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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HONG GE, ROBERT WILLIAM CATHCART,
and NIMROD HOOFIEN

Appeal 2017-011440
Application 13/970,068
Technology Center 3600

Before MARC S. HOFF, JENNIFER L. McKEOWN,
and STEVEN M. AMUNDSON, *Administrative Patent Judges*.

McKEOWN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's decision to reject claims 1–12, 14, 17–20, 22, and 23. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ According to Appellants, the real party in interest is Facebook, Inc. of Menlo Park, California. App. Br. 2.

STATEMENT OF THE CASE

Appellants' disclosed and claimed invention is directed to:

A social networking system prices advertisements presented to a user of a social networking system via a client device in a state that provides the user with limited functionality by applying discount factors to bid amounts associated with advertisements selected for presentation. A discount factor is based on the likelihood of the user viewing or interacting with an advertisement via the social networking system presented while the client device is in the state providing the user with limited functionality. This likelihood is determined based on information including a history of user interaction with the client device and contextual information indicating whether the client device is in use.

Abstract.

Claim 1 is illustrative of the claimed invention and reads as follows:

1. A method comprising:

responsive to an indication that a client device of a user of a social networking system is in a state that provides limited functionality to the user, identifying one or more candidate advertisements from a plurality of advertisements, each candidate advertisement being associated with one or more interactions capable of being performed while the client device is in the state that provides limited functionality to the user, the limited functionality to the user comprising at least one of:

responding to a reduced set of inputs by the client device operating in a locked state;

providing limited interactions with the social networking system by the client device operating in a low power state; and

presenting input to the user through a lock screen of the client device;

selecting one or more advertisements from the one or more candidate advertisements for presentation to the user while the client device is in the state that provides limited functionality to the user based at least in part on bid amounts associated with each of the candidate advertisements, wherein the client device in the

state that provides limited functionality to the user is configured to present content items in an ambient feed to the user, the ambient feed including stories or notifications describing actions performed by additional users of the social networking system connected to the user viewing the ambient feed; and

computing a price for each of the one or more selected advertisements based at least in part on discount factors and bid amounts associated with each of the one or more selected advertisements, a respective discount factor for a respective selected advertisement being based on a likelihood of the user viewing the respective selected advertisement while the client device is in the state that provides limited functionality to the user.

THE REJECTIONS

The Examiner rejected claims 1–12, 14, 17–20, and 22–23 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Non-Final Act. 2–5.

The Examiner rejected claims 1–5, 8–12, 17–20, and 23 under 35 U.S.C. § 103 as unpatentable over Conant (US 2008/0092182 A1, published April 17, 2008), Holtz et al. (US 2002/0053078 A1, published May 2, 2002) (“Holtz”), Blake et al. (US 2011/0093320 A1, published April 21, 2011) (“Blake”), and Frey (US 2013/0227476 A1, published August 29, 2013). Non-Final Act. 5–9.

The Examiner rejected claims 6, 7, and 14 under 35 U.S.C. § 103 as unpatentable over Conant, Holtz, Blake, Frey, and Peterson et al. (US 2014/0172579, published June 19, 2014). Non-Final Act. 10–11.

The Examiner rejected claim 22 under 35 U.S.C. § 103 as unpatentable over Conant, Holtz, Blake, Frey, and Selig et al. (US 2013/0283199 A1, published October 24, 2013). Non-Final Act. 11–12.

ANALYSIS

THE REJECTION UNDER 35 U.S.C. § 101

Claims 1–12, 14, 17–20, and 22–23

Based on the record before us, we are persuaded that the Examiner erred in rejecting claims 1–12, 14, 17–20, and 22–23 as 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) (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*. *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, 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 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 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 January 7, 2019 Memorandum, 2019 *Revised Patent Subject Matter Eligibility Guidance* (“Memorandum”). 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) (9th ed., Rev. 08.2017, Jan. 2018)).

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 Memorandum.

The Examiner determines that the claims are directed to the abstract idea of a method for selecting and pricing ads that are intended to be targeted to mobile devices that are in a state of limited functionality. Ans. 2; *see also* Ans. 2–3 (explaining that the claimed concept is similar to the concepts found ineligible in *OIP Techs. Inc. v. Amazon.com*, 788 F.3d 1359 (Fed. Cir. 2015); *Affinity Labs of Tex., LLC v. Amazon.com*, 838 F.3d 1266 (Fed. Cir. 2016), and *Elec. Power Grp., LLC v. Alstom*, 830 F.3d 1350 (Fed. Cir. 2016)); Non-Final Act. 3 (relying additionally on *SmartGene Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950 (Fed. Cir. 2014)).

Appellants, on the other hand, argue that the claimed invention is not directed to an abstract idea. App. Br. 8–12²; Reply Br. 2–5. Appellants, in particular, assert that the Examiner oversimplifies the claims and fails to consider the limitations regarding the calculating of the recited discount factor. Ans. 3; *see also* App. Br. 7. According to Appellants, the claimed invention is distinguishable from *OIP Technologies* because the claimed invention takes the proactive steps of including the likelihood of user viewing in the discount-factor calculation. Ans. 3. Appellants explain that:

the claimed invention limits the claims to a technical means for performing the functions of the claim that advance the conventional technology by computing a price based on a **likelihood of the user viewing the respective selected advertisement while the client device is in the state that provides limited functionality to the user.**

Reply Br. 4.

² We note that neither Appellants' Appeal Brief nor Reply Brief includes page numbers.

We find Appellants' arguments unpersuasive. Namely, we agree with the Examiner that the claimed invention is directed to a method of organizing human activity, specifically a method for selecting and pricing advertisements that are intended to be targeted to mobile devices that are in a state of limited functionality. As the Examiner explains, the Federal Circuit in *OIP Technologies* found ineligible collecting data regarding possible prices of a product, analyzing the data, and selecting a product price based on the analyzed data. *See OIP Techs.*, 788 F.3d at 1362–63. The claimed invention here similarly uses a calculated bid price to select an advertisement for presentation to a device. While the claims here calculate a discount value that considers the likelihood of viewing, adding this mathematical calculation (which is also an abstract idea) fails to render the claimed invention not abstract. *See, e.g., Diehr*, 450 U.S. at 191. Moreover, we note the claims include only a high level of generality without specifying how the likelihood of viewing is calculated. As such, we are not persuaded that the Examiner erred in determining that the claimed invention is directed to an abstract idea.

Nevertheless, based on the record before us, we are persuaded that the Examiner erred in failing to support the determination that the additional limitation of identifying advertisements in response to a limited functionality is conventional. *See, e.g., Ans.* 3–6. As Appellants point out, the Examiner erroneously finds that the claims do not require the device to be in the limited functionality state. *See Reply Br.* 5. The claims, though, expressly recite that advertisements are identified *in response* to a notification of limited functionality. The Examiner does not consider this limitation, nor

does Examiner respond to Appellants' argument that this limitation is unconventional and, thus, adds significantly more to the alleged abstract idea. *See* Reply Br. 5–6; *see also* Reply Br. 8; Ans. 4. As such, based on the record before us, we are persuaded that the Examiner fails to sufficiently support the determination that the claimed invention is directed to patent-ineligible subject matter. *See Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018).

Accordingly, we reverse the Examiner's decision to reject claims 1–12, 14, 17–20, and 22–23 as directed to patent-ineligible subject matter.

THE OBVIOUSNESS REJECTIONS UNDER 35 U.S.C. § 103

Claims 1–12, 14, 17–20, and 22–23

Based on the record before us, we are persuaded that the Examiner erred in rejecting claims 1–12, 14, 17–20, and 22–23 as unpatentable over the cited combinations of prior art.

Appellants argue that the Examiner errs in failing to consider the limitation of “responsive to an indication that a client device of a user of a social networking system is in a state that provides limited functionality to the user, identifying one or more candidate advertisements.” Reply Br. 12. More specifically, Appellants assert that the claimed invention identifies advertisements “responsive to an indication that a client device of a user . . . is in a state that provides limited functionality to the user.” App. Br. 20. In other words, according to Appellants, “after confirming that the client device is in a state of limited functionality, candidate advertisements are identified such that a user can perform ‘one or more interactions’ with the candidate advertisements.” *Id.* Appellants explain that Blake, in contrast, teaches

using a lockout mode to limit functions of the device when displaying an advertisement on the display. App. Br. 19–20.

We agree with Appellants that the Conant and Blake combination fails to teach or suggest identifying the claimed advertisement *in response to* an indication that the device provides limited functionality. Blake generally is directed to a system that “allows a service provider to offer rates based upon the user granting permission to receive advertising on the user device.”

Blake ¶ 32. Blake describes a limited functionality while an advertisement is presented on a display (Blake ¶ 53), but the Examiner fails to identify how Blake identifies advertisements *in response to* an indication of limited functionality of the device. Conant also teaches a limited functionality while advertisements are displayed (Conant ¶ 82), but again the Examiner fails to explain how Conant either alone or in combination with Blake teaches or suggests identifying advertisements *in response to* an indication of limited functionality of the device. As such, based on the record before us, we are persuaded that the Examiner erred in determining that the cited combination teaches or suggests the claimed invention.

Accordingly, we reverse the Examiner’s decision to reject claims 1–12, 14, 17–20, and 22–23 as unpatentable over the cited combinations of prior art.

DECISION

We reverse the Examiner’s decision to reject claims 1–12, 14, 17–20, and 22–23.

REVERSED