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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT W. COOLEY

Appeal 2019-004225
Application 14/560,994
Technology Center 3600

Before BRYAN F. MOORE, BETH Z. SHAW, and
JASON M. REPKO, *Administrative Patent Judges.*

SHAW, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–11, 13–20, and 22. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as OptiMine Software, Inc. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to systems and methods for assessing the cross-channel value of media advertising. Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A computer-implemented method for assessing a cross-channel value of media advertising, the method comprising:
>
> receiving, at a processor, a number of impressions for a particular advertisement for a specified time period;
>
> selecting an entry point for a business event related to the particular advertisement, wherein the entry point is selected from a group consisting of a result of a keyword or key phrase related to the particular advertisement, a uniform resource locator of a website, and a link from a website;
>
> receiving business value information from the entry point for the specified time period;
>
> analyzing a relationship, using an advertisement-to-entry-point relationship model, between the particular advertisement and the entry point for the business event based on the number of impressions for the particular advertisement correlated to the business value information from the entry point for the specified time period; and
>
> displaying a value for the particular advertisement within a graphical user interface based on analyzing the relationship, wherein the advertisement-to-entry-point relationship model includes a econometric time series forecast model that includes over-fitting minimization and variable selection;
>
> wherein over-fitting minimization includes an over-fitting mechanism selected from the group consisting of setting a threshold minimum number of days for model training of advertisement, setting a threshold minimum number of advertisement impressions for the model training, using a regularized regression algorithm, and comparing a normalized root mean squared error (NRMSE) of training data to a NRMSE of a holdout set of data; and
>
> wherein variable selection includes a variable selection mechanism selected from the group consisting of assigning

variables using empirical Bayesian ordering and correlating variables using a forward selection regression algorithm.

REJECTION

Claims 1–11, 13–20, and 22 are rejected under 35 U.S.C. § 101. Final Act. 2.

OPINION

Section 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. However, the U.S. 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).

In determining whether a claim falls within an excluded category, we are guided by the Court's two-part framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *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, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making waterproof 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 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 187; *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 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.* (citation omitted) (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 (quotation marks 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.*

USPTO Section 101 Guidance

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Revised Guidance").[2] "All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance." *Id.* at 51; *see also* October 2019 Update at 1.

Under the Revised Guidance and the October 2019 Update, 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) ("Step 2A, Prong One"); and

[2] In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "October 2019 Update") (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)) ("Step 2A, Prong Two").[3]

Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

Revised Guidance, 84 Fed. Reg. at 52–56.

Abstract Idea

For the following reasons, we conclude the claims recite a fundamental economic practice, which is one of certain methods of organizing human activity identified in the Revised Guidance, and thus, an abstract idea. *See* Revised Guidance, 84 Fed. Reg. at 52, 53 (listing "[c]ertain methods of organizing human activity—fundamental economic

[3] This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* Revised Guidance - Section III(A)(2), 84 Fed. Reg. 54–55.

principles or practices" as one of the "enumerated groupings of abstract ideas").

Appellant addresses the claims as a group, and we treat claim 1 as representative. The claim is directed to an abstract idea because it is directed to a fundamental economic practice, which is one of certain methods of organizing human activity, as discussed below. The steps of claim 1, including, with italics,

> *receiving*, at a processor, *a number of impressions for a particular advertisement for a specified time period*;
>
> *selecting an entry point for a business event related to the particular advertisement*, *wherein the entry point is selected from a group consisting of a result of a keyword or key phrase related to the particular advertisement*, a uniform resource locator of a website, and a link from a website;
>
> *receiving business value information from the entry point for the specified time period*;
>
> *analyzing a relationship, using an advertisement-to-entry-point relationship model, between the particular advertisement and the entry point for the business event based on the number of impressions for the particular advertisement correlated to the business value information from the entry point for the specified time period*; and
>
> displaying a value for the particular advertisement within a graphical user interface based on analyzing the relationship, *wherein the advertisement-to-entry-point relationship model includes a econometric time series forecast model that includes over-fitting minimization and variable selection*;
>
> *wherein over-fitting minimization includes an over-fitting mechanism selected from the group consisting of setting a threshold minimum number of days for model training of advertisement, setting a threshold minimum number of advertisement impressions for the model training, using a regularized regression algorithm, and comparing a normalized root mean squared error (NRMSE) of training data to a NRMSE of a holdout set of data*; and

> *wherein variable selection includes a variable selection mechanism selected from the group consisting of assigning variables using empirical Bayesian ordering and correlating variables using a forward selection regression algorithm*.

recite steps of *receiving a number of impressions for a particular advertisement for a specified time period*; *selecting an entry point for a business event related to the particular advertisement*, *wherein the entry point is selected from a group consisting of a result of a keyword or key phrase related to the particular advertisement; receiving business value information from the entry point for the specified time period*; *analyzing a relationship, using an advertisement-to-entry-point relationship model, between the particular advertisement and the entry point for the business event based on the number of impressions for the particular advertisement correlated to the business value information from the entry point for the specified time period*; *wherein over-fitting minimization includes an over-fitting mechanism selected from the group consisting of setting a threshold minimum number of days for model training of advertisement, setting a threshold minimum number of advertisement impressions for the model training, using a regularized regression algorithm, and comparing a normalized root mean squared error (NRMSE) of training data to a NRMSE of a holdout set of data*, *wherein variable selection includes a variable selection mechanism selected from the group consisting of assigning variables using empirical Bayesian ordering and correlating variables using a forward selection regression algorithm*.

Appellant's claimed invention is directed to analyzing a value for an advertisement.

Under Supreme Court precedent, claims directed purely to an abstract idea are patent ineligible. As set forth in the Revised Guidance, which extracts and synthesizes key concepts identified by the courts, abstract ideas include (1) mathematical concepts, (2) certain methods of organizing human activity, and (3) mental processes. Among those certain methods of organizing human activity listed in the Revised Guidance are fundamental economic practices, such as the concept of intermediated settlement in *Alice*, and the concept of hedging in *Bilski*. Like those concepts, claim 1 also recites a fundamental economic practice. Specifically, the italicized steps fall under the umbrella of economic practices, because "receiving . . . a number of impressions for a particular advertisement" and "receiving business value information" would ordinarily take place in analyzing advertising, which occurs in our system of commerce. *See* Spec. ¶ 2 ("[E]mbodiments of the invention determine a value for an advertisement based on a volume of impressions for that advertisement and corresponding revenue.").

In *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015), an advertisement taking into account the time of day and tailoring the information presented to the user based on that information was considered another "fundamental . . . practice long prevalent in our system." In *Credit Acceptance Corporation v. Westlake Services*, 859 F.3d 1044 (Fed. Cir. 2017), patent claims directed to a system and method for providing financing to allow a customer to purchase a product selected from an inventory of products maintained by a dealer were considered patent ineligible as directed to the abstract idea of processing an application for financing a purchase, an economic practice long prevalent in commerce. Like the claims at issue in *Intellectual Ventures I* and *Credit*

Acceptance, the analysis of values for advertising is "a fundamental economic practice long prevalent in our system of commerce." *Credit Acceptance*, 859 F.3d at 1054. Thus, we conclude claim 1 recites a fundamental economic practice, which is one of certain methods of organizing human activity identified in the Revised Guidance, and thus an abstract idea.

Although Appellant argues claim 1 does not recite a mathematical concept or mental process (Reply Br. 3–4), we do not further discuss these arguments because we determine the claim recites a fundamental economic practice and thus the mathematical concept classification, the mental process classification, and the fundamental economic classification are cumulative.

In accordance with the Revised Guidance, and looking to MPEP §§ 2106.05(a)–(c) and (e)–(h), we determine that the additional elements of claim 1, both individually and as an ordered combination, do not integrate a judicial exception, in this case the abstract idea of a fundamental economic practice, into a practical application. Claim 1 is directed to the implementation of the abstract idea on generic computer servers and devices. The claimed "processor" is recited at a high level of generality and merely invoked as a tool to perform the process of claim 1. Simply implementing the abstract idea on a generic computer is not a practical application of the abstract idea. *See, e.g.*, Fig. 2; Spec. ¶¶ 33–34 (a "processor 210 retrieves and executes instructions").

In addition, "displaying a value for the particular advertisement within a graphical user interface based on analyzing the relationship" in claim 1 is insignificant post-solution activity, because it is merely ancillary to the focus of the claimed invention, namely, analyzing the relationship between the particular advertisement and the entry point for the business event based on

the number of impressions correlated to the business value information, given the display's high level of generality and context in the claimed invention. Where, as here, the recited display function is merely ancillary to analyzing the advertising relationship of the claimed invention, given its high level of generality and context in the claimed invention, the recited display function is insignificant post-solution activity and, therefore, does not integrate the exception into a practical application for this additional reason. *See* 2019 Eligibility Guidance, 84 Fed. Reg. at 55 (citing MPEP § 2106.05(g)).

This is not a case involving eligible subject matter as in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) despite Appellant's arguments to the contrary (Appeal Br. 7, 11). There, instead of a computer network operating in its normal, expected manner by sending a website visitor to a third-party website apparently connected with a clicked advertisement, the claimed invention in *DDR* generated and directed the visitor to a hybrid page that presented (1) product information from the third party, and (2) visual "look and feel" elements from the host website. *DDR*, 773 F.3d at 1258–59. Given this particular Internet-based solution, the court held that the claimed invention did not merely use the Internet to perform a business practice known from the pre-Internet world, but rather was necessarily rooted in computer technology to overcome a problem specifically arising in computer networks. *Id.* at 1257.

That is not the case here. Appellant's claimed invention, in essence, is directed to analyzing a value for an advertisement—albeit using computer-based components to achieve that end. The claimed invention here is not necessarily rooted in computer technology in the sense contemplated by *DDR*, where the claimed invention solved a challenge particular to the

Internet. Although Appellant's invention uses various computer-based components noted previously, the claimed invention does not solve a challenge particular to the computing components used to implement this functionality.

Nor is this invention analogous to that which the court held eligible in *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016) despite Appellant's arguments to the contrary (Appeal Br. 9–10; Reply Br. 7). There, the claimed process used a combined order of specific rules that rendered information in a specific format that was applied to create a sequence of synchronized, animated characters. *McRO*, 837 F.3d at 1315. Notably, the recited process for automatically animated characters using particular information and techniques—an improvement over manual three-dimensional animation techniques—was not directed to an abstract idea. *Id.* at 1316.

But unlike the claimed invention in *McRO* that improved how the physical display operated to produce better quality images, the claimed invention here merely uses generic computing components to display a user interface. This generic computer implementation is not only directed to a fundamental economic practice, but also does not improve a display mechanism as was the case in *McRO*. *See SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*).

Accordingly, the claim as a whole does not integrate the abstract idea into a practical application because the claim limitations do not impose any meaningful limits on practicing the abstract idea. Stated differently, the claims do not (1) improve the functioning of a computer or other technology, (2) are not applied with any particular machine (except for generic computer components), (3) do not effect a transformation of a particular article to a

different state, and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim, as a whole, is more than a drafting effort designed to monopolize the exception. *See* MPEP §§ 2106.05(a)–(c), (e)–(h).

Inventive Concept

Because we determine that claim 1 is "directed to" an abstract idea, we next consider whether claim 1 recites an "inventive concept." The Examiner determined that claim 1 does not recite an inventive concept because the additional elements in the claim do not amount to "significantly more" than an abstract idea. *See* Final Act. 3–4.

We agree with the Examiner's determination in this regard. The additional elements recited in claim 1 include a "processor." The claim recites the processor at a high level of generality, and the written description indicates that the elements are generic. *See, e.g.*, Fig. 2; Spec. ¶¶ 33–34.

Using generic computer components to perform abstract ideas does not provide the necessary inventive concept. *See Alice*, 573 U.S. at 223 ("[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention."). Thus, these elements, taken individually or together, do not amount to "significantly more" than the abstract idea itself.

Preemption is a driving concern when determining patent eligibility. *See Alice*, 573 U.S. at 216–17. Patent law cannot inhibit further discovery by improperly tying up the future use of the building blocks of human ingenuity. *See id.* (citing *Mayo*, 566 U.S. at 85–86). Although preemption is characterized as a driving concern for patent eligibility, preemption itself is not the test for 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). "While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.*

To the extent Appellant contends that the recited limitations, including those detailed above in connection with *Alice* step one, add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two (*see* Appeal Br. 9–11), these limitations are not *additional* elements *beyond* the abstract idea, but rather are directed to the abstract idea as noted previously. *See* Revised Guidance, 84 Fed. Reg. at 56 (instructing that *additional* recited elements should be evaluated in *Alice/Mayo* step two to determine whether they (1) *add* specific limitations that are not well-understood, routine, and conventional in the field, or (2) simply *append* well-understood, routine, and conventional activities previously known to the industry (citing MPEP § 2106.05(d)).

Appellant contends various elements recited in the claim provide the necessary inventive concept. Appeal Br. 7–10. But these elements form part of the recited abstract ideas and thus are not "additional elements" that "'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78); *see also* Revised Guidance, 84 Fed. Reg. at 55 n.24 ("USPTO guidance uses the term 'additional elements' to refer to claim features, limitations, and/or steps that are recited in the claim *beyond the identified judicial exception*." (Emphasis added)).

Rather, the recited "processor" is the additional recited element whose generic computing functionality is well-understood, routine, and conventional. *See Mortg. Grader, Inc. v. First Choice Loan Servs., Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (noting that components such an "interface," "network," and "database" are generic computer components that do not satisfy the inventive concept requirement); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) ("That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.").

To the extent Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution (*see* Appeal Br. 11), we disagree. Even assuming, without deciding, that the claimed invention can assess cross-channel values of media advertising faster than before, any speed increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[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.")); *see also Intellectual Ventures I LLC v. Erie Indemnity Co.*, 711 F. App'x 1012, 1017 (Fed. Cir. 2017) (unpublished) ("Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer 'do[ ] not materially alter the patent eligibility of the claimed subject matter.'"). Like the claims in *FairWarning*, the focus of claim 1 is not on an improvement in computer

processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095 (citations and quotation marks omitted).

Accordingly, we sustain the Examiner's rejection of the pending claims under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

CONCLUSION

The Examiner's rejection is affirmed.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–11, 13–20, 22	101		1–11, 13–20, 22	

TIME PERIOD FOR RESPONSE

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

AFFIRMED