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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/693,470	12/04/2012	Sean Michael Bruich	26295-21197/US	6142

87851 7590 09/24/2018

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EXAMINER
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ART UNIT	PAPER NUMBER
3681	

NOTIFICATION DATE	DELIVERY MODE
09/24/2018	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SEAN MICHAEL BRUICH and
FREDERICK ROSS LEACH

Appeal 2017-004181[1]
Application 13/693,470
Technology Center 3600

Before MURRIEL E. CRAWFORD, MICHAEL W. KIM, and PHILIP J. HOFFMANN, *Administrative Patent Judges*.

KIM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal from the final rejection of claims 1–7, 10, 21, and 22. We have jurisdiction to review the case under 35 U.S.C. §§ 134 and 6.

The invention relates generally to generating advertising metrics using location information. Spec. ¶ 1.

Claim 1 is illustrative:

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[1] The Appellants identify Facebook, Inc. as the real party in interest. Appeal Br. 1.

1. A computer-implemented method comprising:

selecting, from a plurality of users of a social networking system, a holdout group of users associated with an advertisement of an advertiser, wherein users from the plurality not in the holdout group are presented with the advertisement and users from the plurality in the holdout group are not presented with the advertisement;

receiving location information of one or more physical sites associated with the advertiser;

obtaining location information from a mobile device of one or more users from the plurality of users for a time interval after presentation of the advertisement,

wherein the location information is obtained by:

receiving an identification code from the mobile device of one of the plurality of users, the identification code assigned to a wireless access point device located at one of the physical sites and transmitted to the mobile device from the wireless access point device, and

matching the received identification code of the wireless access point device to a geographic location;

determining a percentage of users in the holdout group that visited at least one of the physical sites based on the location information of the physical sites and the location information for the one or more users;

determining a percentage of users not in the holdout group that visited at least one of the physical sites based on the location information of the one or more physical sites and the location information of the one or more users;

generating a conversion metric for the advertisement based on a calculated difference between the percentage of users in the holdout group that visited at least one of the physical sites and the percentage of users not in the holdout group that visited at least one of the physical sites; and

providing the generated conversion metric to a client device associated with the advertiser.

The Examiner rejected claims 1–7, 10, 21, and 22 under 35 U.S.C. § 101 as directed to ineligible subject matter in the form of abstract ideas.

The Examiner rejected claims 1, 2, 4, 6, 7, 10, and 21 under 35 U.S.C. § 103(a) as unpatentable over Vengroff et al. (US 2007/0185768 A1, pub. Aug. 9, 2007) (hereinafter "Vengroff"), Krishnamoorthy et al. (US 2012/0010939 A1, pub. Jan. 12, 2012) (hereinafter "Krishnamoorthy"), Bax et al. (US 2011/0191191 A1, pub. Aug. 4, 2011) (hereinafter "Bax"), Wichrowska et al. (US 8,914,235 B1, issued Dec. 16, 2014) (hereinafter "Wichrowska"), DeBusk et al. (US 2002/0072971 A1, pub. June 13, 2002) (hereinafter "DeBusk"), and Park et al. (US 2011/0119126 A1, pub. May 19, 2011) (hereinafter "Park").

The Examiner rejected claims 3 and 5 under 35 U.S.C. § 103(a) as unpatentable over Vengroff, Krishnamoorthy, Bax, Wichrowska, DeBusk, Park, and Official Notice.

The Examiner rejected claim 22 under 35 U.S.C. § 103(a) as unpatentable over Vengroff, Krishnamoorthy, Bax, Wichrowska, DeBusk, Park, and Parish (US 2013/0040654 A1, pub. Feb. 14, 2013).

We AFFIRM.

ANALYSIS

Rejection under 35 U.S.C. § 101

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. The Supreme Court, however, has long interpreted § 101 to include implicit

exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014).

In determining whether a claim falls within the excluded category of abstract ideas, we are guided in our analysis by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–78 (2012)). In accordance with that framework, we first determine whether the claim is "directed to" a patent-ineligible abstract idea. *See Alice*, 134 S. Ct. at 2356 ("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."); *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."); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) ("Analyzing respondents' claims according to the above statements from our cases, we think that a physical and chemical process for molding precision synthetic rubber products falls within the § 101 categories of possibly patentable subject matter."); *Parker v. Flook*, 437 U.S. 584, 594–95 (1978) ("Respondent's application simply provides a new and presumably better method for calculating alarm limit values."); *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972) ("They claimed a method for converting binary-coded decimal (BCD) numerals into pure binary numerals.").

The following method is then used to determine whether what the claim is "directed to" is an abstract idea:

> [T]he decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353–54.[]

> That is the classic common law methodology for creating law when a single governing definitional context is not available. *See generally* Karl N. Llewellyn, The Common Law Tradition: Deciding Appeals (1960). This more flexible approach is also the approach employed by the Supreme Court. *See Alice*, 134 S.Ct. at 2355–57. We shall follow that approach here.

Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016).

The patent-ineligible end of the spectrum includes fundamental economic practices (*Alice*, 134 S. Ct. at 2357; *Bilski*, 561 U.S. at 611); mathematical formulas (*Flook*, 437 U.S. at 594–95); and basic tools of scientific and technological work (*Benson*, 409 U.S. at 69). On the patent-eligible side of the spectrum are physical and chemical processes, such as curing rubber (*Diehr*, 450 U.S. at 184 n.7), "'tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores,'" and a process for manufacturing flour (*Benson*, 409 U.S. at 69).

If the claim is "directed to" a patent-ineligible abstract idea, we then consider the elements of the claim—both individually and as an ordered combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Alice*, 134 S. Ct. at 2355. This is a search for an "inventive concept"—an element or combination of elements sufficient to ensure that the claim amounts to "significantly more" than the abstract idea itself. *Id.*

Analysis

For the reasons that follow, we agree with the Examiner that the claims are directed to abstract ideas, but also agree with the Appellants that the Examiner has failed to demonstrate adequately that the claims fail to recite features that transform the claims into patent-eligible subject matter.

With respect to the first issue, the Appellants assert the Examiner has erred "by selectively looking at a specific step of the independent claims while ignoring the rest of the claim[s]." Appeal Br. 14–15. Specifically, the Appellants assert "the [E]xaminer indicates that the 'generating' limitation is directed to an abstract idea because it employs mathematical algorithms to manipulate information." Reply Br. 6. We disagree.

The Examiner finds claims 1 and 10 are:

> directed to the abstract idea of generating a conversion metric for the advertisement based on a calculated difference between the percentage/number of users in the holdout group that visited at least one of the physical sites and the percentage/number of not in the holdout group that visit at least one of the physical sites.

Final Act. 2. The Examiner, thus, examines each claim as a whole and finds it is directed to an idea that happens to contain a word also recited in one limitation of the claim. Then, rather than asserting the claims are abstract because they merely employ mathematical algorithms, the Examiner finds instead that the claims are abstract because they are similar to those "[s]uch as in *Digitech* which employ[ ] mathematical algorithms to manipulate existing information to generate additional information." *Id.* at 2–3.

As an example, independent claim 1 recites that the method selects a "holdout" (control) group, gathers data from the experimental and holdout groups, calculates a percentage for each group, calculates a metric from the comparison of the percentages, and then provides the calculated metric. The gathering of data and providing of results are insignificant extra-solution activity, and the selection of a control group is presumed because two sets of data are needed in order to compare information being measured. *See In re Bilski*, 545 F.3d 943, 963 (Fed. Cir. 2008) (*en banc*), *aff'd sub nom Bilski v. Kappos*, 561 U.S. 593 (2010) (characterizing data gathering steps as

insignificant extra-solution activity). We, thus, interpret that the steps of selecting a control group, gathering information, and presenting information, as claimed, are considered by the Examiner to be encompassed by the concept to which the claim is directed, even though this is substantially similar to the one stated limitation of generating a metric.

We are not persuaded by the Appellants' argument that "the claimed invention does not preempt all ways of achieving a result," because the "claims recite a specific process for determining the effectiveness of an advertisement." Appeal Br. 15. "While 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); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). And, "[w]here a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *Ariosa*, 788 F.3d at 1379.

The Examiner finds the claims are similar to those found to be directed to abstract ideas "in *Digitech* which employs mathematical algorithms to manipulate existing information to generate additional information." Final Act. 2–3. The Examiner also finds the claims are similar to claims "such as in *Parker v. Flook* in which the claimed formula is limited by the steps of gathering the input variables and carrying out the calculations to update the number describing the alarm limit," and citing the

July 2015 Update: Subject Matter Eligibility, finds the claims are similar to "comparing information regarding a sample or test subject to a control or target data." Answer 8–9. The Appellants have not addressed these findings directly, instead advancing other arguments, such as that the Examiner is improperly "applying the second step of the *Alice* test in attempt to analyze the claims as whole under the first step." Reply Br. 6.

We, therefore, are unpersuaded that the Appellants have shown that the Examiner erred in asserting that the claims are directed to abstract ideas.

Turning to the second step of the *Alice/Mayo* analysis, we examine the claim limitations individually, and as an ordered combination, looking for an "inventive concept" or "significantly more" that may transform the abstract idea into patent-eligible subject matter.

As to this step of the analysis, the Appellants argue the "claimed invention provides a technological improvement to the ineffective industry practice by . . . using technology to determine the locations of users." Appeal Br. 16. Independent claim 1 recites that the location of users involves:

> obtaining location information from a mobile device of one or more users from the plurality of users for a time interval after presentation of the advertisement,
>
> wherein the location information is obtained by:
>
> receiving an identification code from the mobile device of one of the plurality of users, the identification code assigned to a wireless access point device located at one of the physical sites and transmitted to the mobile device from the wireless access point device, and
>
> matching the received identification code of the wireless access point device to a geographic location.

In other words, an identification code, assigned to a wireless access point device, is received by a computing device via the mobile device.

As to the determination of user location, in the rejection of claim 1, the Examiner finds:

> The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the steps require no more than a generic computer. The functions of the computer are no more than that which the courts have recognized as well-understood, routine and conventional such as "receiving, processing, and storing data" and "receiving or transmitting data over a network". The claim's use of "*mobile device*" and "*wireless access point device*" adds no inventive concept. This concept is not "*necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks*" (*see DDR Holdings, LLC vs Hotels.com et al. (Fed. Cir. 2014)). A computer "that receives and sends information over a network-with no further specification-is not even arguably inventive"* (*see Buysafe Inc. Vs Google Inc.* (Fed. Cir. 2014)). Additionally, the claimed functions of the generic computer represent insignificant data-gathering steps and thus add nothing of practical significance to the abstract idea (*see Ultramercial Inc. vs. Hutu LLC (Fed. Cir. 2014)).* The additional element(s) or combination of elements in the claim(s) other than the abstract idea per se amount(s) to no more than mere instructions to implement the idea on a computer, and/or recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry.

Final Act. 3–4. The Examiner also finds the "claimed invention is merely using received location data," and "fails to recite the performance of a technological environment or require any computing apparatus. Thus, the method could be performed in the human mind or using pen and paper."

Answer 13 (emphasis omitted). Ultimately, we are persuaded that the Examiner's above analysis is inadequate.

Rather than, on its face, being performed in the human mind, the claim requires several specific elements related to location: a "mobile device," an identification code assigned to a "wireless access point" located at the physical location of interest, and receiving the code from the "mobile device."

The Specification does not describe a "mobile device" specifically, but describes "client devices 102 are one or more computing devices that receive user input, as well as transmit and receive data via the network 104 to the social networking system 100." Spec. ¶ 29. Examples of client devices include "desktop computers, laptop computers, tablet computers (pads), mobile phones, personal digital assistants (PDAs), gaming devices, vehicles (e.g., automobiles, boats, airplanes), or any other device including computing functionality and data communication capabilities." *Id.* ¶ 30.

The Specification describes the use of a wireless access point in the following examples:

> Alternatively, a user is determined 325 to have visited a physical site if attributes included in the location information associated with the user match at least a threshold number of attributes included in the location information of the physical site. . . . If location information for a user indicates that a geographic location of the user includes a wireless access point with the same SSID, the user is determined 325 to have visited the physical site.

Id. ¶ 56.

Generously extrapolating from the above, we find that during wireless internet operation, a computing device may receive a number of network identifiers, i.e., SSIDs, broadcast from wireless access point devices, such as

WiFi routers, hotspots, printer servers, and wireless access points, and may use one of those SSIDs to connect to one of those wireless access point devices through a WiFi protocol. What cannot be reasonably extrapolated from the above, and what the Examiner fails to explain adequately, however, is whether the SSID is used, by the computing device, *after* connection of the computer device to the wireless access point device associated with that SSID, for any further communications.

Approached from a different viewpoint, we generously infer, from the above, that an SSID is transmitted by a WiFi access point, router, or hotspot, so that a computing device may learn of available wireless access point devices. We further infer that the SSID would have been used, by the computing device, to establish a networking connection with the wireless access point device associated with a particular SSID. But, we are unable to extrapolate, from the above, a computing device that receives, or knows of, a wireless access point device, which then transmits the SSID for that wireless access point device to *another* computing device, as claimed.

Given that understanding, we are persuaded that it is problematic that the Examiner finds the method claim "steps require no more than a generic computer" (Final Act. 3), and each claim "fails to recite the performance of a technological environment or require any computing apparatus" (Answer 13 (emphasis omitted)). As an initial matter, the Examiner's second finding, that no computing device is required, is incorrect, because the claim explicitly recites a "mobile device" that interacts with a "wireless access point," each of which we are persuaded is a type of computing apparatus. As to the Examiner's first finding, we are persuaded that although it is certainly possible the wireless access point may be a generic computer, and

the transmittal of an SSID to another computing device may be a conventional step in computing, the Examiner's findings on these issues are conclusory and unsupported and, therefore, insufficient to show that the purported facts are well-understood, routine, and conventional. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) ("Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination.").

Specifically, with respect to transmitting the SSID, one reference used by the Examiner in the obviousness rejection does describe that "[c]lient device 110a may send the SSID to server 130, and receive the location of WiFi wireless router 210 (e.g., '27 Main Street') from server 130 in response." Wichrowska, col. 7, lines 38–40. Although this may establish it was known that an SSID may be sent to another computing device to determine a location, this one reference alone is insufficient to establish whether that operation is well-understood, routine, and conventional in the computing arts. *See Berkheimer*, 881 F.3d at 1369 ("Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional.").

For this reason, we are unable to sustain the rejection of claims under 35 U.S.C. § 101 as directed to abstract ideas.

Rejection under 35 U.S.C. § 103(a)

The Appellants argue independent claims 1 and 10 together as a group. Appeal Br. 11, 13. We select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

We are not persuaded by the Appellants' argument that the cited references fail to disclose generating a conversion metric, as claimed, because, according to the Appellants:

> Bax discloses comparing the behavior of the control group users to the behavior of the experimental group users as to whether they visited Store A. However, Bax does not provide any additional details as to what the comparison comprises. Other than making a generic statement about comparing the behavior, Bax does not provide a concrete way of quantifying the behavior difference between the two groups, such that the advertiser can use the quantification to improve his advertising campaign. Bax does not disclose that the comparison of the behavior comprises calculating a difference between the percentage of control group users that visited Store A and the percentage of experimental group users that visited Store A and generating a conversion metric based on the calculated difference.

Appeal Br. 7 (emphasis omitted); *see also id.* at 4–9; Reply Br. 2–3.

The Specification generally describes generating metrics, stating that:

> to generate the metrics, the advertising module 240 identifies users in the sample group that visited a physical site of the advertiser 105 from the determined users. The advertising module 240 additionally identifies users in the holdout group that visited a physical site of the advertiser 105 from the determined users. Thereafter, the number and/or percentage of users in the sample group visiting a physical site of the advertiser 105 and the number and/or percentage of users in the holdout group visiting a physical site of the advertiser 105 are analyzed, compared, and/or contrasted.

Spec. ¶ 58.

The Specification also only describes a single example of the conversion metric, where the percentage of users that visited a location, after receiving an advertisement, are subtracted from the percentage of users to

visit the location after not receiving an advertisement, to infer the percentage increase in visits caused by the advertisement, describing that:

> after presentation of the advertisements, 55% of the users in the sample group visited a store associated with an advertiser 105 while 45% of users in the holdout group visited a store of the advertiser 105. Hence, the advertising module 240 may generate a metric indicating that the advertisements increased user visits to stores by 10 percentage points.

Id. ¶ 59.

We, thus, broadly construe "generating a conversion metric" as any calculation that arises from comparing the advertisement-receiving group with the non-receiving group. We discern that an ordinary artisan, comparing the results of the advertisement on a group that receives the advertisement with a group that does not, would have been led to some sort of numeric metric to represent the comparison, because that is the logical result of a comparison of two measurements, when the effectiveness of the experiment is desired. We discern that the ordinary artisan would, for example, have been likely to compare the absolute number of users in each group, or calculate a ratio between the groups to ascertain an inferred effectiveness of the advertisement. *See KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (In making the obviousness determination one "can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.").

We are not persuaded the Examiner has relied only on impermissible hindsight to arrive at the combination of references, because, according to the Appellants:

> Vengroff provides a complete solution for determining the effectiveness of the advertisement in this way. However, Vengroff does not suggest tracking whether users that are not

> displayed the advertisement also visit the location. Therefore, based on Vengroff a person of ordinary skill in the art would not look to take such additional steps of selecting a holdout group, determining whether users that are not displayed the advertisement visit the location, and generating a metric based on the information for purposes of determining the effectiveness of the advertisement.

Appeal Br. 12; *see also* Reply Br. 3–5 (asserting the same).

As to the holdout group of users that are not displayed the advertisement, the Examiner finds, in Krishnamoorthy (Final Act. 5–6), that using a control group "can lead to inferences and metrics regarding the effectiveness or performance of the advertisement, such as conversion rate, etc." Krishnamoorthy ¶ 35. Accordingly, the Examiner finds that using Krishnamoorthy's control group comparison, in addition to Vengroff's advertisement-receiving group, "would determine advertisement effectiveness or performance of the advertisement." Final Act. 6. The Examiner has, thus, provided an adequate articulated for making the proffered combination that does not rely on the Appellants' Disclosure.

As to the generation of the metric, the Examiner finds, in Bax, "comparing the consumer-related behavior of the experimental group to the consumer-related behavior of the control group." Bax ¶ 21. The Examiner finds a rationale to modify the Vengroff/Krishnamoorthy system to "provide advertisers with reports of advertisement effectiveness or impacts." Final Act. 7–8. The Examiner has, thus, provided an adequate articulated reason for making the proffered combination which does not rely on the Appellants' Disclosure.

For these reasons, we sustain the Examiner's rejection of claims 1 and 10 under 35 U.S.C. § 103(a). We also sustain the rejections of dependent claims 2–7, 21, and 22 that were not argued separately.

DECISION

We REVERSE the rejection of claims 1–7, 10, 21, and 22 under 35 U.S.C. § 101.

We AFFIRM the rejections of claims 1–7, 10, 21, and 22 under 35 U.S.C. § 103(a).

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