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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL H. GREENE, KURT E. PARTRIDGE,
and JAMES M. A. BEGOLE

Appeal 2016-007319
Application 12/062,698
Technology Center 3600

Before MURRIEL E. CRAWFORD, AMEE A. SHAH, and
ROBERT J. SILVERMAN, *Administrative Patent Judges*.

SHAH, *Administrative Patent Judge*.

DECISION ON APPEAL¹

The Appellants² appeal under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1–21. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Throughout this Decision, we refer to the Appellants' Appeal Brief ("Appeal Br.," filed Nov. 12, 2015), Reply Brief ("Reply Br.," filed July 19, 2016), and Specification ("Spec.," filed Apr. 4, 2008, amended Jan. 28, 2011), and to the Examiner's Answer ("Ans.," mailed May 23, 2016) and Final Office Action ("Final Act.," mailed June 12, 2015).

² According to the Appellants, the real party in interest is "Palo Alto Research Center Incorporated." Appeal Br. 1.

STATEMENT OF THE CASE

The Appellants' invention "generally relates to advertising systems" and particularly "to an activity-based advertising system that facilitates identification of customer indeterminacy." Spec. ¶ 3.

Claims 1, 8, and 15 are the independent claims on appeal. Claim 1 is illustrative of the subject matter on appeal and is reproduced below (with added lettered bracketing for reference):

1. A method comprising:

[(a)] obtaining, by a computer from a mobile computing device comprising one or more sensors, activity data generated by the one or more sensors for a customer including location and time data associated with the consumer's current activity;

[(b)] obtaining historical activity information associated with the customer's current activity;

[(c)] constructing a set of historical trajectories for the customer from the historical activity information associated with the customer's current activity, wherein a respective historical trajectory includes a sequence of two or more venues along a location-time trace that represents an activity pattern of the customer;

[(d)] identifying, by the computer, an indeterminacy point among the historical trajectories, wherein the historical trajectories share a common activity pattern before the indeterminacy point, and diverge after the indeterminacy point;

[(e)] determining, by the computer, one or more receptive opportunities based on the indeterminacy point;

[(f)] selecting an advertisement for the customer based on the indeterminacy point and the receptive opportunities; and

[(g)] presenting the advertisement to the customer during a respective receptive opportunity prior to the customer reaching the indeterminacy point.

Appeal Br. 45 (Claims App.).

REJECTIONS

Claims 1–21 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 2.

Claims 1–21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Anupam (US 7,756,534 B2, iss. July 13, 2010) and Fitzpatrick (US 2008/0200153 A1, pub. Aug. 21, 2008). *Id.* at 4.

ANALYSIS

Non-Statutory Subject Matter — 35 U.S.C. § 101

The Appellants argue claims 1–21 as a group. *See* Appeal Br. 12. We select claim 1 as representative of the group; claims 2–21 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Under 35 U.S.C. § 101, a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has “. . . long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)).

The Supreme Court in *Alice* reiterated the two-step framework, set forth previously in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 78–79 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp.*, 134 S. Ct. at 2355. The first step in that analysis is to “determine whether the

claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If so, the second step is to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether the additional elements “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (citing *Mayo*, 566 U.S. 79, 78).

In other words, the second step is to “search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73). The Court acknowledged in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. We, therefore, look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea, and merely invoke generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

The Appellants first contend that the Examiner’s rejection is in error because the Examiner “failed to meet the burden required to establish a *prima facie* case of subject matter ineligibility.” Appeal Br. 11, 12. Specifically, the Appellants point to the 2014 INTERIM GUIDANCE ON PATENT SUBJECT MATTER ELIGIBILITY, 79 Fed. Reg. 74618 (Dec. 16, 2014) (“Interim Guidance”), the JULY 2015 UPDATE: SUBJECT MATTER ELIGIBILITY (“Update”), issued after the mailing date of the Final Office Action, and the May 19, 2016 Memorandum entitled “Recent Subject Matter Eligibility Decisions (*Enfish, LLC v. Microsoft Corp. and TLI Communications LLC v.*

A.V. Automotive, LLC)” (“Memo”). *See id.* at 12–14; Reply Br. 12–13. We disagree.

Here, in rejecting the pending claims under § 101, the Examiner analyzes the claims using the *Mayo/Alice* two-step framework. Specifically, the Examiner looks to the intrinsic evidence of the claims and determines that the claims are directed to the abstract idea of “identifying indeterminacy for activity-based advertising.” Ans. 3–4; *see also* Final Act. 2. The Examiner cites judicial decisions and compares the idea to those found to be abstract in those decisions. Ans. 4, 6–7; *cf.* Appeal Br. 13, 14 (“the Examiner does not compare the claims to concepts already found to be abstract ideas (e.g., fundamental economic practices) in past judicial decisions”). The Examiner further determines that the additional elements of the claims, taken alone and as an ordered combination, do not ensure that the claims amount to significantly more than the abstract idea. Ans. 5–7; *see also* Final Act. 3. The Examiner, thus, has clearly followed the guidelines.³ And, the Examiner has clearly articulated the reasons for the rejection and has notified Appellants of the reasons for the rejection “together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.” 35 U.S.C. § 132. In doing so, the Examiner set forth a prima facie case of unpatentability. *See In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011); *Chester v. Miller*, 906 F.2d 1574, 1578 (Fed. Cir. 1990) (Section 132 “is violated when a rejection is so

³ We further note that the MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) and guidelines are not legal requirements. *Cf. In re Fisher*, 421 F.3d 1365, 1372 (Fed. Cir. 2005) (“The MPEP and Guidelines ‘are not binding on this court’”) (internal citations omitted).

uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection”).

Turning to the first step of the *Mayo/Alice* framework, “the ‘directed to’ inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether ‘their character as a whole is directed to excluded subject matter.’” *Enfish*, 822 F.3d at 1335. Here, the Examiner looks to the language of the claims and determines that the claims are directed to “identifying indeterminacy for activity-based advertising.”
Ans. 3–4; Final Act. 2.

With respect to computer-enabled claimed subject matter, it can be helpful to determine whether “the claims at issue . . . can readily be understood as simply adding conventional computer components to well-known business practices” or not. *Enfish*, 822 F.3d at 1338. *See also Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016). In *Enfish*, for example, the court noted that “[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can[.]” *Enfish*, 822 F.3d at 1335. The court put the question as being “whether the focus of the claims is on [a] specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Id.* at 1335–36. In *Enfish*, the court found that the “plain focus of the claims” there was on “an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.” *Id.* at 1336.

In this case, the claims as a whole are focused on presenting targeted advertisements. The Background section of the Specification discusses the

problem that Internet advertising “still cannot be closely tailored to human activities.” Spec. ¶ 5. The invention addresses this problem in delivering “[a]ctivity-based advertising [that] can better target a customer’s needs and dynamically adjust to a customer’s activity.” *Id.* ¶ 6. Claim 1 provides for a method comprising the steps of obtaining, by a computer, activity data from a sensor of a device, obtaining historical data, constructing trajectories, i.e., data, from the activity and historical data, identifying, by the computer, data of an indeterminacy point from the trajectory data, determining, by the computer, data of receptive opportunities based on the indeterminacy data, selecting advertisement data based on the indeterminacy and opportunity data, and presenting the historical data at a specific time. *See* Appeal Br. 45 (Claims App.). The Specification describes “an exemplary computer system that facilitates an advertising system with customer indeterminacy identification” (Spec. ¶ 62, Fig. 5) as including a processor, a memory, and a storage device (*id.* ¶ 63), i.e., a generic computer.

In light of Specification’s description of the problem and solution, the purported advance over the prior art by the claimed invention is a way to present better targeted advertising based on an analysis of specific types of data, i.e., indeterminacy and opportunity data. This is the heart of the invention and the “character as a whole” of the claim. *See Enfish*, 822 F.3d at 1335. The Appellants similarly assert that “the claimed invention is directed to analyzing a person’s behavior and determining an opportune time for presenting a message to the person.” Reply Br. 15. In that context, claim 1 is directed to selecting and presenting an advertisement based on the obtaining, constructing, identifying, and determining of data, a method of

organizing human activity.⁴ The claims here are akin to ones our reviewing court has deemed abstract in *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369–70 (Fed. Cir. 2015) (customizing and tailoring web page content based on navigation history and known user information), *Elec. Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collecting information and “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, . . . [are] essentially mental processes within the abstract-idea category”), and *Affinity Labs*, 838 F.3d at 1271 (customizing a user interface to have targeted advertising based on user information). Here, the claim involves nothing more than obtaining, constructing, and analyzing data of a specific content and/or from a specific source, and presenting content based on the analysis, without any particular inventive technology — an abstract idea. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016). As such, we find unpersuasive the Appellants’ argument that the claim is not directed to an abstract idea because it “do[es] not recite any of the case law examples.” Appeal Br. 14.

We also find unpersuasive the Appellants’ argument that the claim is not directed to an abstract idea because, like *Enfish*, “the focus of the claim[] is on an improvement to computer functionality, not on economic or other tasks” and “the claimed invention achieves other benefits over conventional

⁴ We note that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). The Board’s “slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* at 1241.

advertising communication and delivery technology.”⁵ Reply Br. 9; *see also id.* at 10–11. The claims at issue in *Enfish* were directed to a specific type of data structure, i.e., a self-referential table for a computer database, designed to improve the way a computer carries out its basic functions of storing and retrieving data. *Enfish*, 822 F.3d. at 1335–36. There, in rejecting a § 101 challenge, the court held that “the plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.” *Id.* at 1336. The Appellants have not adequately explained here how the court’s holding in *Enfish* impacts the present analysis under the *Mayo/Alice* framework. For example, the Appellants do not point to anything in the claim that resembles the inventive self-referential data structure at issue in *Enfish*. The Appellants also do not direct our attention to anything in the Specification to indicate that the invention provides an improvement in the computer’s technical functionality. The Specification provides that constructing trajectories, identifying a point, and determining opportunities are performed by a generic computer operating in its ordinary capacity. *See Spec.* ¶¶ 62–66. The technical way the computer performs is not improved; rather, the claim improves the tasks of constructing, identifying, and determining data for which the computer is used in its ordinary capacity. The steps of obtaining historical information, constructing trajectories, selecting an advertisement, and presenting an advertisement are not claimed as being performed by a computer. Appeal Br. 45 (Claims App.). The benefits are not technical or technological improvements, but rather, are business

⁵ The Appellants may present this new argument based on a recent relevant decision of the Federal Circuit issued after the Appeal Brief.

benefits in “better target[ing] a customer’s needs and dynamically adjust[ing] to a customer’s activity.” Spec. ¶ 6.

We further find unpersuasive the Appellants’ arguments that claim 1 is not directed to an abstract idea because it is “directed to a specific implementation of a solution of a problem in the software arts.” Reply Br. 12. As discussed above, the problem the invention addresses is a problem of tailoring advertising content to a user’s activities (*see* Spec. ¶ 5), not a technical problem or one “specifically arising in the realm of computer networks” (*DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)). *See Intellectual Ventures I*, 792 F.3d 1363, 1371 (tailoring content based on user activity did not address problems unique to the Internet).

Turning to the second step of the *Alice* analysis, we adopt and find supported the Examiner’s determination that the claim limitations, taken individually or as an ordered combination, do not recite an inventive concept. *See* Final Act. 3; Ans. 5–7. We are unpersuaded by the Appellants’ arguments that the claim limitations recite significantly more than the abstract idea. *See* Appeal Br. 15–19; Reply Br. 13–17.

We find unpersuasive the Appellants’ argument that “the claimed invention is directed to patentable subject matter because the claimed computer system implements a process designed to solve a technological problem in ‘conventional industry practice,’ not merely because the claimed invention is implemented on a computer.” Appeal Br. 16. As discussed above, the claim does not address a technological problem.

Similarly to *Intellectual Ventures I* (792 F.3d at 1370–71), “here there is no inventive concept that would support patent eligibility.” The steps of

obtaining, constructing, identifying, and determining data, and selecting and presenting an advertisement based on the analysis are basic, purely conventional functions of a computing device. *See Alice*, 134 S. Ct. at 2359. The Specification supports this view. As the Examiner notes (Ans. 5), the Specification discusses sensors only at paragraph 56 and provides that the sensors that obtain data are generic context sensors used in a conventional manner. *Cf. Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1348–49 (Fed. Cir. 2017) (claims used inertial sensors in a non-conventional manner, as described in the Specification, specified a particular configuration of sensors, and used raw data from sensors to more accurately calculate the position, and thus, were not directed to an abstract idea). The data from the sensors are not used to perform a mechanical step such as delivering fuel or adjusting engine parameters (Reply Br. 15), but to determine and present data using conventional technology. *See Elec. Power*, 830 F.3d at 1355. The computer that performs the steps of obtaining activity data, identifying an indeterminacy point and determining opportunities is a generic computer. *See Spec.* ¶ 63. The steps of obtaining historical information, constructing trajectories, selecting an advertisement, and presenting an advertisement are not claimed as being performed by a computer. Appeal Br. 45. There is no further specification of particular technology for performing the steps. *See Affinity Labs*, 838 F.3d at 1263; *see also Enfish*, 822 F.3d. at 1336.

We further find unpersuasive the Appellants’ argument that the claim “goes beyond the mere concept of simply retrieving and combining data using a computer” similar to claims that have “been found to recite patent eligible subject matter.” Appeal Br. 17. In *Research Corporation Technologies, Inc. v. Microsoft Corporation*, 627 F.3d 859, 868–69 (Fed.

Cir. 2010), the invention “present[ed] functional and palpable applications in the field of computer technology” with “specific applications or improvements to technologies in the marketplace.” There are no such improvements here.

Based on the foregoing, we sustain the Examiner’s rejection under 35 U.S.C. § 101 of claim 1 and of claims 2–21, which fall with claim 1.

Obviousness — 35 U.S.C. § 103(a)

The Appellants contend that the Examiner’s rejection of independent claims 1, 8, and 15 is in error because, in relevant part, the prior art does not teach “identifying an indeterminacy point among historical trajectories and presenting an advertisement to a customer during a respective receptive opportunity prior to the customer reaching the indeterminacy point,” as recited in limitations (d) and (g) of claim 1 and similarly recited in claims 8 and 15. Appeal Br. 24; Reply Br. 17. We agree.

The Examiner finds, in relevant part, that although “Anupam does not use the same terminology as the present application and specifically does not teach the use of the term ‘indeterminacy point’” (Final Act. 5), Anupam teaches identifying an indeterminacy point at column 20, line 51 through column 22, line 43 and claim 1 (*id.* at 4). The Examiner acknowledges that the Specification defines “indeterminacy” as “a branching or diverging point in a customer’s activity pattern, where he is undecided about the next activity” (*id.* at 5) and broadly interprets this definition as “any location where the user can make a choice as to what activity is available from which to choose from” (*id.*). Based on this interpretation, the Examiner finds that “the terminology of the claims do not distinguish themselves from the prior

art presented.” *Id.* The Examiner further finds that Fitzpatrick also teaches identifying an indeterminacy point at paragraph 56 and Figure 3. *Id.*

We agree with the Appellants that “[t]he Examiner’s interpretation of the claimed ‘indeterminacy point’ is incorrect” because “the claims are explicit that the indeterminacy point is a point within the historical trajectories being analyzed . . . [and] is a point in which these historical trajectories ‘diverge.’” Appeal Br. 28. As noted above, the Specification provides a specific definition for “indeterminacy” as “a branching or diverging point in a customer’s activity pattern, where he is undecided about the next activity.” Spec. ¶ 34. The claims further define that this branching or diverging point occurs among the historical trajectories constructed for the customer. Appeal Br. 45, 47, 49 (Claims App.). As such, the claims require more than identifying “any location” where the user can make a choice; rather, they require identifying a specific point where the trajectories diverge from a common activity pattern.

Anupam discloses an invention for providing location-based services. Anupam, Abstract, claim 1. The relied on portions of columns 20 and 21 of Anupam disclose a trajectory method based on the availability of velocity information of speed and direction of motion obtained from consecutive location measurements. *Id.* at col. 20, ll. 51–55. The velocity is estimated based on a conventional forward lookup approach (FL) or from the measurement result of consecutive look-ups. *Id.* at col. 20, ll. 55–64. The center of a user’s location at the present time can be estimated based on the measurement coordinate at a specific time and the velocity between two times. *Id.* at col. 21, ll. 1–12. Anupam’s claim 1 provides for a method whereby delivery of a message to a given one of a user’s mobile devices is

controlled based on user movement statistics generated based on location and profile information.

Fitzpatrick discloses an invention “for code triggered information querying and serving on mobile devices based on profiles.” Fitzpatrick, Abstract. Paragraph 56, relied on by the Examiner, discloses determining space-time trajectories for various trips. Based on the trajectories and the user’s profile, an advertisement can be supplied for a particular location on the route. *Id.* ¶ 56.

However, the Examiner has not adequately explained, to make it clear to one of ordinary skill in the art, how Anupam’s determination of a center of the user’s location at a present time meets the claimed identification of a point in which the trajectories diverge from a common pattern. *See* Appeal Br. 27–28; Reply Br. 18–23. Further, the Examiner has not adequately explained how Fitzpatrick identifies a point where the determined trajectories diverge. As such, we agree with the Appellants that the Examiner has not adequately shown how the combination of Anupam and Fitzpatrick teaches identifying an indeterminacy point among the historical trajectories, as required by the claims. *See* Appeal Br. 24.

Thus, we do not sustain the Examiner’s rejection under 35 U.S.C. § 103(a) of independent claims 1, 8, and 15, and of dependent claims 2–7, 9–14, and 16–21.

DECISION

The Examiner’s rejection of claims 1–21 under 35 U.S.C. § 101 is **AFFIRMED**.

Appeal 2016-007319
Application 12/062,698

The Examiner's rejection of claims 1–21 under 35 U.S.C. § 103(a) is REVERSED.

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