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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH HENSON and KEVIN KOTOWSKI

Appeal 2017-011705[1]
Application 14/560,703
Technology Center 3600

Before ERIC B. CHEN, JON M. JURGOVAN, and JOHN R. KENNY, *Administrative Patent Judges*.

CHEN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1–4, 6, 7, 11–18, 20, 21, and 25–32. Claims 5, 8–10, 19, and 22–24 have been cancelled. (Final Act. 2.) We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellant identifies Catalina Marketing Corporation as the real party in interest. (App. Br. 3.)

STATEMENT OF THE CASE

Appellant's invention relates to identifying mobile devices of users involved in purchase transactions, including obtaining purchase information that indicates purchases made by users and location information associated with mobile devices, and identifying a mobile device of a user that makes a purchase at a retail establishment by comparing the time of the purchase with timestamps of mobile device locations, which may indicate a time that the mobile device was at a given location. (Abstract.)

Claim 1 is exemplary, with disputed limitations in italics:

> 1. A computer implemented method of identifying mobile devices of users based on purchases made by the users at retail establishments, the method being implemented by a computer system having one or more physical processors programmed with computer program instructions that, when executed by the one or more physical processors, cause the computer system to perform the method, the method comprising:
>
> [a] obtaining, by the computer system, purchase information associated with a plurality of purchase transactions made at one or more retail establishments, including at least a first purchase transaction and a second purchase transaction, wherein the purchase information includes at least a time of the first purchase transaction and a second time of the second purchase transaction, retailer identification information that is used to identify a retail establishment at which the first purchase transaction was made, and a second retail establishment at which the second purchase transaction was made, and user identification information used to identify the user involved in the first purchase transaction;
>
> [b] obtaining, by the computer system, location information related to a plurality of mobile devices, including at least a first mobile device, wherein the location information includes mobile device identification

information associated with the first mobile device, a location of the first mobile device, and a time that the first mobile device was at the location;

[c] identifying, by the computer system, for at least the first purchase transaction: (i) an area associated with a first retail establishment at which the first purchase transaction was made based on the purchase information, (ii) a set of mobile devices, including the first mobile device, that were in the area at the time of the first purchase transaction based on the location information, and (iii) first user identification information that identifies a first user involved in the first purchase transaction and the second purchase transaction based on the purchase information;

[d] comparing, by the computer system, the time of the first purchase transaction from the purchase information with the time that the first mobile device was at the location;

[e] *determining a length of time after the first purchase transaction that the first mobile device remained at the first retail establishment*;

[f] determining, by the computer system and based on the comparison and the length of time after the first purchase transaction that the first mobile device remained at the first retail establishment, *a first probability that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction* including determining a number of the set of mobile devices that were in the area at the time of the first purchase transaction;

[g] determining a second area associated with the second retail establishment at which the second purchase transaction was made based on the purchase information;

[h] determining whether the first mobile device was in the second area at the second time;

> [i] updating the first probability responsive to the determination of whether the first mobile device was in the second area at the second time;
>
> [j] determining whether the first probability exceeds a threshold probability value;
>
> [k] determining that the first user is the user of the first mobile device responsive to a determination that the first probability exceeds the threshold probability value;
>
> [l] identifying one or more promotions to provide to the first user in response to determining that the first user is the user of the first mobile device; and
>
> [m] providing the one or more promotions to the first user.

Claims 1–4, 6, 7, 11–18, 20, 21, and 25–32 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

Claims 1–4, 6, 7, 15–18, 20, 21, and 29–32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Varghese (US 2014/0052497 A1; pub. Feb. 20, 2014), Thiagarajan (US 9,244,152 B1; iss. Jan. 26, 2016), Paradise (US 2011/0145093 A1; pub. June 16, 2011), and Marti (US 2014/0171068 A1; pub. June 19, 2014).

Claims 11–14 and 25–28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Varghese, Thiagarajan, Paradise, Marti, and Yoder (US 2012/0066064; pub. Mar. 15. 2012).

§ 101 Rejection

We are unpersuaded by Appellant's arguments (App. Br. 14–15; *see also* Reply Br. 2–3) that independent claims 1 and 15 are directed to patent-eligible subject matter under 35 U.S.C. § 101.

The Examiner determined that "[c]laims 1 and 15 are directed to the abstract idea of identifying a user making a purchase at a retail establishment by comparing the time of the purchase at a retail location and determining a probability that the mobile device belongs to the user based on the purchase timestamps." (Final Act. 2; *see also* Ans. 4.) In particular, the Examiner determined that "the courts have noted that . . . '[c]ollecting information, analyzing it, and displaying certain results of the collection and analysis' in (Electric Power group) (i.e. obtaining purchase information, location information) and/or communicating targeted content as in (Affinity Labs of Tex. . . .) (i.e. providing the one or more promotions) are examples of judicial exceptions or abstract ideas." (Ans. 4.) Moreover, the Examiner determined that "[t]he claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements when considered both individually and as an ordered combination do not amount to significantly more than the abstract idea." (Final Act. 3.) We agree with the Examiner's determinations and ultimate conclusion that the claims are directed to patent-ineligible subject matter.

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. 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*. *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. 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; *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 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.* (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 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019). 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* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. 2019)).

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 are 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 84 Fed. Reg. 56.

Are the claims at issue directed to a patent-ineligible concept?

Step One

Claim 1 is a computer implemented method claim, which falls within the "process" category of 35 U.S.C. § 101. Likewise, claim 15 is a system claim having computer program instructions that execute multiple steps, which falls within the "manufacture" category of 35 U.S.C. § 101. Although claims 1 and 15 fall within the statutory categories, we must still determine whether these claims are directed to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217–18. Thus, we must determine whether the claims recite a judicial exception, and fail to integrate the exception into a practical application. *See* 84 Fed. Reg. 54–55. If both elements are satisfied, the claims are directed to a judicial exception under the first step of the *Alice/Mayo* test. *See id.*

Step 2A, Prong One

Independent claim 1 is a method claim, and includes the following limitations: "[a] *obtaining . . . purchase information* associated with a plurality of purchase transactions made at one or more retail establishments, including at least a first purchase transaction and a second purchase transaction . . . ," "[b] *obtaining . . . location information* related to a plurality of mobile devices . . . wherein the location information includes mobile device identification information associated with the first mobile device, a location of the first mobile device, and a time that the first mobile device was at the location,"

> [c] *identifying* . . . for at least the first purchase transaction: (i) *an area associated* with a first retail establishment at which the first purchase transaction was made based on the purchase information, (ii) *a set of mobile devices* . . . that were in the area at the time of the first purchase transaction based on the location information, and (iii) *first user identification information* that identifies a first user involved in the first purchase transaction and the second purchase transaction based on the purchase information,

"[d] *comparing . . . the time of the first purchase transaction* from the purchase information with *the time that the first mobile device was at the location*," "[e] *determining a length of time after the first purchase transactio*n that the first mobile device remained at the first retail establishment,"

> [f] *determining* . . . based on the comparison and the length of time after the first purchase transaction that the first mobile device remained at the first retail establishment, *a first probability* that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction . . . ,

"[g] *determining a second area* associated with the second retail establishment at which the second purchase transaction was made based on the purchase information," "[h] *determining whether the first mobile device was in the second area* at the second time," "[i] *updating the first probability* responsive to the determination of whether the first mobile device was in the second area at the second time," "[j] *determining whether the first probability exceeds a threshold* probability value," and "[k] *determining that the first user is the user of the first mobile device* responsive to a determination that the first probability exceeds the threshold probability value" (emphases added). These limitations are directed to a patent-ineligible abstract idea of certain methods of organizing human activity, such as a collecting and analyzing information. *See, e.g., Elec. Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 ("The advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions."); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011) ("The mere collection and organization of data regarding credit card numbers and Internet addresses is insufficient to meet the transformation prong of the test."). In particular, the "obtaining" limitation is the collection of information, while the "identifying," "comparing," "determining," and "updating" limitations are the analysis of such information.

Moreover, claim 1 further recites: "[l] identifying one or more promotions to provide to the first user in response to determining that the first user is the user of the first mobile device" and "[m] providing the one or more promotions to the first user." These limitations are directed to a

patent-ineligible abstract idea of certain methods of organizing human activity, such as tailoring content based on information about the user. *See, e.g.*, *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 830 F.3d 1350, 1354 ("[T]he basic concept of customizing a user interface is an abstract idea").

Claim 15 recites limitations similar to those discussed with respect to claim 1. Thus, claim 15 also recites a judicial exception.

Step 2A, Prong Two

Because claims 1 and 15 recite a judicial exception, we next determine if the claims recite additional elements that integrate the judicial exception into a practical application.

The preamble of claim 1 recites: "identifying mobile devices of users based on purchases made by the users at retail establishments the method being *implemented by a computer system having one or more physical processors* programmed with computer program instructions." Moreover, method claim 1 recites: "[a] obtaining, *by the computer system*, purchase information associated with a plurality of purchase transactions made at one or more retail establishments," "[b] obtaining, *by the computer system*, location information related to a plurality of mobile devices,"

> [c] identifying, *by the computer system*, for at least the first purchase transaction: (i) an area associated with a first retail establishment at which the first purchase transaction was made based on the purchase information, (ii) a set of mobile devices . . . that were in the area at the time of the first purchase transaction based on the location information, and (iii) first user identification information that identifies a first user involved in the first purchase transaction and the second purchase transaction based on the purchase information,

"[d] comparing, *by the computer system*, the time of the first purchase transaction from the purchase information with the time that the first mobile device was at the location," and "[f] determining, *by the computer system* . . . a first probability that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction" (emphases added).

The recited computer hardware, including the "computer system" and "physical processors" are merely tools for performing the abstract idea. *See Affinity Labs v. DirecTV*, 838 F.3d 1253, 1262 (Fed. Cir. 2016) ("[T]he claims are directed not to an improvement in cellular telephones but simply to the use of cellular telephones as tools in the aid of a process focused on an abstract idea."). Accordingly, claims 1 and 15 do not recite additional elements that integrate the judicial exception into a practical application.

Appellant argues the following:

> Such action does not describe an abstract concept, or a concept similar to those found by the courts to be abstract, such as a fundamental economic practice, a method of organizing human activity, an idea itself (standing alone), or a mathematical relationship. In contrast, the invention claimed here directed towards "determining . . . based on the comparison and the length of time after the first purchase transaction that the first mobile device remained at the first retail establishment, a first probability that the first user involved in the first purchase transaction is a user of the first mobile device", is a "concept inextricably tied to computer technology" and distinct from the types of concepts found by the courts to be abstract.

(App. Br. 15 (emphasis omitted).) However, other than providing a conclusory statement that the claimed invention is "inextricably tied to computer technology," Appellant has not adequately explained the way in which the claim "purport[s] to improve the functioning of the computer

itself" or "any other technology or technical field." *Alice*, 573 U.S. at 225. In particular, Appellant has not explained why: (i) collecting and analyzing information; or (ii) tailoring content based on information about the user, for the purposes of retail marketing, improves the function of a computer or other technology.

Appellant further argues "that on its face, the paraphrased Claim 1 language is clearly dissimilar and indeed very distinct from what the Examiner cites from courts having found to be abstract ideas." (Reply Br. 3.) Contrary to Appellant's arguments, the Examiner has identified the appropriate judicial exceptions as "certain methods of organizing human activity" and the Examiner has compared the claimed concepts of independent claim 1 to the appropriate Federal Circuit decisions (i.e., *Electric Power Group* and *Affinity Labs of Texas*).

Is there something else in the claims that ensures that they are directed to significantly more than a patent ineligible concept?

Step 2B

Because claims 1 and 15 are directed to a judicial exception, we next determine, according to *Alice*, whether these claims recite an element, or combination of elements, that is enough to ensure that the claim is directed to significantly more than a judicial exception.

Claim 1 is a method claim, which includes "a computer system having one or more physical processor." With respect to the claimed hardware components, of a "computer system" and "processor," Appellant's Specification discloses the following:

> System 100 may include a computer system 110, one or more databases 130 (illustrated in FIG. 1 as databases 130A, 130B, . . . , 130N), an in-store computer system 152, a point of sale computer system 154, a location service 160, a mobile device 170, and/or other components.

(Spec. ¶ 38.)

> Computer system 110 may include one or more processors 112 (also interchangeably referred to herein as processors 112 or processor 112 for convenience) programmed by computer program instructions comprising a correlation application 120. Correlation application 120 may include one or more sets of instructions that program the one or more processors 112.

(*Id.* ¶ 39.)

The generalized functional terms by which the computer components are described reasonably indicate that Appellant's Specification discloses conventional computer system 110 having conventional processors 112. (*See id.* ¶¶ 38–39.)

In view of Appellant's Specification, the claimed hardware components, including a "computer system" and a "processor" reasonably may be determined to be generic, purely conventional computer elements. Thus, the claims do no more than require generic computer elements to perform generic computer functions, rather than improve computer capabilities.

Appellant argues "that the pending claims do not preempt all uses of the alleged abstract idea." (App. Br. 15.) However, although "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). Where claims are deemed to recite only patent ineligible subject matter under the two-step

Alice analysis, as they are here, "preemption concerns are fully addressed and made moot." *Id.*

Thus, we agree with the Examiner that claims 1 and 15 are directed towards patent-ineligible subject matter. Accordingly, we sustain the rejection of independent claims 1 and 15 under 35 U.S.C. § 101.

Claims 2–4, 6, 7, 11–14, 16–18, 20, 21, and 25–32 depend from independent claims 1 and 15, and Appellant has not presented any additional substantive arguments with respect to these claims. We sustain the rejection of claims 2–4, 6, 7, 11–14, 16–18, 20, 21, and 25–32 under 35 U.S.C. § 101 for the same reasons discussed with respect to independent claims 1 and 15.

§ 103 Rejection—Varghese, Thiagarajan, Paradise, and Marti

We are unpersuaded by Appellant's arguments (App. Br. 20–21; *see also* Reply Br. 5) that the combination of Varghese, Thiagarajan, Paradise, and Marti would not have rendered obvious independent claim 1, which includes the limitation "determining a length of time after the first purchase transaction that the first mobile device remained at the first retail establishment."

The Examiner found that facilitating server 160 of Paradise, which calculates the length of time that mobile device 140 spends in a retail establishment prior to a current purchase, and the total time spent in a retail establishment, corresponds to the limitation "determining a length of time after the first purchase transaction that the first mobile device remained at the first retail establishment." (Ans. 8–9; *see also* Final Act. 9.) We agree with the Examiner's findings.

Paradise relates to "[t]echniques for purchasing products from a retail establishment using a mobile device [to] allow a user to transact a purchase of physical products within a retail establishment site, without need for significant interaction with personnel of the retail establishment to transact the purchase." (Abstract.) Figure 1 of Paradise illustrates operating environment 100, which includes mobile device 140 for purchasing product 120, purchase facilitating server 160, offer server 170, and inventory server 180. (¶ 33.) Paradise explains that "purchase facilitating server 160 may be able to calculate the length of time that mobile device 140 (and thus, its user) have spent within the retail establishment prior to transacting the current purchase." (¶ 53.) Moreover, Paradise explains that "such information may be considered as an indicator of theft potential, as a user who spends a long time in a retail establishment, considering many options, may in some cases be considered unlikely to be shoplifting." (*Id.*) In addition, Paradise explains that purchase facilitating server 160 can determined an "average amount of time other users spend in the current retail establishment." (¶ 54.) If the "other user" of Paradise enters a retail establishment for the first time, then the "average amount of time" determined by purchase facilitating server 160 is the actual amount of time in the retail establishment. (*See id.*) Thus, to obtain the length of time that mobile device 140 has spent in the retail establishment after the purchase, one of ordinary skill in the art would subtract the time prior to purchase from the total length of time. Because Paradise explains that purchase facilitating server 160 can determine: (i) the length of time that mobile device 140 has spent in the retail establishment prior to purchase; and (ii) the total length of time that mobile device 140 has spent in the retail establishment, for either

the user or another user, Paradise teaches the limitation "determining a length of time after the first purchase transaction that the first mobile device remained at the first retail establishment."

Appellant argues the following:

> Paradise discloses a "purchase facilitating server 160 may be able to calculate the length of time that mobile device 140 . . . have spent within the retail establishment prior to transacting the current purchase" . . . , not "determining a length of time after the first purchase transaction that the first mobile device remained at the first retail establishment."

(App. Br. 20–21 (emphases omitted).) However, the Examiner also cited to other embodiments of Paradise, in which the total length of time that mobile device 140 has spent in the retail establishment can be determined, for either the user or another user.

Appellant further argues the following:

> Appellant respectfully submits that comparison with an average value would be insufficient to disclose or make obvious Appellant's claimed limitation of "determining . . . based on . . . the length of time after the first purchase transaction that the first mobile device remained at the first retail establishment, a first probability that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction."

(Reply Br. 5 (emphasis omitted).) Other than a conclusory statement that Paradise does not teach the disputed limitation, Appellant has not provided any persuasive arguments or evidence as to why the Examiner's findings with respect to Paradise are erroneous. Moreover, as discussed previously, if the "other user" of Paradise enters a retail establishment for the first time, then the "average amount of time" determined by purchase facilitating

server 160 is the actual amount of time in the retail establishment. (*See* ¶ 54.)

Thus, we agree with the Examiner that the combination of Varghese, Thiagarajan, Paradise, and Marti would have rendered obvious independent claim 1, which includes the limitation "determining a length of time after the first purchase transaction that the first mobile device remained at the first retail establishment."

We are unpersuaded by Appellant's arguments (App. Br. 21; *see also* Reply Br. 5–6) that the combination of Varghese, Thiagarajan, Paradise, and Marti would not have rendered obvious independent claim 1, which includes the limitation "a first probability that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction."

The Examiner found that the method of Varghese, for associating mobile devices with transactions, corresponds to the limitation "the first user involved in the first purchase transaction is a user of the first mobile device . . . at the time of the first purchase transaction." (Final Act. 8.) The Examiner further found that process 500 of Thiagarajan, which calculates the possible location of devices, corresponds to the limitation "a first probability that the first user . . . is a user of the first mobile device that was in the area." (Ans. 9–10.) We agree with the Examiner's findings.

Varghese relates to "associating mobile devices with transactional entities." (Abstract.) In particular, one embodiment of Varghese includes "identifying a first transaction . . . and identifying a first set of mobile devices in a location of the first transaction at a time of the first transaction." (*Id.*) Because Varghese explains that a mobile device is associated with a

transaction, including time and location of the transaction, Varghese teaches the limitation "the first user involved in the first purchase transaction is a user of the first mobile device . . . at the time of the first purchase transaction."

Thiagarajan relates to "determining a location of a mobile computing device based on both wireless signal strengths measured at the mobile computing device and movement of the device." (Abstract.) Figure 5 of Thiagarajan illustrates "an example process 500 of calculating probabilities that a device resides at different possible locations based on RSSI [received signal strength indications]." (Col. 9, ll. 54–56.) Moreover, Thiagarajan explains that: (i) "the process 500 selects possible locations of a device, which may be based on an estimated initial location of the device; (ii) "the process 500 updates each of these possible locations as the device moves within an environment"; and (iii) "the process 500 calculates a likelihood that the [mobile computing] device resides at each possible location based on an RSSI associated with a particular [wireless access points] WAP." (Col. 9, ll. 56–62.) Because Thiagarajan explains that a likelihood is calculated for the mobile computing device residing at a possible location, Thiagarajan teaches the limitation "a first probability that the first user . . . is a user of the first mobile device that was in the area."

Appellant argues the following:

> Thiagarajan discloses "calculat[ing] a likelihood that the device resides at each possible location[,]" not "determining . . . a first probability that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction" as recited in independent Claim 1.

(App. Br. 21; *see also* Reply Br. 6.) However, one reasonable interpretation of the limitation "*a first probability* that the first user involved in the first purchase transaction is *a user of the first mobile device that was in the area* at the time of the first purchase transaction" (emphasis added) is that "a first probability" is determined for "a user of the first mobile device that was in the area." Other than a conclusory statement that Thiagarajan does not teach the disputed limitation, Appellant has not provided any persuasive arguments or evidence as to why the Examiner's findings with respect to Thiagarajan are improper.

Thus, we agree with the Examiner that the combination of Varghese, Thiagarajan, Paradise, and Marti would have rendered obvious independent claim 1, which includes the limitation "a first probability that the first user involved in the first purchase transaction is a user of the first mobile device that was in the area at the time of the first purchase transaction."

Accordingly, we sustain the rejection of independent claim 1 under 35 U.S.C. § 103. Claims 2–4, 6, 7, and 31 depend from claim 1, and Appellant has not presented any additional substantive arguments with respect to these claims. Therefore, we sustain the rejection of claims 2–4, 6, 7, and 31 under 35 U.S.C. § 103, for the same reasons discussed with respect to independent claim 1.

Independent claim 15 recites limitations similar to those discussed with respect to independent claim 1, and Appellant has not presented any additional substantive arguments with respect to these claims. We sustain the rejection of claim 15, as well as dependent claims 16–18, 20, 21, 29, 30, and 32, for the same reasons discussed with respect to claim 1.

§ 103 Rejection—Varghese, Thiagarajan, Paradise, Marti, and Yoder

Although Appellant nominally argues the rejection of dependent claims 11–14 and 25–28 separately (App. Br. 22), the arguments presented do not point out with particularity or explain why the limitations of these dependent claims are separately patentable. Instead, Appellant argues that "[t]he remaining claims, Claims . . . 11–14 . . . and 25–32, depend from independent Claims 1 or 15" and "for at least the same reasons as those discussed above with reference to independent Claims 1 and 15, Claims . . .11–14 . . . and 25–32 are therefore believed to be allowable over the applied references." (*Id.*) Accordingly, we sustain this rejection.

DECISION

The Examiner's decision rejecting claims 1–4, 6, 7, 11–18, 20, 21, and 25–32 under 35 U.S.C. § 101 is affirmed.

The Examiner's decision rejecting claims 1–4, 6, 7, 11–18, 20, 21, and 25–32 under 35 U.S.C. § 103 is affirmed.

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