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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HARSHA RAMALINGAM

Appeal 2019-005736
Application 13/313,912
Technology Center 3600

Before CHARLES N. GREENHUT, MICHAEL L. HOELTER, and
ANNETTE R. REIMERS, *Administrative Patent Judges*.

GREENHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner’s decision to reject claims 3, 6–12, and 29. *See* Final Act. 1. Claims 1, 13–17, 20–26, 30, 31, and 34–36 are withdrawn from consideration and claims 2, 4, 5, 18, 19, 27, 28, 32, and 33 have been

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 Amazon Technologies, Inc., which “is a wholly owned subsidiary of Amazon.com, Inc. Appeal Br. 3.

canceled. *See id.*; Appeal Br. 24–25, 28–30 (Claims App.). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

The claims are directed to a system for virtual point-of-sale (POS) devices. Claim 3, reproduced below, is illustrative of the claimed subject matter:

3. A system comprising:
 - one or more processors;
 - a network interface;
 - memory coupled to the one or more processors, the memory comprising executable instructions that when executed by the one or more processors cause the system to:
 - determine a volume of transactions occurring or estimated to occur at a merchant location;
 - determine, based at least partly on the volume of transactions, a number of virtual instances of a point-of-sale (POS) device to instantiate on behalf of a merchant on one or more network-accessible computing devices of the system located remote from the merchant location;
 - associate the number of virtual instances of the POS device with one or more computing devices located at the merchant location for a time period based at least in part on the volume of transactions occurring or estimated to occur at the merchant location during the time period, wherein associating the number of virtual instances of the POS device with the merchant location includes establishing a secure connection between the number of virtual instances of the POS device and a merchant network;
 - determine that a customer-operated device is located at the merchant location based at least partly on determining that the customer-operated device is less than a threshold distance from the merchant location;

receive, via the network interface and by an instantiated virtual instance of the POS device, a purchase request from the customer-operated device, the purchase request comprising payment information and an identification of a good or service;

provide, by the instantiated virtual instance of the POS device, the payment information to a payment processor and receive, by the instantiated virtual instance of the POS device, an authorization from the payment processor to fulfill the purchase request; and

generate, by the instantiated virtual instance of the POS device, a receipt evidencing the authorization from the payment processor and identifying the good or service.

REJECTIONS

Claims 3, 6–12, and 29 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Final Act. 10.

Claims 3, 6–12, and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Paradise (US 2011/0145093 A1, published June 16, 2011) and “Official Notice.” Final Act. 14.

OPINION

Eligibility

Principles of Law

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.

However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract

ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. See *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.” *Id.* 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))).

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 (internal 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.* (alteration in the original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

In January of 2019, the PTO published revised guidance on the application of § 101. 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “Memorandum”). Step 2A of that guidance involves determining whether the claim recites:

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

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

If a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, Step 2B of that guidance involved determining 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 Memorandum.

Analysis

Statutory Category

Claim 3 recites “[a] system comprising: one or more processors; a network interface; [and a] memory,” and therefore, is a machine.

Recitation of Judicial Exception

The Examiner reasonably determined that: “[t]he claims are directed towards the concept of *conducting a secure point of sale (POS) transaction and load balancing*. This concept is considered a fundamental economic practice, [a] method of organizing human activities, and an idea of itself, which is merely an abstract idea.” Final Act. 10.² *See Inventor Holdings*,

² In the Answer, the Examiner pivots in determining that certain steps of claim 3 “can be performed by a user mentally . . . and fall within the Mental Processes grouping.” Ans. 5. However, determining whether claim 3 recites both a fundamental economic practice and a mental process, does not alter our analysis below. The Examiner states that “[i]t is noted that the step of determining that a customer device is located at the merchant location does not require the step to be performed by a computer and nothing in the limitation precludes the step from being performed entirely by a human.” Ans. 6. However, the Examiner does not explain how—and thus, fails to establish that—determining the customer-operated device is less than a threshold distance from the merchant location and subsequent “instantiated

LLC v. Bed Bath & Beyond, Inc., 876 F.3d 1372, 1378–79 (Fed. Cir. 2017) (holding that concept of “local processing of payments for remotely purchased goods” is a “fundamental economic practice, which *Alice* made clear is, without more, outside the patent system.”).

Claim 3 recites that the memory comprises executable instructions causing the system to: (1) “determine a volume of transactions occurring or estimated to occur at a merchant location;” (2) “determine, . . . , a number of virtual instances of a point-of-sale (POS) device to instantiate on behalf of a merchant on one or more network-accessible computing devices of the system located remote from the merchant location;” (3) “associate the number of virtual instances of the POS device with one or more computing devices . . . based at least in part on the volume of transactions occurring or estimated to occur at the merchant location during the time period;” (4) “receive, . . . a purchase request from the customer-operated device;” (5) “provide, . . . the payment information;” and (6) “generate, . . . a receipt evidencing the authorization from the payment processor.” Thus, from the above limitations (1) to (6), claim 3 recites steps for “conducting a secure point of sale transaction and load balancing,” meaning claim 3 recites “a fundamental economic practice.” Paragraph 2 of Appellant’s Specification discloses that “[p]roviding brick-and-mortar merchants an option to receive credit card and other payments from customers at merchant locations without requiring actual, tangible POS devices would provide flexibility, lower costs, and greater convenience for merchants.” Thus, the Specification makes it very clear that, virtual instances of a point-of-sale (POS) provides

virtual instance of the POS device” and generation of a receipt can be “performed entirely by a human mind.”

similar benefits as those of physical instances of POS, which is a fundamental economic practice. When claimed in a certain way, a claim may still recite a ‘fundamental economic practice’ even if it recites the incidental use of ‘processors,’ ‘a network interface,’ or ‘a memory.’”

Practical Application

Claim 3 cites “determin[ing] that a customer-operated device is located at the merchant location based at least partly on determining that the customer-operated device is less than a threshold distance from the merchant location.” Appellant argues that claim 3 “solve[s] a number of technical problems associated with providing a ‘simple and secure way to receive credit card payments at a physical merchant location without a point-of-sale (POS) device that includes a card reader’ and ‘prevent[ing] fraudulent or mistaken transactions.” Appeal Br. 8 (quoting Spec. ¶¶ 1, 46). Appellant points out that the Specification discloses “[i]n some implementations, the mobile computing device 104 may be location aware, . . . a ‘geolocation,’ may be provided to the mobile computing device 104 by a satellite such as a global positioning system (GPS) satellite,” and “[t]he geolocation of the mobile computing device 104 may be used to validate the purchase by confirming that the mobile computing device 104 is located at or near (e.g., within a threshold distance) the merchant location 106 at the time the user 102 attempts to purchase the good and/or service [108].” *Id.* at 9 (quoting Spec. ¶ 27). Accordingly, we agree with Appellant that claim 3 integrates the abstract idea (a fundamental economic practice, i.e., conducting a secure point of sale (POS) transaction and load balancing) into a practical application (“providing an additional automated technique for validating a

purchase based on a distance proximity” at a physical merchant location without a point-of-sale (POS) device) because claim 3 recites “determin[ing] that a customer-operated device is located at the merchant location based at least partly on determining that the customer-operated device is less than a threshold distance from the merchant location.”

Conclusion

Accordingly, we conclude that the judicial exception recited in claim 3 is integrated into a practical application, and thus, claim 3 is eligible because it is not directed to the judicial exception, itself. The rejection of claim 3 under 35 U.S.C. § 101 is reversed. Dependent claims 6–12 and 29 incorporate all of the limitations of claim 3 and the rejection of these claims is reversed for the same reasons.

Obviousness

Claim 3 is representative of claims 3, 7, 8, and 29 pursuant to 37 C.F.R. § 41.37(c)(1)(iv). *See* Appeal Br. 16–18. Appellant argues claims 6 and 9–12 individually, and we thus address these claims separately below.³

Claims 3, 7, 8, and 29:

The Examiner finds that Paradise discloses a system having most of the limitations of claim 3. Final Act. 14–15. The Examiner acknowledges that Paradise fails to disclose the steps of: (1) “determin[ing] a volume of transactions occurring or estimated to occur at a merchant location;” (2)

³ Although Appellant groups claims 6–12 and 29 together, Appellant does not discuss claims 7, 8, and 29 specifically. Appeal Br. 18–21.

“determin[ing], based at least partly on the volume of transactions, a number of virtual instances of a point-of-sale (POS) device to instantiate on behalf of a merchant on one or more network-accessible computing devices of the system located remote from the merchant location;” and (3) “associat[ing] the number of virtual instances of the POS device with one or more computing devices located at the merchant location for a time period based at least in part on the volume of transactions occurring or estimated to occur at the merchant location during the time period,” *Id.* at 15. The Examiner, however, finds that these limitations are “merely network load balancing (using additional resources to increase bandwidth and processing)” and takes Official Notice that

both the concept and advantage[s] of this feature [are] notoriously old and well-known in the computer environment as well as the retail environment (in the context of staffing resources). Advantages include distributing workloads, avoiding overload, minimizing response times, and optimizing resources. This is evidenced [at least by] Ferris (US 9,703,609[]).

Id. at 15–16. Appellant contends that the Examiner’s cited passages of Ferris simply describes a variety of parameters, such as a defined time period, are set for a needed machine or process, rather than associating instantiated virtual machines instances with certain computing devices at a particular location. Appeal Br. 17–18. Appellant’s contention is unpersuasive in that the Examiner already finds that Paradise discloses the instantiated virtual machines instances are associated with computing devices at a particular location. *See* Final Act. 14–15. Further, the Examiner correctly responds that Ferris’ “system can determine how many resources are needed, such as the amount of virtual machines, amount of processing power, etc., that is

required based on current usage, computing power, resources utilized, etc.” Ans. 15 (citing Ferris 5:4–6:56; 10:15–57). Notably, Ferris discloses that “[t]he valuation engine 235 can be configured to determine the current usage of the pool of resources 225 in order to value the computing resources based on need.” Ferris 10:20–22. Thus, Ferris supports the Examiner’s Official Notice of network balancing (using additional resources to increase bandwidth and processing) being notoriously old and well-known.

Claim 6:

Claim 6 recites “obtain[ing] seed information . . .” and “generat[ing] a validation image” Appellant argues that “the Office appears to skip claim 6 in its substantive rejections.” Appeal Br. 18. The Examiner correctly responds that “[t]he claim was addressed on page 18 of the Final Action (bullet #13).” Ans. 16. Notably, in the Final Office Action, the Examiner stated “[a]s per claim 6, it contains similar limitations as claim 9 above and therefore is rejected under the same rationale.” Final Act. 18.

Claim 9:

Claim 9 recites similar limitations as claim 6 and further recites “the validation data including at least one of an image or text.” The Examiner finds that Paradise discloses validation data that is either an image or a text on a receipt. Final Act. 17 (citing Paradise ¶¶ 67–68; Figs. 3A–3B). The Examiner acknowledges that Paradise fails to disclose seed information. *Id.* The Examiner, however, finds that using seed information is “obvious as a matter of design choice” because validation data is already used by Paradise and “Applicant has not disclosed that doing so [(using seed information)]

would solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well if the validation data was generated by any unique information provided by the merchant.” *Id.* Appellant argues that the Examiner made an improper conclusory statement and “has pointed to no case law . . .” in rejecting claim 9. Appeal Br. 19. This argument is unpersuasive in that Appellant does not dispute the Examiner’s rationale that seed information would not solve any problem that is not already resolved by using validation data. *See In re Chu*, 66 F.3d 292, 298–99 (Fed. Cir. 1995) (“design choice” is appropriate where the applicant fails “to set forth *any* reasons why the differences between the claimed invention and the prior art would result in a different function or give unexpected results”).

Claim 10:

Claim 10 recites “wherein the seed information is changed at a frequency specified by the merchant.” We agree with Appellant that the Examiner incorrectly finds that in paragraphs 68–70, Paradise fails to disclose different visual indicators are changed at a frequency (Appeal Br. 19–20) and that claim 10 does not recite merely non-functional descriptive language (Reply Br. 9–10). Nonetheless, as discussed above for claim 9, Appellant does not dispute the Examiner’s rationale that seed information (and thus, regardless of changing the seed information at any frequency) would not solve any problem that is not already resolved by using validation information. In other words, seed information at a particular frequency, is also obvious as a matter of design choice.

Claim 11:

Claim 11 recites “the receipt including an invalidate button.” Appellant argues that in none of the cited passages and figures, does Paradise disclose this limitation. Appeal Br. 20. The Examiner responds that this feature is merely an automation of an invalidation process and “it would have been an obvious matter of design choice since the Appellant has not disclosed that doing so would solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well if the merchant invalidates the receipt using any method, such as the method in Paradise.” Ans. 19. Appellant does not respond and thus does not explain the criticality of having an invalidate button, rather than having a person invalidate a receipt. *See Reply Br., passim*. Accordingly, Appellant does not apprise us of Examiner error.

Claim 12:

Claim 12 recites “receiv[ing] an indication of a location of an additional customer-operated device” and “prevent[ing] the additional customer-operated device from completing a purchase associated with an additional purchase request based at least partly on determining that the location of the additional customer-operated device is more than the threshold distance from the merchant location.” Appellant contends that in paragraph 91 as cited by the Examiner, Paradise does not disclose these limitations. Appeal Br. 20–21. The Examiner correctly responds that because Paradise discloses in paragraph 53 the customer’s device must be within a sufficient proximity, Paradise thus discloses that the customer’s

device is prevented it from operating outside a threshold distance. Ans. 19.

Notably, Paradise discloses

mobile device 140 may have *a geographic self-locating capability*, such as a Geographic Positioning System (GPS), receiver *or other location system* and may in some embodiments *transmit its location information* to purchase facilitating server 160 at various times to receive services from purchase facilitating server 160. For example, . . . mobile device 140 may in some embodiments transmit its geographic location to purchase facilitating server 160 along with the image and/or product identifier, such that purchase facilitating server 160 can identify the correct retail establishment (e.g., the retail establishment in which *the mobile device and its user currently are located*) with which *to transact the purchase*.

Paradise ¶ 53 (emphasis added).

In view of the foregoing discussion, we agree with the Examiner's decision to reject claims 3, 6–12, and 29 based on Paradise and Official Notice.

CONCLUSION

The Examiner's rejection of claims 3, 6–12, and 29 as being patent ineligible is reversed.

The Examiner's rejection of claims 3, 6–12, and 29 over prior art is affirmed.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
3, 6–12, 29	101	Eligibility		3, 6–12, 29
3, 6–12, 29	103(a)	Paradise, Official Notice	3, 6–12, 29	
Overall Outcome			3, 6–12, 29	

TIME PERIOD FOR RESPONSE

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

AFFIRMED