UNITED STATES PATENT AND TRADEMARK OFFICE

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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 JUAN J. LIU, MILPITAS and OLIVER BRDICZKA
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Appeal 2018-001696
Application 13/797,663
Technology Center 3600
_____

BEFORE JAMES R. HUGHES, JOHNNY A. KUMAR, and JASON J. CHUNG, *Administrative Patent Judges.*

KUMAR, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's decision to finally reject claims 1–5, 7, 8, 10–14, 16, 18–20, 22, 23, 25, and 27.[2] We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

STATEMENT OF THE CASE

Appellants' invention relates to detecting anomalous behavior of an individual within an organization and providing an interactive user interface for presenting anomaly detection outcomes associated with the organization. Spec. ¶¶ 3–6.

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[1] Appellants identify the real party in interest as Palo Alto Research Center. App. Br. 1.
[2] Claims 6, 9, 15, 17, 21, 24, and 26 were canceled previously.

Exemplary Claim

1.　　A system for presenting anomaly-detection outcomes associated with an organization to a user, the system comprising:

　　a processor;

　　a memory;

　　a non-transitory computer-readable medium coupled to the processor storing instructions that, when executed by the processor, cause the system to perform a method comprising:

　　receiving, at a server with the processor, user activity data from a plurality of client machines associated with the organization, wherein the user activity data includes electronic activities of a respective user performed on a respective client machine associated with the organization;

　　analyzing, by the processor, the user activity data associated with the electronic activities to determine anomalies, which include detecting an employee with anomalous behavior;

　　in response to receiving user input, expanding a node to display anomaly information associated with employee members of an organizational unit represented by the node;

　　in response to receiving user input to select the employee, displaying an anomaly report associated with the employee, which includes:

　　displaying a time-varying anomaly score associated with the employee; determining a disgruntlement measure that varies with time and represents a level of disgruntlement of the employee;

　　determining a maximum disgruntlement measure for a particular time period, wherein the maximum disgruntlement measure correlates to one or more employment-related events associated with the employee during the particular time period;

　　displaying the disgruntlement measure over the particular time period; and displaying visual representations of the employment-related events, which correspond to the maximum disgruntlement measure within the particular time period.

App. Br. 37–38 (Claims Appendix).

REJECTION

Claims 1–5, 7, 8, 10–14, 16, 18–20, 22, 23, 25, and 27 are rejected under 35 U.S.C. § 101, as being directed to a judicial exception, without significantly more. Final Act. 6–10; Ans. 2–15.[3]

THE INELIGIBILITY REJECTION

The Examiner states "the claims are directed to detecting, scoring, and displaying information related to anomalous behavior of employees in an organization," and this "underlying evaluation process is a mental process of managing behavior that could be performed in the human mind, or by a human using a pen and paper. Final Act. 7–8. The Examiner adds "the claims manage concepts relating to interpersonal and intrapersonal activities (see the July 2015 Update: Interim Eligibility Guidance Identifying Abstract Ideas), the claims also incorporate the abstract idea of organizing human activity." *Id.* The Examiner further determines that the additional elements including (1) a *processor*; (2) a *memory*; (3) *non-transitory computer readable medium*; (4) a *server*; and (5) *client machines* do not add significantly more than the abstract idea, but merely recite generic computing components. Final Act. 8–10.

Appellants argue the claims are not directed to an abstract idea, but rather, the claimed invention recites an improvement of computer related technology, namely data mining and data visualization, citing *Enfish, LLC v.*

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[3] Throughout this Opinion, we refer to (1) the Final Office Action delivered April 6, 2017 ("Final Act."); (2) the Appeal Brief filed September 5, 2017 ("App. Br."); (3) the Examiner's Answer delivered October 13, 2017 ("Ans."); and (4) the Reply Brief filed December 6, 2017 ("Reply Br.").

Microsoft Corp., 822 F.3d 1327 (Fed. Cir. 2016) and *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016). App. Br. 20–22. Appellants add, similar to *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), the claimed invention as a whole amounts to significantly more to the purported abstract idea by reciting an unconventional solution to a technical problem involving presenting anomalous activity to a security analyst based on massive amounts of data. App. Br. 32–34. The Appellants additionally argue the claimed invention prevents broad preemption of the relevant technological field. App. Br. 22.

ISSUE

Under § 101, has the Examiner erred in rejecting the claimed invention as directed to ineligible subject matter? This issue turns on whether the claims are directed to an abstract idea and, if so, whether additional elements recited—considered individually and as an ordered combination—transform the nature of the claims into a patent-eligible application of that abstract idea.

PRINCIPLES OF LAW

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the 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. *See, e.g.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quotation marks and citation omitted).

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

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 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. (15 How.) 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 Supreme 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."). That said, the Supreme 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.* (citing *Benson* and *Flook*); *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 (citation omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (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.*

In January 2019, the USPTO published revised guidance on the application of § 101. *See* 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Revised Guidance"). Under that guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract
> ideas (i.e., mathematical concepts, certain methods of organizing

human activity such as a fundamental economic practice, or mental
processes); and

(2) additional elements that integrate the judicial exception into a
practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE
(MPEP) §§ 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)).

Only if a claim (1) recites a judicial exception, and (2) does not
integrate that exception into a practical application, do we then 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, and conventional
activities previously known to the industry, specified at a high level of
generality, to the judicial exception.

See Revised Guidance, 84 Fed. Reg. at 56.

THE INELIGIBILITY ANALYSIS

Independent claims 1, 10, and 19 recite analogous limitations.
Appellants present a unitary argument directed towards independent claims
1, 10, and 19 together. App. Br. 35. Accordingly, we select claim 1 for
discussion as representative of the rejected claims. We refer to the rejected
independent claims collectively herein as "claim 1." *See* 37 C.F.R.
§ 41.37(c)(1)(iv); *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

We must determine whether the claimed invention is directed to a
judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217. To
this end, we determine (1) whether the claimed invention recites a judicial

exception (Revised Guidance Step 2A — Prong 1) and, if so, (2) whether the identified judicial exception is integrated into a practical application (Revised Guidance Step 2A — Prong 2). *See* Revised Guidance, 84 Fed. Reg. at 52–55.

Revised Guidance Step 2A — Prong 1

In Revised Step 2A — Prong 1, we (1) identify the claim's specific limitations that recite an abstract idea, and (2) determine whether the identified limitations fall within certain subject matter groupings, namely (a) mathematical concepts;[4] (b) certain methods of organizing human activity[5]; or (c) mental processes.[6] We agree with the Examiner (Final Act. 6–8) that claim 1 recites a judicial exception. Here, apart from (1) a *processor*; (2) a *memory*; (3) *non-transitory computer readable medium*; (4) a *server*; and (5) *client machines* recited in independent claim 1, the claimed invention's recited limitations, which collectively are directed to gathering, analyzing, organizing and displaying the analyzed and organized data, fit squarely within at least one of the above categories of the agency's guidelines.

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[4] Mathematical concepts include mathematical relationships, mathematical formulas or equations, and mathematical calculations. *See* Revised Guidance, 84 Fed. Reg. at 52.

[5] Certain methods of organizing human activity include fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions). *See* Revised Guidance, 84 Fed. Reg. at 52.

[6] Mental processes are concepts performed in the human mind including an observation, evaluation, judgment, or opinion. *See* Revised Guidance, 84 Fed. Reg. at 52.

First, the claimed invention recites steps recite **certain methods of organizing human activity**, including managing personal behavior or relationships following rules or instructions, such as monitoring the behavior of an individual within an organization for anomalous behavior. *See* Spec. ¶ 4 ("detecting anomalous behaviors of an individual, the organization may intervene . . . a military base may monitor behaviors of soldiers"). For example, claim 1 recites (1) "***receiving*** . . . *user activity data from a plurality of client machines associated with the organization, wherein the user activity data includes electronic activities of a respective user performed on a respective client machine associated with the organization*"; (2) "***analyzing*** . . . *the user activity data associated with the electronic activities to determine anomalies, which include detecting an employee with anomalous behavior*"; (3) "*in response to receiving user input, expanding a node to **display** anomaly information associated with employee members of an organizational unit represented by the node*"; (4) "*in response to receiving user input to select the employee, **displaying an anomaly report** associated with the employee, **which includes**: displaying a time-varying **anomaly score** associated with the employee*"; (4a) "***determining a disgruntlement measure*** *that varies with time and represents a level of disgruntlement of the employee*"; (4b) "***determining a maximum disgruntlement measure*** *for a particular time period, wherein the maximum disgruntlement measure correlates to one or more employment-related events associated with the employee during the particular time period*"; (4c) "***displaying the disgruntlement measure*** *over the particular time period*"; and (4d) "***displaying*** *visual representations of the **employment-related events**, which correspond to the maximum disgruntlement measure within*

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the particular time period" (App. Br. 37–38 (Claims Appendix) (emphases added)), which involve certain methods of organizing human activity including managing interactions between people following rules or instructions.

The relevant case law establishes limitations (1)–(4d) recite an abstract idea. *Cf. Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1313 (Fed. Cir. 2016) ("receiving e-mail (and other data file) identifiers, characterizing e-mail based on the identifiers, and communicating the characterization—in other words, filtering files/e-mail—is an abstract idea"); *see also* MPEP § 2106.04(a)(2), II ("**CERTAIN METHODS OF ORGANIZING HUMAN ACTIVITY**," Section D, example v, citing *Symantec*); *Dealertrack v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012) ("receiving data from one source . . . , selectively forwarding the data . . . , and forwarding reply data to the first source" constituted certain methods of organizing human activities, which is a type of abstract idea); MPEP 2106.04(a)(2), II ("**CERTAIN METHODS OF ORGANIZING HUMAN ACTIVITY**," Section A, citing *Dealertrack*). Similar to the data gathering (1), (3), and (4) and selective transmission of content based on user characteristics, such as user activity data (2) and (4a)–(4d), shown above, our reviewing court in *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363 (Fed. Cir. 2017) found that retrieving data from a user profile and tailoring transmitted content based on a "user's personal characteristics" constituted certain methods of organizing human activities, which is a type of abstract idea. 792 F.3d 1363, 1369–70; *see also* MPEP § 2106.04(a)(2), II ("**CERTAIN METHODS OF ORGANIZING HUMAN ACTIVITY**," Section C, citing *Capital One Bank (USA)*).

Specifically, limitations (1), (3), and (4) recite gathering data such as *user activity data* and *user input* in furtherance of organizing human activity, namely, managing the personal behavior of an employee. The Specification discloses gathering *user activity data* amounts to monitoring the behavior of an employee to detect "abnormal behavior" (Spec. ¶ 26) so that the personal behavior of the employee can effectively be managed through investigation, intervention or prevention techniques (Spec. ¶ 4). Furthermore, data gathering with user input merely recites an interaction between a sender and a recipient. In *Symantec*, our reviewing court found claim limitations reciting

> *identifying characteristics of data files* comprising: *receiving*, on a processing system, file content identifiers for data files from a plurality of file content identifier generator agents

(emphasis added) constitute certain methods of organizing human activities, which is a type of abstract idea related to retrieving data using data file identifiers. *See Symantec*, 838 F.3d 1307 at 1313; *see also Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1345–49 (Fed. Cir. 2014) (holding ineligible claims reciting (1) receiving output representing diverse types of hard copy documents from an automated digitizing unit, and (2) storing information from those documents into memory); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (noting that limitations reciting obtaining information about transactions that have used an Internet address identified with a credit card transaction can be performed by a human who simply reads records of Internet credit card transactions from a pre-existing database).

Furthermore, limitations (2) and (4a)–(4d) recite using the data gathered in limitations (1), (3), and (4) to determine that wanted and

unwanted content may be defined according to *user activity data* and *user input* data and sending content for display based on the determination. Our reviewing court has found that email filtering with user-set criteria constitutes certain methods of organizing human activities, which is a type of abstract idea. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1313, 1317–19 (Fed. Cir. 2016); *see also* MPEP § 2106.04(a)(2), II ("**CERTAIN METHODS OF ORGANIZING HUMAN ACTIVITY**," Section D, example v, citing *Symantec*). Additionally, user customizable content filtering of information retrieved from the Internet was similarly found to constitute certain methods of organizing human activities, which is a type of abstract idea. *See BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1345–46 (Fed. Cir. 2016); *see also* MPEP § 2106.04(a)(2), II ("**CERTAIN METHODS OF ORGANIZING HUMAN ACTIVITY**," Section C, example i, citing *BASCOM*). These cases are relevant because user-customization means that wanted and unwanted content may be defined according to user related data. Retrieval of information defining the wanted and unwanted content in a multi-user environment requires use of the user related data. *See, e.g.*, *BASCOM*, *supra*. Although the claimed invention involves modifying content rather than blocking or allowing access to requested content like these cases, the use of recipient information to modify content transmitted to a recipient, i.e., steps (4)–(6), similarly recites a certain method of organizing human activity that is an abstract idea.

Furthermore, the Specification indicates (2) "*analyzing . . . the user activity data associated with the electronic activities to determine anomalies, which include detecting an employee with anomalous behavior*"

under an aspect of the invention, can be carried out by simple counting of anomalous behaviors. Spec. ¶ 41 (emphasis added). Additionally, with respect to (4a) and (4b), under an aspect of the invention, *determining a disgruntlement measure* under an aspect of the invention, can be carried out by a data comparison, such as a "sudden change in the productivity or punctuality." *See* Spec. ¶ 54; *see also id.* ¶ 57 ("psychological state (such as his disgruntlement measure)"). Our reviewing court in *Capital One Bank (USA)* reviewed analogous claim limitations and determined tailoring of content transmitted to a recipient based on "matching personal characteristics in a user profile" with "information identifiers" is a fundamental practice long prevalent in our system, i.e., a certain method of organizing human activity that is an abstract idea.. 792 F.3d 1363, 1369–70 (internal citations and quotations omitted); *see also* MPEP § 2106.04(a)(2), II ("**CERTAIN METHODS OF ORGANIZING HUMAN ACTIVITY**," Section C, citing *Capital One Bank (USA)*).

We add that the above-noted recited functions (with emphasis added) of (2) "*analyzing . . . the user activity data associated with the electronic activities to determine anomalies, which include detecting an employee with anomalous behavior*"; (4a) "*determining a disgruntlement measure that varies with time and represents a level of disgruntlement of the employee*"; and (4b) "*determining a maximum disgruntlement measure for a particular time period, wherein the maximum disgruntlement measure correlates to one or more employment-related events associated with the employee during the particular time period*" can also be generally performed as a **mental process** by merely *thinking* about these identifications and determinations, or writing them down—both involving mere observation and logical reasoning. *Cf.*

CyberSource, 654 F.3d at 1372 (noting that a recited step that utilized a map of credit card numbers to determine the validity of a credit card transaction could typically be performed entirely mentally by merely using *logical reasoning* to identify a likely instance of fraud by merely *observing* that numerous transactions using different credit cards all originated from the same IP address). Additionally, mental processes generally remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *See CyberSource*, 654 F.3d at 1375 ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.").

We disagree with Appellants' argument that the claimed invention is distinguishable from *CyberSource* since "*CyberSource* merely recites obtaining information about credit card transactions, and does not include receiving data from any machines" (App. Br. 18) unpersuasive since *CyberSource* concluded obtaining information about transactions from a preexisting database on a machine, even if a physical step is required to obtain the database information, such as clicking a mouse, amounts to data gathering steps that cannot alone confer patentability. *See id*. at 1372. Moreover, as noted *supra*, our reviewing court in *Symantec* concluded that filtering content retrieved from an internet computer network constitutes certain methods of organizing human activities, which is a type of abstract idea. *See Symantec*, 838 F.3d 1307 at 1314.

We also conclude Appellants' argument (e.g., App. Br. 23–25) that the claimed invention cannot recite a mental process because of the "massive

amounts of data associated with anomalies" unavailing because any speed increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (alteration in original) (citing *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.")); *see also Intellectual Ventures I LLC v. Erie Indem. Co.*, 711 F. App'x 1012, 1017 (Fed. Cir. 2017) (unpublished) ("Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer 'do[] not materially alter the patent eligibility of the claimed subject matter.'") (alteration in original) (citation omitted). Like the claims in *FairWarning*, the focus of claim 1 is not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095. Additionally, claim 1 does not require "analyzing massive amounts of data," but rather recites "analyzing . . . user activity data associated with the electronic activities" from two or more client machines. App. Br. 37 (Claims Appendix).

Therefore, the recited *determining anomalies, determining a disgruntlement measure, and determining a maximum disgruntlement measure* also fall squarely within the mental processes category of the agency's guidelines and, therefore, recites an abstract idea for that additional

reason. *See* Guidance, 84 Fed. Reg. at 52 (listing exemplary mental processes including observation and evaluation).

Accordingly, limitations (1)–(4d) reciting gathering, analyzing, organizing and displaying the analyzed and organized data falls squarely within the certain methods of organizing human activity category of the agency's guidelines and, therefore, recite an abstract idea. *See* Revised Guidance, 84 Fed. Reg. at 52 (listing exemplary methods of organizing human activity, including managing personal behavior or relationships following rules or instructions).

Revised Guidance Step 2A — Prong 2

Although claim 1 recites both an abstract idea categorized as a method of organizing human activity and also an abstract idea categorized as a mental process, we, nevertheless, must still determine whether the abstract idea is integrated into a practical application, namely whether the claim applies, relies on, or uses the abstract idea in a manner that imposes a meaningful limit on the abstract idea, such that the claim is more than a drafting effort designed to monopolize the abstract idea. *See* Revised Guidance, 84 Fed. Reg. at 54–55. To this end, we (1) identify whether there are any additional recited elements beyond the abstract idea, and (2) evaluate those elements individually and collectively to determine whether they integrate the exception into a practical application. *See id.*

Here, we agree with the Examiner (e.g., Final Act. 7–8) that claim 1 recites a judicial exception apart from (1) a *processor*; (2) a *memory*; (3) *non-transitory computer readable medium*; (4) a *server*; and (5) *client machines* recited in independent claim 1, but these additional elements do

not integrate the abstract idea into a practical application when reading the claimed invention as a whole.

First, we are not persuaded that the claimed invention improves the computers or its components' functionality or efficiency, or otherwise changes the way those devices function, at least in the sense contemplated by the Federal Circuit in *Enfish LLC v. Microsoft Corp*., and *McRO, Inc. v. Bandai Namco Games Am. Inc.*, despite Appellants' arguments to the contrary (App. Br. 20–23). The claimed self-referential table in *Enfish* was a specific type of data structure designed to improve the way a computer stores and retrieves data in memory. *Enfish*, 822 F.3d at 1339. To the extent Appellants contend that the claimed invention uses such a data structure to improve a computer's functionality or efficiency, or otherwise change the way that device functions, there is no persuasive evidence on this record to substantiate such a contention.

Rather, the additional element of (1) a generic processor executing automated process steps is merely a tool used to implement the abstract idea. Spec. ¶ 70 ("or other programmable-logic devices now known or later developed"), ¶ 27 ("any type of computer system"). With respect to additional elements (2) (¶ 30 "any type of system for storing data"); (3) (¶ 68 "computer-readable storage medium . . . may be any device or medium that can store code . . . now known or later developed"); (4) (¶¶ 29–31 "nodes on a network . . . other electronic computing devices with network connectivity . . . server 114 includes any computational node"); (5) (¶ 29 "other electronic computing devices with network connectivity") the Specification identifies these additional elements as likewise generic computer components. Although paragraph 31 discloses server 114 has a mechanism "for running

anomaly-detection algorithms," the step of anomaly detection, recited in step (2) recites an abstract idea, both in the category of certain methods of organizing human activity, and in the category of a mental process, as discussed *supra*. Beyond using an algorithm carrying out an abstract idea, the server itself is "any computational node", defined as generic in paragraph 29.

Furthermore, in *McRO*, the claimed process used a combined order of specific rules that rendered information in a specific format that was applied to create a sequence of synchronized, animated characters. *McRO*, 837 F.3d at 1315. Notably, the recited process *automatically animated characters* using particular information and techniques—an improvement over manual three-dimensional animation techniques that was not directed to an abstract idea. *Id.* at 1316. But, unlike the claimed invention in *McRO* that improved how the physical display operated to produce better quality images, the claimed invention here merely uses a generic processor to receive and request user provided data to identify and update files in a database. Furthermore, in *McRO*, our reviewing court found that "*by incorporating the specific features of the rules as claim limitations*, claim 1 is limited to a specific process for automatically animating characters" (emphasis added). *Id.*; *see also id.* at 1307–08 (claim 1 includes specific features of rules such as "defin[ing] output morph weight set stream as a function of phoneme sequence and time"; "generating an intermediate stream of output morph weight sets and a plurality of transition parameters between two adjacent morph weight sets by evaluating said plurality of sub-sequences against said first set of rules"; "final stream of output morph weight sets at a desired frame rate from said intermediate stream of output morph weight sets and

said plurality of transition parameters"; "applying said final stream of output morph weight sets to a sequence of animated characters to produce lip synchronization"). The claimed invention recited in claim 1, unlike *McRO*, does not recite specific features or rules as claim limitations. Rather they broadly recite an abstract idea (e.g., "analyzing . . . user activity to determine anomalies"; "determining a disgruntlement measure", etc.) implemented on generic tools. This generic computer implementation is not only directed to certain methods of organizing human activity and mental processes, but also does not improve a display mechanism as was the case in *McRO*. *See SAP Am. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*).

Furthermore, the Specification indicates the improvement relates to the abstract idea, as noted *supra*, of a certain method of organizing human activity, by gathering data of an employee in an organization, and sending anomalous activities to an analyst who can investigate and further address the anomalous activity of the employee through intervention or other means, rather than a technological improvement. Spec. ¶ 4. Moreover, the claims do not reflect *how* computer technology is improved. When a claim directed to an abstract idea contains no restriction on *how* an asserted improvement is accomplished and the asserted improvement is not described in the claim, then the claim does not become patent eligible on the basis of the asserted improvement. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1316 (Fed. Cir. 2016).

Second, Section 2106.05(c) of the MPEP guides: "Another consideration when determining whether a claim recites significantly more is whether the claim effects a transformation or reduction of a particular article

to a different state or thing." "'[T]ransformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines.'" *Bilski*, 561 U.S. at 604 (quoting *Benson*, 409 U.S. at 70). If such a transformation exists, the claims are likely to be significantly more than any recited judicial exception. *Bilski* emphasizes that although the transformation of an *article* is an important clue, it is not a stand-alone test for eligibility. MPEP § 2106.05(c).

Appellants argue that similar to *Diehr*, the claimed computer system implements a process designed to solve a problem in conventional industry practice, namely:

> Similar to *Diehr*, the claimed embodiments perform additional steps of data mining to determine anomalies from large quantities of user activity data, and displaying anomaly information regarding a group and an employee within an organization in a manner that allows a security analyst to quickly comprehend both the anomalies within the group (e.g. claims 2 and 5), and the specific anomalies associated with an employee. The claimed invention detects anomalies and presents anomaly information at different organizational levels so that the security analyst can quickly comprehend the security issues within the organization. As in *Diehr,* the additional steps of the claimed invention improve an existing technological process. Here, the claimed embodiments improve the existing technological process for data mining, data visualization, and machine-human interaction in presenting security information to a security analyst.

App. Br. 31.

However, our reviewing court guides that, if not appropriately limiting, "[t]he mere manipulation or reorganization of [electronic] data, however, does not satisfy the transformation prong." *CyberSource*, 654 F.3d at 1375. Furthermore, in *Diehr*, the Supreme Court found a transformation

existed because the claims recited "a physical and chemical process for molding precision synthetic rubber products" which included "in detail a step-by-step method for accomplishing such, beginning with the loading of a mold with raw, uncured rubber and ending with the eventual opening of the press at the conclusion of the cure." *Diehr*, 450 U.S. at 184. Here, no such physical components other than generic computing components, are recited.

Additionally, as discussed above, limitations (with emphases added) reciting (3) "*in response to receiving user input, expanding a node to **display** anomaly information associated with employee members of an organizational unit represented by the node*"; (4) "*in response to receiving user input to select the employee, **displaying an anomaly report** associated with the employee, **which includes**: displaying a time-varying **anomaly score** associated with the employee*"; (4c) "***displaying the disgruntlement measure** over the particular time period*"; *and* (4d) "***displaying** visual representations of the **employment-related events**, which correspond to the maximum disgruntlement measure within the particular time period*" not only recite an abstract idea of organizing human activity using generic computing components, but this display function is also insignificant post-solution activity and, therefore, does not integrate the exception into a practical application for that additional reason. *See Flook*, 437 U.S. at 590 (insignificant post-solution activity held insufficient to impart patentability); *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1354–55 (Fed. Cir. 2016) ("merely presenting the results of abstract processes of collecting and analyzing information, without more . . . is abstract as an ancillary part of such collection and analysis"); *see also CyberSource*, 654 F.3d at 1371 (discussing *Flook*); *Content Extraction*, 776 F.3d at 1347; *Ultramercial, Inc.*

v. Hulu, LLC, 772 F.3d 709, 715 (Fed. Cir. 2014) (claimed steps of displaying an advertisement in exchange for access to copyrighted media was an "idea," but this concept could also be considered organizing human activity because the claim describes advertising). *Accord* Revised Guidance, 84 Fed. Reg. at 55 (citing MPEP § 2106.05(g)). Therefore, we conclude the method of claim 1 fails to satisfy the transformation prong of the Bilski machine-or-transformation test. *See id.*

Nor do Appellants argue that the method claims on appeal are tied to a particular machine. *See* MPEP § 2106.05(b) "Particular Machine." Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Third, we conclude Appellants' argument the claimed invention prevents broad preemption of data mining and data visualization unavailing. App. Br. 22. Our reviewing court provides applicable guidance: "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); *Ultramercial*, 722 F.3d at 1346.

Additionally, dependent claims 2, 3, 5–7, 9, 10, 12–14 16, 17, 19, and 20 are not argued separately with sufficient particularity. *See* App. Br. 10; *see also* 37 C.F.R. § 41.37(c)(1)(iv). For the above-stated reasons, we conclude the additional elements recited in the claimed invention, beyond the judicial exceptions, whether considered alone or in combination, do not integrate the abstract idea into a practical application.

Revised Guidance, Step 2B

Under the Revised Guidance, if a claim: (1) recites a judicial exception, and (2) does not integrate that exception into a practical application, we then look to whether the claim adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or, simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* Revised Guidance, 84 Fed. Reg. at 56.

On the record before us, we disagree with Appellants that the claims add a specific limitation beyond the judicial exception that is not "well-understood, routine, [and] conventional" in the field (*see* MPEP § 2106.05(d)). We find no reversible error in the Examiner's determination that additional elements, such as (1) a processor; (2) a memory; (3) non-transitory computer readable medium; (4) a server; and (5) client machines recited in independent claim 1, are nothing more than generic elements using conventional concepts. *See* Final Act. 8–10. In fact, the Specification supports the Examiner's finding that additionally recited elements are, at best, generic computer elements performing generic computer functions, by providing non-limiting and exemplary descriptions of generic computer components that are used to carry out recording a call and transcribing a recorded call. Spec. ¶ 70 ("or other programmable-logic devices now known or later developed"); ¶ 27 ("any type of computer system"); ¶ 30 ("any type of system for storing data"); ¶ 68 ("computer-readable storage medium . . . may be any device or medium that can store code . . . now known or later developed"); ¶¶ 29–31 ("nodes on a network

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. . . other electronic computing devices with network connectivity . . . server 114 includes any computational node"); and ¶ 29 ("other electronic computing devices with network connectivity").

Appellants do not argue dependent claims 2, 3–7, 9, 12–14, 16, 17, and 20 separately with particularity, but assert the rejection of those claims should be withdrawn for at least the same reasons as argued for independent claim 1. App. Br. 35. In light of the foregoing, we conclude that each of claims 1–5, 7, 8, 10–14, 16, 18–20, 22, 23, 25, and 27, considered as a whole, is directed to a patent-ineligible abstract idea that is not integrated into a practical application, and does not include an inventive concept.

Accordingly, for the reasons discussed above, we sustain the Examiner's rejection under 35 U.S.C. § 101 of claims 1–5, 7, 8, 10–14, 16, 18–20, 22, 23, 25, and 27.[7]

DECISION

We affirm the Examiner's rejection of claims 1–5, 7, 8, 10–14, 16, 18–20, 22, 23, 25, and 27 under 35 U.S.C. § 101.

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

AFFIRMED

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[7] To the extent Appellants have not advanced separate, substantive arguments for particular claims, or other issues, such arguments are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).