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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT LEE ANGELL, ROBERT R. FRIEDLANDER,
and JAMES R. KRAEMER

Appeal 2018-000454¹
Application 12/336,488²
Technology Center 3600

Before HUBERT C. LORIN, BIBHU R. MOHANTY, and
NINA L. MEDLOCK, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1–10 and 16–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Our decision references Appellants’ Appeal Brief (“App. Br.,” filed June 14, 2017) and Reply Brief (“Reply Br.,” filed October 17, 2017), and the Examiner’s Answer (“Ans.,” mailed August 17, 2017) and Final Office Action (“Final Act.,” mailed November 18, 2016).

² Appellants identify International Business Machines Corporation as the real party in interest. App. Br. 2.

CLAIMED INVENTION

Appellants' claimed invention "relates generally to an improved data processing system and in particular to a method and apparatus for generating cohorts" (Spec. ¶ 1).

Claims 1, 16, and 20 are the independent claims on appeal. Claim 1, reproduced below with bracketed notations added, is illustrative of the claimed subject matter:

1. A method comprising:

[(a)] responsive to receiving an identification of a proposed future change in a current set of professional or commercial circumstances associated with a set of individuals, retrieving, by one or more processors, digital sensor data associated with the set of individuals, wherein the digital sensor data comprises events metadata describing a set of events associated with the set of individuals, wherein the set of events comprises at least one of body language, facial expressions, vocalizations, and social interactions of the set of individuals, and wherein the digital sensor data is generated by a set of hardware biometric sensors;

[(b)] selecting, by one or more processors, a set of receptivity analysis models based on the proposed future change and the set of events, wherein each analysis model in the set of receptivity analysis models analyzes the set of events to identify conduct attributes indicating receptiveness of each individual in the set of individuals to the proposed future change;

[(c)] receiving, by one or more processors, a request for a generation of a set of cohorts based on the digital sensor data;

[(d)] in response to receiving the request for the generation of the set of cohorts based on the digital sensor data, analyzing, by one or more processors, the events metadata describing the set of events in the selected set of receptivity analysis models to form a receptivity cohort, wherein the receptivity cohort comprises a set of conduct attributes indicating receptiveness of the set of individuals to the proposed future change; and

[(e)] transmitting, by one or more processors, the receptivity cohort to a sender of the request.

REJECTION

Claims 1–10 and 16–20 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

ANALYSIS

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp.*, 573 U.S. at 217. The first step in that analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If the claims are not directed to a patent-ineligible concept, e.g., an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 79, 78).

The Court acknowledged in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. Therefore, the Federal Circuit has instructed that claims are to be considered in their entirety to determine “whether their character as a whole is directed to excluded subject matter.” *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

Independent Claim 1 and Dependent Claims 2–10

In rejecting claims 1–10 under 35 U.S.C. § 101, the Examiner determined that the claims are directed to “managing the reception of individual reactive/receptive data by means of an analysis model to analyze sets of event data . . . indicating receptiveness of individuals and to form a receptivity cohort comprising a set of conduct attributes indicating receptiveness of individuals to a future change,” which the Examiner concluded is, *inter alia*, a method of organizing human activity and, therefore, an abstract idea (Final Act. 6). The Examiner also determined that the claims do not include additional elements that amount to significantly more than the abstract idea itself (*id.*).

Focusing first on step one of the *Mayo/Alice* framework, we are not persuaded that the Examiner erred in determining that claim 1 is directed to an abstract idea. The Federal Circuit has explained that “the ‘directed to’ inquiry applies a stage-one filter to claims, considered in light of the [S]pecification, based on whether ‘their character as a whole is directed to excluded subject matter.’” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp.*, 790 F.3d at 1346). It

asks whether the focus of the claims is on a specific improvement in relevant technology or on a process that itself qualifies as an “abstract idea” for which computers are invoked merely as a tool. *See id.* at 1335–36. Here, the Specification, including the claim language, make clear that the claims focus on an abstract idea, and not on any improvement to computer technology and/or functionality.

The Specification is entitled “GENERATING RECEPTIVITY COHORTS,” and discloses that the “present invention relates . . . in particular to a method and apparatus for generating cohorts,” i.e., a group of members selected based on a commonality of one or more attributes (Spec. ¶¶ 1, 2). The Specification describes, in the “Description of The Prior Art” section, that the effectiveness of cohort studies depends on a number of different factors (e.g., the length of time that the members are observed, and the ability to identify and capture relevant data for collection) and that the information needed to identify attributes of potential members of a cohort may be voluminous, dynamically changing, unavailable, difficult to collect, and/or unknown to the members of the cohort and/or the user selecting cohorts (*id.* ¶ 2). According to the Specification, it also may be difficult, time consuming, or impractical for an individual to access all the information necessary to accurately generate cohorts (*id.*). “Thus, unique cohorts may be sub-optimal because individuals lack the skill, time, knowledge, and/or expertise needed to gather cohort attribute information from available sources” (*id.*).

The claimed invention is ostensibly intended to address this problem by providing a computer implemented method, apparatus, and computer program product for generating receptivity cohorts (*id.* ¶ 3). The

Specification, thus, discloses that digital sensor data associated with a set of individuals are retrieved in response to receiving an identification of a proposed future change in a current set of circumstances associated with the set of individuals (*id.*). The digital sensor data comprise events metadata describing a set of events associated with the set of individuals, i.e., at least one of body language, facial expressions, vocalizations, and social interactions of the set of individuals (*id.*). This set of events is analyzed to identify conduct attributes indicating the receptiveness of each individual in the set of individuals to the proposed future change (*id.*). The receptivity cohort is then generated to include those individuals identified as receptive to the proposed change (*id.*).

Understood in light of the Specification, claim 1 is directed to (1) receiving information, i.e., “receiving an identification of a proposed future change in a current set of professional or commercial circumstances associated with a set of individuals” and “retrieving . . . digital sensor data comprises events metadata describing a set of events associated with the set of individuals” (step (a)); (2) analyzing the information, i.e., “selecting . . . a set of receptivity analysis models [that] analyzes the set of events to identify conduct attributes indicating receptiveness of each individual in the set of individuals to the proposed future change” (step (b)); (3) receiving additional information, i.e., “receiving . . . a request for a generation of a set of cohorts based on the digital sensor data” (step (c)); (4) generating a set of cohorts of individuals having conduct attributes indicating receptiveness to the proposed future change, i.e., “analyzing. . . the events metadata describing the set of events in the selected set of receptivity analysis models to form a receptivity cohort” (step (d)); and (5) transmitting the

receptiveness cohort to the requester, i.e., “transmitting . . . the receptivity cohort to a sender of the request” (step (e)). In other words, claim 1 is directed to (1) collecting, analyzing, and categorizing information, i.e., data regarding individual reactions to a proposed future change to identify and generate a cohort of individuals receptive to the proposed change, and (2) transmitting the results of the collection, analysis, and categorization, i.e., the generated cohort, to an individual requester. In this context, claim 1 is directed to managing personal behavior or relationships or interactions between people, which is a method of organizing human activity and, therefore, considered an abstract idea. *See* 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50, 52 (Jan. 7, 2019) (“Revised Guidance”).

The Federal Circuit has consistently held that abstract ideas include the concepts of collecting data, analyzing the data, and displaying the results of the collection and analysis, including when limited to particular content. *See, e.g., Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (identifying the abstract idea of collecting, displaying, and manipulating data); *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (characterizing collecting information, analyzing information by steps people go through in their minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas); *see also SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018) (“As many cases make clear, even if a process of collecting and analyzing information is ‘limited to particular content’ or a particular ‘source,’ that limitation does not make the collection

and analysis other than abstract.” (quoting *Elec. Power Grp.*, 830 F.3d at 1353, 1355 (citing cases)). Generating cohorts, i.e., forming a group of members based on a commonality of attributes, also is a commonly known practice (Spec. ¶ 2), and is substantially similar to other practices that the courts have held abstract. *See, e.g., In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (holding that claims to the concept of classifying and storing digital images based on their classification are directed to an abstract idea); *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 F. App’x 988, 992 (Fed. Cir. 2014) (non-precedential) (holding that “using categories to organize, store, and transmit information is well-established” and that “the well-known concept of categorical data storage, *i.e.*, the idea of collecting information in classified form, then separating and transmitting that information according to its classification, is an abstract idea that is not patent-eligible”).

We find no indication in the Specification, nor do Appellants direct us to any indication, that the operations recited in claim 1 invoke any assertedly inventive programming, require any specialized computer hardware or other inventive computer components, i.e., a particular machine, or that the claimed invention is implemented using other than generic computer components to perform generic computer functions. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (“[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.”).

We also find nothing in the Specification to indicate that the claimed invention effects a transformation or reduction of a particular article to a different state or thing. Nor do we find anything of record, short of attorney

argument, that attributes an improvement in computer technology and/or functionality to the claimed invention or that otherwise indicates that the claimed invention integrates the abstract idea into a “practical application,” as that phrase is used in the Revised Guidance.³

Ostensibly focusing on step two of the *Mayo/Alice* framework, Appellants argue that the rejection of claims 1–10 under § 101 is improper and cannot be sustained because the claimed invention is “inextricably intertwined with hardware technology and the improvement thereof” (App. Br. 5) (emphasis omitted). Citing the USPTO’s November 2, 2016 Memorandum to the Patent Examining Corps regarding “Recent Subject

³ We note that Appellants’ briefs were filed, and the Examiner’s Answer mailed, before the USPTO issued the Revised Guidance, which, by its terms, applies to all applications, and to all patents resulting from applications, filed before, on, or after January 7, 2019. In accordance with the Revised Guidance, a claim is generally considered “directed to” an abstract idea if (1) the claim recites subject matter falling within one of the following groupings of abstract ideas: (a) mathematical concepts; (b) certain methods of organizing human activity, e.g., fundamental economic principles or practices, commercial or legal interactions; and (c) mental processes, and (2) the claim does not integrate the abstract idea into a practical application, i.e., 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. *See* Revised Guidance, 84 Fed. Reg. at 54–55. The Revised Guidance references the MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) §§ 2106.05(a)–(c) and (e)–(h) in describing the considerations that are indicative that an additional element or combination of elements integrates the judicial exception, e.g., the abstract idea, into a practical application. *Id.* at 55. If the recited judicial exception is integrated into a practical application, as determined under one or more of these MPEP sections, the claim is not “directed to” the judicial exception.

Matter Eligibility Decisions”,⁴ Appellants direct our attention to *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016) for support (App. Br. 5–6). But, we can find no parallel between independent claim 1 and the claim at issue in *Amdocs*.

In *Amdocs*, the Federal Circuit held the claim was patent eligible because the claim entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases). Although the solution requires generic components, the court determined that “the claim’s enhancing limitation necessarily requires that these generic components operate in an unconventional manner to achieve an improvement in computer functionality” and that the “enhancing limitation depends not only upon the invention’s distributed architecture, but also depends upon the network devices and gatherers — even though these may be generic — working together in a distributed manner.” *Amdocs*, 841 F.3d at 1300–01.

Appellants assert that, as in *Amdocs*, the present invention “‘entails an unconventional technological solution’ of forming a ‘receptivity cohort’ that includes a set of ‘conduct attributes indicating receptiveness of the set of individuals to the proposed future changes’ based on digital sensor data . . . thereby improving the function of the overall system” (App. Br. 5–6). But, Appellants do not identify any “distributed architecture” comparable to that in *Amdocs* or otherwise establish that the generic components recited in claim 1 operate in an unconventional manner. Appellants also do not

⁴ Available at <https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf>

identify any “technological problem” that claim 1 allegedly solves. Indeed, it clearly appears from the Specification that using digital sensor data (collected for a set of individuals) to form a receptivity cohort is not intended to solve a technological problem but rather is intended to address the business challenges involved in collecting the information needed to accurately generate a desired cohort (*see* Spec. ¶ 2 (describing that the information needed or wanted to identify attributes of potential members of a cohort may be voluminous, dynamically changing, unavailable, difficult to collect, and/or unknown to the members of the cohort and/or the user selecting cohorts; that it may be difficult, time consuming, or impractical for an individual to access all the information necessary to accurately generate cohorts; and that unique cohorts may be sub-optimal because individuals lack the skill, time, knowledge, and/or expertise needed to gather cohort attribute information from available sources)).

We also do not agree with Appellants that any analogy exists between independent claim 1 and the claims at issue in *Enfish* (App. Br. 6–7). There, the Federal Circuit rejected a § 101 challenge at the step one stage of the *Mayo/Alice* analysis because the claims at issue focused on “a specific type of data structure [i.e., a self-referential table for a computer database] designed to improve the way a computer stores and retrieves data in memory.” *Enfish*, 822 F.3d at 1339. Based on the “plain focus of the claims,” the court, thus, held that the claims were directed to “a specific improvement to the way computers operate, embodied in the self-referential table,” and, as such, were more than a mere abstract idea. *Id.* at 1336.

Appellants assert here that the present invention, similar to the claimed invention in *Enfish*, is directed to a system that “improves the

computer-related technology of data retrieval by generating a ‘receptivity cohort’ in response to receiving a request for the generation of a set of cohorts based on the digital sensor data” (App. Br. 6–7). But Appellants do not explain how, and we fail to see how, collecting data using biometric sensors amounts to an technological improvement where, as here, there is no indication that the sensors are other than generic components used in their normal, routine, and ordinary capacity. We find no parallel here between claim 1 and the claims in *Enfish* nor any comparable aspect in claim 1 that represents an improvement to computer functionality.

We also are not persuaded by Appellants’ further argument that claim 1 is patent-eligible because the claim requires the use of “non-computer devices,” i.e., “hardware biometric sensors” (App. Br. 7). Although claim 1 recites “retrieving . . . digital sensor data associated with the set of individuals, . . . wherein the digital sensor data is generated by a set of hardware biometric sensors,” the focus of the claim is not on any improvement to sensor technology, but instead on implementation of the abstract idea, i.e., forming a receptivity cohort that includes a set of attributes indicating receptiveness of the set of individuals to a proposed future change. Indeed, the Specification expressly describes that the sensor data may include “sensor input in the form of audio data, images from a camera, biometric data, signals from sensors and actuators, and/or olfactory patterns from an artificial nose or other chemical sensor” (Spec. ¶ 42) — in other words, these are generic components used in their ordinary capacity to collect information.

Responding to the Examiner’s Answer, Appellants attempt to draw an analogy between the present invention and the claimed invention in

BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC, 827 F.3d 1341 (Fed. Cir. 2016), arguing in the Reply Brief that, similar to the situation in *BASCOM*, the present invention includes a client sending a request to a server to generate a set of cohorts, according to the parameters set by the sensor readings and that the server then forms a “receptivity cohort” based on digital sensor data, and sends it to the client (Reply Br. 3). Appellants maintain that this improves the function of the overall system by “1) reducing the processing requirements of the client and 2) reducing the bandwidth consumption between the server and the client by sending only the receptivity cohort that comports with the parameter set by the client (‘set of cohorts based on the digital sensor data’).” *Id.* But, we find nothing in the Specification, nor do Appellants us direct to anything in the Specification, that attributes any reduction in client processing requirements or any reduction in bandwidth consumption to the claimed invention.

We are not persuaded, on the present record, that the Examiner erred in rejecting claims 1–10 under 35 U.S.C. § 101. Therefore, we sustain the Examiner’s rejection.

Independent Claims 16 and 20 and Dependent Claims 17–19

Appellants’ arguments with respect to claims 16–20 are substantially identical to Appellants’ arguments with respect to claims 1–10, and are similarly unpersuasive (App. Br. 8–10). Therefore, we sustain the Examiner’s rejection of claims 16–20 under 35 U.S.C. § 101.

DECISION

The Examiner’s rejection of claims 1–10 and 16–20 under 35 U.S.C. § 101 is affirmed.

Appeal 2018-000454
Application 12/336,488

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