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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN C. McDONOUGH and
HADLEY RUPERT STERN¹

Appeal 2018-002280
Application 12/508,509
Technology Center 3600

Before ALLEN R. MacDONALD, CARL W. WHITEHEAD JR., and
BRADLEY W. BAUMEISTER, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–3, 5, 9, 10, 12–23, and 25, which constitute all of the pending claims. Appeal Br. 11.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as FMR LLC. Appeal Brief filed December 8, 2015 (“Appeal Br.”) at 2.

² On the cover sheet of the Final Office Action mailed April 10, 2015 (“Final Act.”), the Examiner erroneously lists claims 1–25 as pending and rejected. However, Appellant indicates that claims 4, 6–8, 11, and 24 have been canceled. Appeal Br. 29–34.

STATEMENT OF THE CASE

Appellant describes the present invention as follows:

Described are methods and apparatuses, including computer program products, for tracking patterns associated with mobile devices. The system includes a server computing device configured to receive location information from a mobile device associated with a user. The location information includes location information based on [global positioning system (GPS)] information sent from the mobile device. One or more activity patterns associated with the user of the mobile device are generated by the server computing device. The generating includes tracking the location information over a period of time and determining one or more categories of repeated activity based on the tracking.

Abstract.

Claims 1–3, 5, 9, 10, 12–23 and 25 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 4–8.

Claims 1–3, 5, 9, 10, 12–23, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of references, as explained in more detail below. Final Act. 9–22.

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

THE § 101 REJECTION

The Claimed Subject Matter

In relation to the patent-eligibility rejection, independent claim 1 is representative of the appealed claims.³ It is reproduced below with formatting modified for clarity and with emphasis added to the language that recites an abstract idea:

1. A computerized method for generating and tracking activity patterns associated with mobile devices, the method comprising:

[i] automatically capturing, by an application executing on a mobile device, a plurality of location information entries associated with a first user, each of the location information entries annotated to include GPS information and timestamp information recorded by a GPS receiver embedded within the mobile device;

[ii] receiving, by a mobile communication module of a server computing device, the plurality of location information entries from the mobile device via a mobile communications network;

[iii] *tracking*, by a mobile data aggregation module of the server computing device, *the location information entries over a period of time*;

[iv] *grouping*, by the mobile data aggregation module, *the tracked location information entries to determine an occurrence of repeated activity of the first user, the grouping based on GPS information and timestamp information common to two or more of the tracked location information entries*;

[v] *generating*, by the mobile data aggregation module, *one or more activity patterns of the first user, wherein the one or more activity patterns are based on the occurrence of repeated activity*;

³ Appellant argues all of the claims together as a group. *See* Appeal Br. 11–20. Accordingly, we select independent claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(iv).

[vi] *generating, by the mobile data aggregation module, augmented activity patterns of the first user using transaction data associated with the first user that corresponds to one or more of the activity patterns of the first user, the transaction data being assigned to the activity pattern based upon a similarity between the GPS information and timestamp information for one or more tracked location information entries of the corresponding activity pattern and a location and timestamp associated with one or more transactions in the transaction data;*

[vii] *comparing, by the mobile data aggregation module, the one or more activity patterns of the first user with activity patterns of each of one or more other users in proximity to the first user to determine a match between the first user's activity patterns and the activity patterns of each of the other users, wherein the match is based on a degree of similarity between the first user's activity patterns and the activity patterns of each of the other users and is weighted to emphasize characteristics selected by the first user, wherein the match includes other users that have characteristics that are in conflict with characteristics of the first user;*

[viii] *generating, by the mobile data aggregation module, a graphical representation of the location of the other users in relation to the location of the mobile device, a textual indication of a characteristic common to the matched activity patterns, and a textual indication of a characteristic that is in conflict with a characteristic of the first user;*

[ix] *sending, by the mobile data aggregation module, a message to the mobile device upon determining the match, the message including the graphical representation of the location of the other users in relation to the location of the mobile device, the textual indication of a characteristic common to the matched activity patterns, and the textual indication of the characteristic that is in conflict with the characteristic of the first user; and*

[x] *presenting, by the mobile device, the graphical representation and the textual indication on a display of the mobile device.*

Principles of Law

A. SECTION 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.

However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

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

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

rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

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

B. USPTO SECTION 101 GUIDANCE

In January 2019, the United States Patent and Trademark Office (“USPTO”) published revised guidance on the application of 35 U.S.C. § 101. USPTO, 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Guidance”). Under the 2019 Guidance, we first look to whether the claim recites the following:

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

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

2019 Guidance, 84 Fed. Reg. 52–55.

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

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

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

2019 Guidance, 84 Fed. Reg. 56.

Analysis

STEP 2A, PRONG 1:

Under step 2A, prong 1, of the 2019 Guidance, we first look to whether the claim recites any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes). 84 Fed. Reg. 52–55.

Limitation [iii] recites “*tracking, by a mobile data aggregation module of the server computing device, the location information entries over a period of time.*” Tracking information reasonably can be characterized as a mental process that can be performed in the human mind—specifically mental processes of observation or evaluation. The 2019 Guidance expressly recognizes the mental processes of observation and evaluation as constituting patent-ineligible abstract ideas. *Id.* at 52.

Limitation [iv] recites “*grouping, by the mobile data aggregation module, the tracked location information entries to determine an occurrence of repeated activity of the first user, the grouping based on GPS information and timestamp information common to two or more of the tracked location information entries.*” Grouping information to reach determinations reasonably can be characterized as a mental evaluation, judgment, or opinion. The 2019 Guidance also recognizes mental judgments and opinions, as well as observations and evaluations, as constituting patent-ineligible abstract ideas. *Id.*

Limitation [v] recites “*generating, by the mobile data aggregation module, one or more activity patterns of the first user, wherein the one or*

more activity patterns are based on the occurrence of repeated activity.”

Limitation [vi] reads as follows:

[vi] generating, by the mobile data aggregation module, augmented activity patterns of the first user using transaction data associated with the first user that corresponds to one or more of the activity patterns of the first user, the transaction data being assigned to the activity pattern based upon a similarity between the GPS information and timestamp information for one or more tracked location information entries of the corresponding activity pattern and a location and timestamp associated with one or more transactions in the transaction data.

Generating activity patterns reasonably can be characterized as a mental evaluation, judgment, or opinion.

Limitation [vii] recites the following language:

[vii] comparing, by the mobile data aggregation module, the one or more activity patterns of the first user with activity patterns of each of one or more other users in proximity to the first user to determine a match between the first user's activity patterns and the activity patterns of each of the other users, wherein the match is based on a degree of similarity between the first user's activity patterns and the activity patterns of each of the other users and is weighted to emphasize characteristics selected by the first user, wherein the match includes other users that have characteristics that are in conflict with characteristics of the first user.

Comparing activity patterns reasonably can be characterized as a mental evaluation or judgment.

Limitation [viii] recites the following language:

[viii] generating, by the mobile data aggregation module, a graphical representation of the location of the other users in relation to the location of the mobile device, a textual indication of a characteristic common to the matched activity patterns, and a textual indication of a characteristic that is in conflict with a characteristic of the first user.

Generating a representation of information reasonably can be characterized as a mental process of expressing a judgment or an opinion.

For these reasons, each of limitations [iii]–[viii] reasonably can be characterized as reciting patent-ineligible subject matter.

STEP 2A, PRONG 2:

Under step 2A, prong 2, of the 2019 Guidance, we next analyze whether claim 1 recites additional elements that integrate the judicial exception into a practical application. 84 Fed. Reg. 52–55.

Appellant argues that “[t]he claims are not directed to an idea or algorithm of itself” (Appeal Br. 13) (emphasis omitted), to a mathematical formula (*id.* at 14), or to a fundamental economic practice (*id.* at 15–17). Because we noted in the preceding section of the analysis that claim 1 recites various abstract ideas, we need not address Appellant’s arguments regarding algorithms, mathematical formulas, or economic practices. We instead limit our focus to Appellant’s arguments regarding abstract ideas.

Appellant’s argument that “[t]he claims are not directed to an idea or algorithm of itself” is not persuasive. In support of this general proposition, Appellant more specifically only argues why claim 1 is not directed to a law of nature or an algorithm. *Id.* at 13. But Appellant does not present any persuasive arguments for why claim 1 is not directed to an abstract idea. *Id.*

To be sure, claim 1 recites additional limitations that contain elements which arguably are beyond the above-noted mental processes. More specifically, limitation [i] of claim 1 recites automatically capturing location information entries associated with a user, and limitation [ii] recites that this captured location information is received by a mobile communication module of a server computing device. But these two limitations do not add

any meaningful limitations to the recited abstract ideas because these limitations reasonably can be characterized as merely constituting insignificant pre-solution activity:

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

MPEP § 2106.05(g).

Similarly, claim 1’s final two steps of (1) sending a message to the mobile device (limitation [ix]) and (2) presenting, by the mobile device, the graphical representation and the textual indication on a display (limitation [x]) do not add any meaningful limitations to the recited abstract ideas because they reasonably may be characterized as merely being directed to the insignificant post-solution activities of transmitting and displaying data. *See, e.g., Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241–42 (Fed. Cir. 2016) (holding that printing or downloading generated menus constituted insignificant extra-solution activity).

Appellant argues in the next section of their Appeal Brief that even if the claims are determined to be directed to an abstract idea, the claims contain an inventive concept that renders them patent eligible. Appeal Br. 17. In support of this general argument, Appellant more specifically contends (1) “[t]he claims at issue do not merely state an abstract idea and add the words ‘apply it’” (*id.* at 18) (emphasis omitted) and (2) “[t]he claims . . . contain ‘meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment’” (*id.* at 19) (emphasis omitted). The 2019 Guidance instructs us to consider these

inquiries under step 2A, prong 2. 84 Fed. Reg. 52–55; *see also* MPEP §§ 2106.05(e), (f).

In support of the argument that the claims add meaningful limitations beyond generally linking the user of an abstract idea to a particular technological environment, Appellant merely restates a substantial portion of the language of claim 1. *See id.* at 19–20 (reproducing limitations [i], [iv], and [vi]–[x]). This argument is unpersuasive because merely reciting the claim language does not constitute an argument as to why the recited language adds a meaningful limitation. *See In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (explaining that the applicable rules “require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art”).

In support of their contention that “[t]he claims at issue do not merely state an abstract idea and add the words ‘apply it,’” Appellant argues the following:

Applicant’s independent claims each recite more than a generic computer. In fact, the claims recite multiple hardware components including a “mobile device” including an “embedded GPS receiver” and a “display” and executing “an application,” and “a mobile communication module” and “a mobile data aggregation module” of a “server computing device” which are not only specially-configured to perform particular operations, but also to work together to achieve the operations defined by the method.

Appeal Br. 18.

This argument likewise is unpersuasive because Appellant’s assertions that the recited computer components are “specially-configured to perform particular operations” and that the components “work together to

achieve the operations defined by the method” are conclusory. Appellant does not provide reasoning or evidence for why these components are specially configured or work together in some manner beyond performing conventional computer functions. *Id.*

More generally, then, Appellant does not persuade us that claim 1 is directed to an improvement in the function of a computer or to any other technology or technical field. MPEP § 2106.05(a). Nor has Appellant persuasively demonstrated that claim 1 directed to a particular machine or transformation. MPEP § 2106.05(b), (c). Nor has Appellant persuasively demonstrated that claim 1 adds any other meaningful limitations. MPEP § 2106.05(e). Accordingly, Appellant has not persuaded us that claim 1 integrates the recited abstract ideas into a practical application within the meaning of the 2019 Guidance. 84 Fed. Reg. 52–55.

STEP 2B:

Under step 2B of the 2019 Guidance, we next analyze whether claim 1 adds any specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field. 84 Fed. Reg. 56; MPEP § 2106.05(d).

We return to Appellant’s argument that

the claims recite multiple hardware components including a “mobile device” including an “embedded GPS receiver” and a “display” and executing “an application,” and “a mobile communication module” and “a mobile data aggregation module” of a “server computing device” which are not only specially-configured to perform particular operations, but also to work together to achieve the operations defined by the method.

Appeal Br. 18.

The Examiner disagrees, finding that “[t]he structural components are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications.” Ans. 4.

Appellant’s Specification supports the Examiner’s findings. For example, Appellant states that “[m]obile devices . . . with global positioning system (GPS) features are becoming more commonplace.” Spec. ¶ 2. Furthermore, claim terms like “a mobile communication module,” “a mobile data aggregation module,” and “server computing device” merely recite the ultimate function that the components perform without reciting any specifics of the devices that perform these functions. And Appellant’s Specification indicates that the claimed components can take various forms. *See, e.g.*, Spec. ¶ 81 (indicating that the display device can be a cathode ray tube or a liquid crystal display); *id.* ¶ 82 (providing multiple examples of how the client device and mobile computing device can be realized); *id.* ¶ 83 (providing examples of various types of web servers that can be used for the server computing device); *id.* ¶ 84 (describing conventional examples of hardware for implementing the client device, the data server, and the transmitting device).

For these reasons, we determine that claim 1 does not recite additional elements that amount to significantly more than the judicial exception within the meaning of the 2019 Guidance. 84 Fed. Reg. 52–55; MPEP § 2106.05(d).

Accordingly, we sustain the Examiner’s rejection of claim 1 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. We, likewise, sustain the section 101 rejection of claims 2, 3, 5, 9, 10, 12–23, and 25, which Appellant does not argue separately. Appeal Br. 11–12.

THE § 103 REJECTIONS

The Rejections

Claims 1–3, 5, 9, 10, 17, and 21–25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over DeWolf (US 2002/0111172 A1; published Aug. 15, 2002), Rosen (US 8,019,692 B2; issued Sept. 13, 2011), and Altman (US 8,099,109 B2; issued Jan. 17, 2012). Final Act. 9–17.

Claims 12–16 and 18–20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over DeWolf, Rosen, and Altman, in various combinations with other references. Final Act. 18–22. Appellant does not present separate arguments for claims 12–16 and 18–20. Thus, the rejections of these claims turn on our decision as to claim 1. Except for our ultimate decision, we do not address the § 103 rejections of claims 12–16 and 18–20 further herein.

Contentions and Analysis

In arguing against the obviousness rejections, Appellant first sets forth large passages of independent claims 1, 23, and 25. *See* Appeal Br. 21–22 (reproducing limitations [vi]–[ix] of claim 1); *id.* at 22–23 (reproducing similar limitations of independent claims 23 and 25). Appellant next summarizes what the cited references purportedly teach or suggest. *Id.* at 23–24. Appellant then contends that “the combination of DeWolf, Rosen, and Altman simply fails to teach, suggest, or render obvious at least [steps [vi]–[ix] of claim 1]” *Id.* at 24–25.

That is, Appellant again merely recites the entire language of four lengthy claim steps. But Appellant does not provide any substantive arguments for what particular steps, elements, or portions of the claim limitations the cited art allegedly fails to teach or suggest. Furthermore,

Appellant presents no arguments in the Reply Brief regarding the obviousness rejections. Reply Br. 1–6.

As such, Appellant’s contention that the cited art fails to teach or suggest the claims does not constitute an argument on the merits, because “[a] statement [that] . . . merely points out what a claim recites will not be considered an argument for separate patentability of the claim.” 37 C.F.R. § 41.37(c)(1)(iv); *see also Lovin*, 652 F.3d at 1357 (explaining that the applicable rules “require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art”).

For these reasons, we summarily sustain the Examiner’s obviousness rejection of claims 1–3, 5, 9, 10, 17, 21–23, and 25. We, likewise sustain the obviousness rejections of claims 12–16 and 18–20, which Appellant does not argue separately. Appeal Br. 24–25. 37 C.F.R. § 41.37(c)(1)(iv).

CONCLUSION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1–3, 5, 9, 10, 12–23, 25	§ 103 DeWolf, Rosen, Altman	1–3, 5, 9, 10, 12–23, 25	
1–3, 5, 9, 10, 12–23, 25	§ 101	1–3, 5, 9, 10, 12–23, 25	
Overall Outcome		1–3, 5, 9, 10, 12–23, 25	

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

AFFIRMED