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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RICHARD BILL SIM, JUN YANG, EITAN SHAY,
JIAHUI WU, SPENCER POWELL, and WILLIAM BULLOCK

Appeal 2017-000882
Application 13/909,315
Technology Center 3600

Before ST. JOHN COURTENAY III, JOHN P. PINKERTON, and
JOYCE CRAIG, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 1–19 and 21, which are all of the claims pending in this application. Claim 20 is cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellants identify Facebook, Inc. as the real party in interest. App. Br. 1.

STATEMENT OF THE CASE

Introduction

According to Appellants, the “invention relates to advertising, and in particular to monitoring conversion of advertisements and determining fees charged to advertisers.” Spec. ¶ 1.²

Claim 1 is representative and reproduced below:

1. A method comprising:

selecting, by an online system, a holdout group of users from a plurality of users of a social networking system, the holdout group associated with one or more advertisements prevented from being presented to users in the holdout group;

selecting an advertisement from the one or more advertisements for presentation to a user of the social networking system;

determining, by the online system, whether the user is in the holdout group;

if the user is not in the holdout group associated with the advertisement, providing the selected advertisement to a client device associated with the user;

storing, by the online system, information associated with the ad in an ad history associated with the user;

receiving information that identifies the user and indicates that a conversion event occurred on a different client device associated with the user;

² Our Decision refers to the Final Office Action mailed Dec. 1, 2015 (“Final Act.”), Appellants’ Appeal Brief filed May 18, 2016 (“App. Br.”) and Reply Brief filed Oct. 21, 2016 (“Reply Br.”), the Examiner’s Answer mailed Sept. 9, 2016 (“Ans.”), and the original Specification filed Sept. 24, 2008 (“Spec.”).

determining, by the online system, a fee for presentation of the advertisement to the user based on the conversion event and the ad history;

determining, by the online system, a holdout conversion rate associated with the plurality of users in the holdout group, the holdout conversion rate based on a number of conversion events associated with users in the holdout group;

determining, by the online system, a target conversion rate associated with users of the social networking system presented with the advertisement and not in the holdout subset, the target conversion rate based on a number of conversion events associated with users not in the target group;

determining by the online system, an adjustment value of the fee based on the target conversion rate and the holdout conversion rate;

reducing, by the online system, the fee based in part on the adjustment value; and

charging, by the online system, an advertiser associated with the advertisement the reduced fee.

App. Br. 21–22 (Claims App’x).

Rejections on Appeal

Claims 1–19 and 21 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to patent-ineligible subject matter.

Claims 1–5, 9–13, 17, 18, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Belani et al. (US 2012/0089455 A1; published Apr. 12, 2012) (“Belani”), Minor et al. (US 2008/0288328 A1;

published Nov. 20, 2008) (“Minor”), and Chan et al. (US 2011/0264519 A1; published Oct. 27, 2011) (“Chan”).³

Claims 6–8, 14–16, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Belani, Minor, Chan, and Farahat et al. (US 2012/0278158 A1; published Nov. 1, 2012) (“Farahat”).

ANALYSIS

We have reviewed the Examiner’s rejection of claims 1–19 and 21 under 35 U.S.C. § 101 in light of Appellants’ arguments in the Briefs (App. Br. 7–16; Reply Br. 2–8). For the reasons discussed *infra*, we are not persuaded by Appellants’ arguments that the Examiner erred in rejecting the claims under § 101.

Applicable Law

Under 35 U.S.C. § 101, 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 an implicit exception: “Laws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (citation omitted).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 75–77 (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*, 134 S. Ct.

³ The Examiner withdrew the rejections of claims 1–19 and 21 under 35 U.S.C. § 103. Ans. 10.

at 2355. The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* For example, abstract ideas include, but are not limited to, fundamental economic practices, methods of organizing human activities, an idea of itself, and mathematical formulas or relationships. *Id.* at 2355–57. The “directed to” inquiry asks not whether “the claims *involve* a patent-ineligible concept,” but instead whether, “considered in light of the specification, . . . ‘their character as a whole is directed to excluded subject matter.’” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (citations omitted). In that regard, we determine whether the claims “focus on a specific means or method that improves the relevant technology” or are “directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016) (citation omitted).

If, at the first stage of the *Alice* analysis, we conclude that the claim is not directed to a patent-ineligible concept, it is considered patent eligible under § 101 and the inquiry ends. *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016).

If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 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.* (brackets in original) (quoting *Mayo*, 566 U.S. at 72–73). The prohibition against patenting an abstract idea “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment’ or adding ‘insignificant post solution activity.” *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010) (internal citation omitted).

*Appellants’ Arguments*⁴

Appellants argue that the claims recite patent-eligible subject matter because “they, at best, merely relate to or involve an abstract idea,” which is insufficient to meet the first step of the *Alice* test. App. Br. 8–9. According to Appellants, the Examiner “improperly ignores the claim language and dissects the claims” in concluding they are directed to an abstract idea. *Id.* at 9–10. Appellants argue the Examiner fails to meet the burden under 35 U.S.C. § 132 to provide notice and reasons for the rejection. Reply Br. 3. Appellants also argue that, contrary to the Examiner’s finding the claims do not recite a particular way the idea is implemented, the claims clearly recite a particular way to determine a fee that is charged to an advertiser. App. Br. 10–11. Appellants further argue the “claims are directed to a ‘business challenge that is particular to the Internet,’ namely processes for determining/tracking conversions associated with an advertisement . . . and fee determination for the advertisement. *Id.* at 12. Appellants also argue the claims recite patentable subject matter because “[t]he invention provides a solution specifically customized to address an *online* environment where ad

⁴ Appellants argue claims 1–19 and 21 as a group. App. Br. 7–16; Reply Br. 2–8. We consider method claim 1 to be representative of the claimed subject matter on appeal and, therefore, we decide the § 101 rejection of claims 1–19 and 21 on the basis of representative claim 1. See 37 C.F.R. § 41.37(c)(1)(iv).

impressions and ad conversions can occur on separate devices. *Id.* at 12–13; Reply Br. 4. Appellants also contend the claimed invention is not directed to an abstract idea because the claims do not preempt all means of the abstract idea noted in the Answer. Reply Br. 3.

In regard to the second step of the *Alice* test, Appellants argue “[t]he claims of *DDR Holdings* and the claims of this application are similar in that they both recite methods for detecting various forms of data and data objects, processing the data and data objects, and performing an action based on the processing” and consequently the claims ““overcome a problem specifically arising in the realm of computer networks.”” *Id.* at 14–15. Appellants further argue there is no traditional business analog for the claimed invention outside of interconnected computer networks. *Id.* at 15. According to Appellants, “the communications with the client devices occur over a computer network and do not have a brick/mortar counterpart.” *Id.* Appellants further argue that, like the claims in *DDR Holdings*, the claims here “amount to more than simply stating ‘apply the abstract idea on the Internet.’” *Id.* at 16. Appellants also contend “it was not routine computer implementation that distinguished the claims over the prior art used in the now withdrawn § 102 rejection.” Reply Br. 5. Appellants further contend claim 1 is similar to Internet content filtering addressed in *Bascom* where the Federal Circuit “noted that an inventive concept can be found in non-conventional and non-generic arrangement of known, conventional pieces.” *Id.* at 7–8; see *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F. 3d 1341, 1350 (Fed. Cir. 2016).

Alice Step One

The Examiner concludes claims 1–19 and 21 are directed to an abstract idea, specifically:

selecting a holdout group of users . . . , selecting an advertisement from the one or more advertisements . . . , determining whether the user is in the holdout group[], storing information associated with the ad in an ad history . . . , determining a fee for presentation . . . , determining a holdout conversion rate . . . , determining a target conversion rate . . . , providing the content to a client device . . . , etc. is a method of organizing human activities and fundamental economic practices.

Final Act. 3.

Considering the focus of claim 1 as a whole, we agree with the Examiner’s conclusion that claim 1 is directed to an abstract idea—the fundamental economic practice of distributing advertisements and determining a fee for presenting advertisements to users. We see no meaningful difference in claim 1 and similar or analogous claims in other cases that our reviewing court has concluded are directed to an abstract idea. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) (“automatic pricing method and apparatus for use in electronic commerce”); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (“using advertising as an exchange or currency”); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”).

We also agree with the Examiner that claim 1 is directed to a combination of concepts that “are identified by the courts as . . . abstract ideas.” Ans. 7. In that regard, we agree with the Examiner that determining

if a user is in a holdout group and, if not, providing the selected advertisement to a client device associated with the user is analogous to the abstract idea of comparing new and stored information and using rules to identify options. *Id.* (citing *SmartGene*). In *SmartGene Inc. v. Advanced Biological Laboratories, SA*, 555 F. Appx. 950, 954 (Fed. Cir. 2014), the Federal Circuit concluded the claims were patent ineligible because they did “no more than call on a ‘computing device,’ with basic functionality for comparing stored and input data and rules, to do what doctors do routinely.”

Claim 1 also recites the step of “determining . . . a fee for presentation of the advertisement,” including the subsidiary steps of “determining . . . a holdout conversion rate,” “determining . . . a target conversion rate,” “determining . . . an adjustment value of the fee,” and “reducing . . . the fee based in part on the adjustment value.” We conclude that these steps could be performed by a human with pen and paper and involve mathematical calculations. In that regard, our reviewing court has held that “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.” *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (claims focus on the abstract idea of collecting information, analyzing it, and displaying certain results of the collection and analysis); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016). “[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.” *Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012).

Merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea . . . to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1094 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas). Thus, the fact that claim 1 combines abstract ideas that are analogous to “comparing new and stored information and using rules to identify options” and “analyzing information by steps people go through in their minds, or by mathematical algorithms” does not render claim 1 any less abstract.

We are not persuaded by Appellants’ arguments that the Examiner erred in concluding claim 1 is directed to an abstract idea.⁵ App. Br. 8–13. Contrary to Appellants’ argument, the Examiner did not improperly dissect the claim. *Id.* at 9–10. Instead, as discussed *supra*, the Examiner considered the different concepts in claim 1 and, in doing so, considered the related limitations of claim 1. We note that the Examiner did not specifically mention the steps of “storing . . . information associated with the ad in an ad history associated with the user” and “receiving information that identifies the user and indicates that a conversion event occurred on a different device

⁵ Although Appellants’ argue that the Examiner failed to meet the burden under 35 U.S.C. § 132 to provide notice and reasons for the rejection (*see* Reply Br. 3), we disagree. The Examiner stated the statutory basis for the rejection and performed the two-part *Alice* test. *See* Final Act. 3–5; Ans. 6–10. Thus, we conclude the Examiner provided an adequate explanation of the rejection under § 101 and met the notice requirement of 35 U.S.C. § 132. *See In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011).

associated with the user.” We are not, however, persuaded of reversible error. Instead, we conclude that these steps are also analogous to comparing new and stored information and using rules to identify options. *See SmartGene*, 555 F. Appx. at 954.

Appellants’ argument that claim 1 recites a particular way the idea is implemented by reciting a particular way to determine a fee (App. Br. at 10–11) is not persuasive because, as discussed *supra*, the recited steps of “determining” a fee for presentation of the advertisement constitute an abstract idea. Nor are we persuaded by Appellants’ arguments that the claims are directed to a business challenge particular to the internet and provide a solution “customized to address an *on line* environment.” App. Br. 12–13. Although Appellants correctly argue that “ad impressions and ad conversions can occur on separate devices” in the method of claim 1, the claim does not recite any specific technical way to “provid[e] the selected advertisement to a client device” or “receiv[e] information . . . that a conversion event occurred on a different client device.” *See Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (admonishing that “the important inquiry for a § 101 analysis is to look to the claim”; “the complexity of the implementing software or the level of detail in the specification does not transform a claim reciting only an abstract concept into a patent-eligible system or method”). Appellants have also not identified any portion of the Specification, or provided any evidence or technical reasoning, demonstrating that claim 1 achieves a technical advance or improvement pertaining to the hardware or software used in the on line environment of claim 1, including transmitting an advertisement or receiving information regarding a conversion event.

Thus, contrary to Appellants' arguments, claim 1 does not recite, and is not directed to, "a specific way to determine/track conversions associated with an advertisement when an advertisement impression occurs on a client device associated with a user and a conversion of the advertisement occurs on a different client device." *See* Reply Br. 4, 6.

We also are not persuaded by Appellants' argument that "the claimed invention is not directed to an abstract idea because the claims do not preempt all means of the abstract idea noted in the Answer." Reply Br. 3. "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility. . . . Where 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 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) ("that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting does not make them any less abstract").

Alice Step Two

Regarding step two of the *Alice* analysis, the Examiner finds the additional claim elements, considered individually and as an ordered combination, do not amount to significantly more than the abstract idea. Ans. 9–10. The Examiner finds the limitations of "an online system" and "a client device" are recited at a high level of generality and as performing generic computer functions routinely used in computer applications. *Id.* at 9. The Examiner also concludes the terms "apparatus" and "computing

device,” as used in the claims, are construed as a general-purpose computing device, consistent with paragraph 82 of the Specification. *Id.* The Examiner further finds the “[g]eneric computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system.” *Id.* at 9–10. Thus, the Examiner concludes “the claim does not amount to significantly more than the abstract idea.” *Id.* at 10. For the reasons stated by the Examiner, we agree with the Examiner’s findings and conclusions.

We are not persuaded by Appellants’ arguments regarding step two of the analysis. Initially, we are not persuaded by Appellants’ arguments that the claims here are similar to the claims in *DDR Holdings* and consequently the claims overcome a problem arising in the “realm of computer networks,” for which there is no traditional business analog. App. Br. 14–16. In *DDR Holdings*, the Federal Circuit explained that the patent-eligible claims specified “how interactions with the Internet are manipulated to yield a desired result . . . that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink.” *DDR Holdings, LLC v. Hotels.com L.P.*, 773 F.3d 1245, 1258 (Fed. Cir. 2014). The court reasoned that those claims recited a technological solution “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257. That is not the case here. The mere fact that the method of claim 1 is performed in an “online system” does not establish that claim 1 is directed to a “problem specifically arising in the realm of computer networks.”

Contrary to Appellants' arguments, claim 1 does not "focus on a specific means or method that improves the relevant technology," but is "directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery." *McRO*, 837 F.3d at 1314 (citation omitted). This is not enough to transform an abstract idea into patent-eligible subject matter. *See, e.g., Alice*, 134 S. Ct. at 2360 (explaining that claims that "amount to 'nothing significantly more' than an instruction to apply the abstract idea . . . using some unspecified, generic computer" "is not 'enough' to transform an abstract idea into a patent-eligible invention" (quoting *Mayo*, 566 U.S. at 77, 79)); *Intellectual Ventures I LLC v. Capital One Fin. Corp* 850 F.3d 1332, 1342 (Fed. Cir. 2017) ("[T]he claim language here provides only a result-oriented solution, with insufficient detail for how a computer accomplishes it. Our law demands more.").

Second, are we not persuaded by Appellants' arguments that because the Examiner withdrew the prior art rejections, the Examiner has improperly characterized the claims as being directed to routine computer implementations. Reply Br. 4–5. A finding of novelty or non-obviousness does not automatically lead to the conclusion that the claimed subject matter is patent-eligible. Although the second step in the *Mayo/Alice* framework is termed a search for an "inventive concept," the analysis is not an evaluation of novelty or non-obviousness, but rather, a search for "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.'" *Alice Corp.*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 72–73). "Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry." *Ass'n for Molecular Pathology v.*

Myriad Genetics, Inc., 569 U.S. 576, 591 (2013). A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90; *see also Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (“The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter”).

Third, we are not persuaded by Appellants’ argument that “[c]laim 1 involves an ordered combination of steps that is significantly more than any abstract idea, similar to Internet content filtering addressed in *Bascom*.” Reply Br. 7. We agree with Appellants that the court in *Bascom* noted that an inventive concept can be found in a non-conventional and non-generic arrangement of known, conventional pieces. *See Bascom*, 827 F.3d at 1350. However, the claims here are distinguishable from those in *Bascom*. In *Bascom*, the system claims were directed to a “content filtering system for filtering content retrieved from an Internet computer network,” which the court held were directed to an abstract idea. *Id.* at 1348–49. The court further held the claims included an inventive concept in the ordered combination of system components, including a local client computer and a remote ISP server connected to the client computer and Internet computer network providing for “the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user.” *Id.* at 1350. Claim 1 here does not involve a similar or analogous arrangement or “ordered combination” of components.

Thus, we see nothing in the limitations of claim 1, considered “both individually and as an ordered combination,” that transforms the claimed abstract idea of claim 1 into patent-eligible subject matter.

Accordingly, for the reasons discussed above, we sustain the Examiner’s rejection of claim 1, and of grouped claims 2–19 and 21, under § 101. To the extent Appellants have not advanced separate, substantive arguments for particular claims, such arguments are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

We affirm the Examiner’s decision rejecting claims 1–19 and 21 under 35 U.S.C. § 101.

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). *See* 37 C.F.R. § 1.136(a)(1)(iv)(2016).

AFFIRMED