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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/547,420	07/12/2012	Roger K. Alexander	3034.42US01	7620
24113	7590	09/26/2019	EXAMINER	
PATTERSON THUENTE PEDERSEN, P.A. 80 SOUTH 8TH STREET 4800 IDS CENTER MINNEAPOLIS, MN 55402-2100			FIGUEROA, KEVIN W	
			ART UNIT	PAPER NUMBER
			2124	
			MAIL DATE	DELIVERY MODE
			09/26/2019	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROGER K. ALEXANDER

Appeal 2018–001741
Application 13/547,420
Technology Center 2100

Before JEREMY J. CURCURI, KARA L. SZPONDOWSKI,
and MATTHEW J. McNEILL, *Administrative Patent Judges*.

McNEILL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner’s rejection of claims 1–37, which are all the claims pending in this application. An oral hearing was held August 1, 2019, and a transcript of that hearing will be made of record in due course. We have jurisdiction under 35 U.S.C. § 6(b).¹

We reverse.

¹ Appellant identifies Cooper Technologies Company as the real party in interest. Appeal Br. 2.

STATEMENT OF THE CASE

Introduction

Appellant's application relates to a system and method for facilitating a central system that collects individual sensor data from a plurality of endpoints without increasing the burden on system communications bandwidth. Abstract. In one embodiment, Appellant describes a computer-implemented method for calculating an activity score value to rank an identified document. Spec. 1:8–14. Claim 1 is illustrative of the appealed subject matter and reads as follows:

1. A method for operating a sensor data collection system for collecting data from a plurality of endpoint devices, the method comprising:

receiving, at a central data collection point, sensor data generated at each of the plurality of endpoint devices, the sensor data representing a series of actual measured power usage values;

maintaining, at the central data collection point, a database containing records corresponding to the individual endpoint devices and including historic power usage values of sensor data for those endpoint devices;

computing, at the plurality of endpoints, predicted power usage values representing presumed sensor data for at least one endpoint device, wherein the predicted power usage values are computed based on the historic power usage values of sensor data corresponding to the at least one endpoint device;

comparing a discrepancy between at least one of the predicted power usage values and a corresponding sensor data value to determine whether the corresponding sensor data value constitutes either exception data or sufficiently accurate data;

sending, from each of the plurality of endpoints, the exception data generated by the at least one endpoint device,

and not the sufficiently accurate data, to the central data collection point at a first time granularity;

sending, from each of the plurality of endpoints, the sufficiently accurate data at a second time granularity different from the first time granularity; and

in response to receiving the exception data, superseding, at the central data collection point, the at least one of the predicted power usage values based on the exception data by replacing the predicted power usage values with the exception data.

The Examiner's Rejections

Claims 1–37 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Ans 2–4.

Claims 15, 16, 18, 19, and 21 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Dodderi (US 2012/0029710 A1; pub. Feb. 2, 2012); Egnor (US 2011/0251933 A1; pub. 13, 2011); and Irving (US 2011/0231320 A1; pub. Sept. 22, 2011). Final Act. 2–6.

Claims 1–14, 17, 20, and 22–37 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Dodderi, Egnor, Irving, and Beaty (US 2008/0295096 A1; pub. Nov. 27, 2008). Final Act. 6–24.

ANALYSIS

Subject Matter Eligibility

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. *E.g.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

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

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 183 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 176, 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the 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.* 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.”), and 191 (citation omitted) (citing *Benson* and *Flook*).

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 (quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* 84 Fed. Reg. 50 (“Revised Guidance, 84 Fed. Reg.”). 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)).

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, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Revised Guidance, 84 Fed. Reg. 56.

Revised Guidance Step 1

Step 1 of the Revised Guidance asks whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. § 101: process, machine, manufacture, or composition of matter. *See* Revised Guidance, Fed Reg. 54. Claim 1 recites “[a] method.” Appellant does not argue the Examiner erred in concluding claim 1 falls within the four statutory categories of patentable subject matter. We agree with the Examiner’s conclusion because claim 1 falls within the process category.

Revised Guidance Step 2A, Prong 1

Under Step 2A, Prong 1 of the Revised Guidance, we determine whether the claims recite 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). *See* Revised Guidance.

The Examiner concludes claim 1 is directed to receiving sensor data, maintaining a database containing records of sensor data for individual devices, computing predicted power usage values, comparing discrepancies, sending exception data, sending accurate data, and superseding values in response to received exception data. Ans. 2. The Examiner concludes this is an abstract idea of “simply collecting data and comparing it.” Ans. 2.

Appellant argues the Examiner erred in concluding claim 1 is directed to an abstract idea. *See* Reply Br. 2–6. In particular, Appellant argues “the Examiner has not properly considered the relevant case law and has improperly extended the abstract idea exception beyond the fact patterns of any of the relevant cases.” Reply Br. 4–5. Appellant further argues “there is no human analog to the claimed invention as humans do not have any innate processes for using low frequency communication for accurate data and high frequency communication for exception data.” Reply Br. 5–6.

Claim 1 recites, in relevant part, (1) “computing . . . predicted power usage values representing presumed sensor data for at least one endpoint device, wherein the predicted power usage values are computed based on the historic power usage values of sensor data corresponding to the at least one endpoint device;” (2) “comparing a discrepancy between at least one of the predicted power usage values and a corresponding sensor data value to

determine whether the corresponding sensor data value constitutes either exception data or sufficiently accurate data;” and (3) “in response to receiving the exception data, superseding . . . the at least one of the predicted power usage values based on the exception data by replacing the predicted power usage values with the exception data.”

We agree with the Examiner that these limitations, under their broadest reasonable interpretation, recite collecting data and comparing it. *See* Ans. 2. For example, the “computing” step recited in limitation (1) characterizes computing predicted power usage values for an endpoint device based on historic power usage values of the endpoint device. The “comparing” step recited in limitation (2) characterizes comparing discrepancies between predicted power usage values and actual power usage values to determine whether data is exception data or accurate data. The “superseding” step recited in limitation (3) characterizes replacing stored data with exception data based on the comparison in step (2). These processes constitute an evaluation or judgement, which are identified as example mental processes in the Revised Guidance. *See* Revised Guidance, 84 Fed. Reg. at 52.

Thus, under the broadest reasonable interpretation, claim 1 recites collecting and comparing data. We, therefore, conclude claim 1 recites an evaluation or judgment, which falls within the mental processes category of abstract ideas identified in the Revised Guidance.

Revised Guidance Step 2A, Prong 2

Under Step 2A, Prong 2 of the Revised Guidance, we next determine whether the claims recite additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)).

The “additional elements” recited in claim 1 include: (1) “receiving, at a central data collection point, sensor data generated at each of the plurality of endpoint devices, the sensor data representing a series of actual measured power usage values;” (2) “maintaining, at the central data collection point, a database containing records corresponding to the individual endpoint devices and including historic power usage values of sensor data for those endpoint devices;” (3) “[computing] at the plurality of endpoints;” (4) “sending, from each of the plurality of endpoints, the exception data generated by the at least one endpoint device, and not the sufficiently accurate data, to the central data collection point at a first time granularity;” (5) “sending, from each of the plurality of endpoints, the sufficiently accurate data at a second time granularity different from the first time granularity;” and (6) “[superseding,] at the central data collection point.”

To integrate the exception into a practical application, the additional claim elements must, for example, improve the functioning of a computer or any other technology or technical field (*see* MPEP § 2106.05(a)), apply the judicial exception with a particular machine (*see* MPEP § 2106.05(b)), affect a transformation or reduction of a particular article to a different state or thing (*see* MPEP § 2106.05(c)), or apply or use the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment (*see* MPEP § 2106.05(e)). *See* Revised Guidance, Fed Reg. 55.

Appellant argues claim 1 is directed to an improved computer network that uses a novel distribution of functionality within the network. *Id.* at 4–6. Appellant argues that contrary to conventional systems, the claims recite determining predicted power usage values at a plurality of endpoints and

determining discrepancies between actual power usage values and the predicted values at the plurality of endpoints. *Id.* at 5.

Appellant has persuaded us of Examiner error. The additional elements recited in claim 1 integrate the mental process identified above into a practical application. In particular, the “computing” step is performed by the “plurality of endpoints” and the “superseding” step is performed by the “central data collection point.” Appellant argues that this distribution of functionality “allows the central system to maintain accurate predictions for future power use, while significantly reducing the necessary communication bandwidth across the network” compared to conventional systems. Reply Br. 5. Appellant’s Specification explains the importance of this distribution of functionality. *See* Spec. 3:16–5:5. On this record, we agree with Appellant that this distribution of functionality constitutes an improvement to the functioning of a computer or any other technology or technical field. *See* MPEP § 2106.05(a); *see also* *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299, 1305 (Fed. Cir. 2018) (holding a claim that “employs a new kind of file that enables a computer security system to do things it could not do before” improved the functioning of computer security systems); *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018) (holding a claim directed to “an improved user interface for computing devices, not to the abstract idea of an index” improved the functioning of the computing devices).

Thus, Appellant has persuaded us of Examiner error with respect to Step 2A, Prong 2 of the Revised Guidance. We, therefore, conclude the judicial exception is integrated into a practical application under the Revised Guidance.

Obviousness

We have reviewed the Examiner's obviousness rejections in consideration of Appellant's contentions and the evidence of record. Appellant persuades us the Examiner fails to establish that the claims are unpatentable over the cited references.

The Examiner finds the combination of Dodderi, Egnor, and Irving teaches or suggests "wherein the data selector module is further configured such that, in response to receiving the exception data, the data selector module supersedes the at least one of the predicted power usage values based on the exception data by replacing the predicted power usage values with the exception data," as recited in claim 15. Final Act. 4–5 (citing Irving ¶ 492); Ans. 10–11.

Appellant argues the Examiner erred because Irving does not teach or suggest the claimed superseding. *See* Appeal Br. 28–29; *see also* Reply Br. 8–10. In particular, Appellant argues Irving teaches a central data collection point transmits updated *solutions* to an endpoint instead of teaching an endpoint transmitting updated *data values* to the central data collection point. *See* Appeal Br. 29.

The Examiner responds that the rejection only relies on Irving for the "general teaching of replacing a value with another." Ans. 10–11. The Examiner finds an ordinarily skilled artisan would have combined Dodderi's central collection point with Irving's teaching that if an improvement is identified, then data is replaced with the improvement. *Id.* at 11. The Examiner further finds Irving "does indeed teach the superseding of data as it states replacing a value with an improved one." *Id.* at 11.

Appellant has persuaded us of Examiner error. The Examiner finds Irving teaches superseding data by replacing a value with another, but the Examiner has failed to establish that Irving teaches the limitation “supersed[ing] the at least one of the predicted power usage values based on the exception data.” The cited portion of Irving teaches replacing a building-specific solution with a new solution. Irving ¶ 492. This replacement occurs as part of a re-optimization process that can be triggered by the user updating information associated with the user’s account. *See id.* ¶¶ 480–491. The Examiner has not explained how the user updating account information teaches or suggests “exception data” that is used to supersede power usage values. Nor has the Examiner sufficiently explained how superseding Irving’s building-specific solution, which relates to managing power for a building, constitutes superseding predicted power usage values that “represent[] presumed sensor data for at least one endpoint device,” as recited in claim 15.

Accordingly, we are constrained by the record to agree with Appellant that the Examiner has not sufficiently established Dodderi, Egnor, and Irving teach or suggest “wherein the data selector module is further configured such that, in response to receiving the exception data, the data selector module supersedes the at least one of the predicted power usage values based on the exception data by replacing the predicted power usage values with the exception data,” as recited in claim 15. We, therefore, do not sustain the Examiner’s rejection of independent claim 15 as unpatentable over

Dodderi, Egnor, and Irving.² We also do not sustain the obviousness rejection of dependent claims 16, 18, 19, and 21.

The Examiner rejects independent claims 1, 23, and 31 as unpatentable over Dodderi, Egnor, Irving, and Beaty. Final Act. 6–24. Independent claim 1 recites commensurate subject matter to claim 15. Independent claims 23 and 31 do not explicitly teach the central data collection point performing the claimed superseding, but recite “exception reports contain actual data that replaces at least one of the predicted power usage values.” Claims 23 and 31 thus recite limitations commensurate with the “superseding” limitation in claim 15, at least insofar as the limitations relate to superseding “values” instead of Irving’s solutions. Accordingly, we do not sustain the rejection of independent claims 23 and 31. We also do not sustain the rejection of dependent claims 2–14, 17, 20, 22, 24–30, and 32–37.

² Because we agree with at least one of the dispositive arguments advanced by Appellant with respect to the obviousness rejections, we need not reach the merits of Appellant’s other arguments regarding claim 15.

CONCLUSION

In summary:

Claim(s) Rejected	Basis	Affirmed	Reversed
1-37	§ 101		1-37
15, 16, 18, 19, 21	§ 103(a) Dodderi, Egnor, Irving		15, 16, 18, 19, 21
1-14, 17, 20, 22-37	§ 103(a) Dodderi, Egnor, Irving, and Beaty		1-14, 17, 20, 22-37
Overall Outcome			1-37

REVERSED