.*[, 881 F.3d 1360 (Fed. Cir. 2018)],” USPTO Memorandum, Robert W. Bahr, Deputy Commissioner For Patent Examination Policy, April 19, 2018 (the “Berkheimer Memo”).

The court in *Berkheimer* held that “[t]he patent eligibility inquiry may contain underlying issues of fact.” *Berkheimer*, 881 F.3d at 1365 (quoting *Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016) (“The § 101 inquiry ‘*may* contain underlying factual issues.”)). But, the court also held that “[w]hen there is *no genuine issue of material fact* regarding whether the claim element or claimed combination is well-understood, routine, [and] conventional to a skilled artisan in the relevant field, this issue can be decided on summary judgment as a matter of law.” *Id.* at 1368 (emphasis added). This qualification has been subsequently reiterated.

If there is a genuine dispute of material fact, Rule 56 requires that summary judgment be denied. In *Berkheimer*, there was

such a genuine dispute for claims 4–7, but not for claims 1–3 and 9 . . . . [I]n accordance with *Alice*, we have repeatedly recognized the absence of a genuine dispute as to eligibility for the many claims that have been defended as involving an inventive concept based merely on the idea of using existing computers or the Internet to carry out conventional processes, with no alteration of computer functionality.

*Berkheimer v. HP Inc.*, 890 F.3d 1369, 1371–73 (Fed. Cir. 2018) (Order, On Petition for rehearing en banc, May 31, 2018) (Moore, J., concurring); *see also Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1368 (Fed. Cir. 2018) (“A factual allegation or dispute should not automatically take the determination out of the court’s hands; rather, there needs to be justification for why additional evidence must be considered—the default being a legal determination.”). Here, the Specification indisputably shows the claimed “processor” (claim 1) was conventional at the time of filing. Accordingly, no genuine issue of material fact exists as to the well-understood, routine, or conventional nature of the claimed “processor” (claim 1) as claimed.

No other persuasive arguments having been presented, we conclude that no error has been committed in the determination under *Alice* step two that claim 1 does not include an element or combination of elements circumscribing the patent-ineligible concept it is directed to so as to transform the concept into an inventive application.

We have considered all of the Appellant’s remaining arguments and find them unpersuasive.

Accordingly, because we are not persuaded as to error in the determinations that representative claim 1 and claims 2–25, which stand or fall with claim 1, are directed to an abstract idea and do not present an

“inventive concept,” we sustain the Examiner’s conclusion that they are directed to patent-ineligible subject matter for being judicially-excepted from 35 U.S.C. § 101. *Cf. LendingTree, LLC v. Zillow, Inc.*, 656 F. App’x 991, 997 (Fed. Cir. 2016) (“We have considered all of LendingTree’s remaining arguments and have found them unpersuasive. Accordingly, because the asserted claims of the patents in suit are directed to an abstract idea and do not present an ‘inventive concept,’ we hold that they are directed to ineligible subject matter under 35 U.S.C. § 101.”); *see, e.g., OIP Techs.*, 788 F.3d at 1364; *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016).

#### CONCLUSION

The decision of the Examiner to reject claims 1–25 is affirmed.

More specifically:

The rejection of claims 1–25 under 35 U.S.C. § 101 as being directed to judicially-excepted subject matter is affirmed.

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–25	101	Eligibility	1–25	

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**