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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL DAVID SHEPHERD

Appeal 2018-005380
Application 14/048,622
Technology Center 3600

Before: JOHN P. PINKERTON, BETH Z. SHAW, and
NORMAN H. BEAMER, *Administrative Patent Judges*.

SHAW, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

The claims are directed to using semantic analysis to enhance personalized documents in a variable data marketing campaign. Claim 1, reproduced below, is representative of the claimed subject matter:

1. A method of generating a web page, the method comprising, by one or more processing devices:

identifying a variable data document template so that the variable data document template comprises one or more static element fields and one or more dynamic element fields;

for one or more of the dynamic element fields, receiving an automated personalization task, wherein the automated personalization task corresponds to one or more semantic queries for associating dynamic data with the dynamic element field, and associating the semantic queries to the dynamic element field;

identifying a set of recipients;

for each recipient, generating a personalized document template by:

adding static data to at least one of the static element fields, identifying a set of candidate data to be populated in one or more of the dynamic element fields, and associating a personalized reference locator at which the recipient may retrieve a personalized web page in accordance with the recipient's personalized template so that the personalized reference locator links to the web page; and

receiving a request that includes the personalized reference locator from any one of the recipients; and

generating the personalized web page in accordance with the recipient's personalized document template by:

including, in at least one of the dynamic element fields, personalized data corresponding to that recipient,

for at least one of the dynamic element fields, implementing the one or more semantic queries for that field to select dynamic data from the set of candidate data for that

recipient, and including indicia of the selected dynamic data in the dynamic element field.

REJECTIONS

The Examiner made the following rejections:

Claims 1–20 are rejected under 35 U.S.C. § 101.

Claims 1, 2, 3, 4, 5, 9, 10, 11, 12, 16, 17, and 18 are rejected under 35 U.S.C. § 103 as being unpatentable over Farmer (US 2011/0126121 A1; May 26, 2011) and Hahn (US 2010/0185496 A1; July 22, 2010).

Claims 8 and 15 are rejected under 35 U.S.C. § 103 as being unpatentable over Farmer, Han, and Cowan (US 2007/0208751 A1; Sept. 6, 2007).

Claim 20 is rejected under 35 U.S.C. § 103 as being unpatentable over Farmer, Hahn, and Sweeney (US 2011/0314006 A1; Dec. 22, 2011).

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 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 Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework,

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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 water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176, 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 Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological

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environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., Diehr*, 450 U.S. 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.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The U.S. Patent and Trademark Office (“USPTO”) recently published revised guidance on the application of § 101. USPTO’s 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Revised Guidance”). Under that Revised Guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* Manual of Patent Examining Procedure (“MPEP”) § 2106.05(a)–(c), (e)–(h) (Rev. 08.2017 2018)).

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

(3) adds a specific limitation beyond the judicial exception that 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.

See Revised Guidance.

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

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 added:

identifying a variable data document template so that the variable data document template comprises one or more static element fields and one or more dynamic element fields;

for one or more of the dynamic element fields, receiving an automated personalization task, wherein the automated personalization task corresponds to one or more semantic queries for associating dynamic data with the dynamic element

field, and associating the semantic queries to the dynamic element field;

identifying a set of recipients;

for each recipient, generating a personalized document template by:

adding static data to at least one of the static element fields, identifying a set of candidate data to be populated in one or more of the dynamic element fields, and associating a personalized reference locator at which the recipient may retrieve a personalized web page in accordance with the recipient's personalized template so that the personalized reference locator links to the web page; and

receiving a request that includes the personalized reference locator from any one of the recipients; and

generating the personalized web page in accordance with the recipient's personalized document template by:

including, in at least one of the dynamic element fields, personalized data corresponding to that recipient,

for at least one of the dynamic element fields, implementing the one or more semantic queries for that field to select dynamic data from the set of candidate data for that recipient, and including indicia of the selected dynamic data in the dynamic element field

recites steps of personalizing a web page for a user based on candidate data for that user.

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

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fall under the umbrella of economic practices, including managing transactions or sales activities, because these steps would ordinarily take place in customizing or targeting an advertisement, which occurs in our system of commerce. *See* Spec. ¶¶ 1–3 (“Advertisers increasingly seek to target advertisements that are customized to the individual consumer. . . .”).

In *Intellectual Ventures I LLC v. Capital One Bank*, 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 using dynamic website navigation data was considered another “fundamental . . . practice long prevalent in our system.” Like the claims at issue in *Intellectual Ventures I*, the personalized website generation of claim 1 is “a fundamental economic practice long prevalent in our system of commerce.” Thus, we conclude claim 1 is directed to a fundamental economic practice, which is one of certain methods of organizing human activity identified in the Revised Guidance, and thus is an abstract idea.

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 little more than the implementation of the abstract idea on generic computer servers and devices. The claim, as a whole, describes how to generally apply or execute the concept by generating a personalized web page in a computer environment. The claimed computer components are recited at a high level of generality and are merely invoked as tools to perform an existing process. *See, e.g.*, Spec. ¶ 46–50 (“CPU 305, alone or in conjunction with one or more of the other elements disclosed in FIG. 3, is a processing device,

computing device or processor as such terms are used within this disclosure.”); Fig. 3. Simply implementing the abstract idea on generic computer components is not a practical application of the abstract idea.

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. 7, 8; Ans. 7–9.

We agree with the Examiner’s determination in this regard. The additional elements recited in claim 1 include “one or more processing devices.” The claim recites these elements at a high level of generality, and the written description indicates that these elements are generic computer components. *See, e.g.*, Spec. ¶ 46–50 (“CPU 305, alone or in conjunction with one or more of the other elements disclosed in FIG. 3, is a processing device, computing device or processor as such terms are used within this

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disclosure.”); Fig. 3. 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.

Appellant contends the Examiner erred in rejecting the claims under 35 U.S.C. § 101 because claim 1 does “not preempt all methods of creating personalized documents.” App. Br. 17. We are not persuaded of Examiner error by this argument.

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.*

Moreover, we are not persuaded that the claimed invention improves the computer or its components’ functionality or efficiency, or otherwise changes the way those devices function, at least in the sense contemplated by the Federal Circuit in *Enfish LLC v. Microsoft Corporation*, 822 F.3d 1327 (Fed. Cir. 2016), despite Appellant’s arguments to the contrary (App.

Br. 14–15). The claimed self-referential table in *Enfish* was a specific type of data structure designed to improve the way a computer stores and retrieves data in memory. *Enfish*, 822 F.3d at 1339. To the extent Appellant contends that the claimed invention uses such a data structure to improve a computer’s functionality or efficiency, or otherwise change the way that device functions, there is no persuasive evidence on this record to substantiate such a contention.

To the extent Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution, we disagree. 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 (App. Br. 14). 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. As noted previously, Appellant’s claimed invention, in essence, is directed to targeted advertisements by generating a personalized web page—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

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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 (App. Br. 16–17). 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 *automatically animated characters* using particular information and techniques—an improvement over manual three-dimensional animation techniques that 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 generate a personalized web page. 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. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*).

Appellant’s reliance on *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016) (App. Br. 16–17) is likewise unavailing. There, the court held eligible claims directed to a technology-based solution to filter Internet content that overcame existing problems with other Internet filtering systems by making a known filtering solution—namely a “one-size-fits-all” filter at an Internet Service Provider

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(ISP)—more dynamic and efficient via individualized filtering at the ISP. *BASCOM*, 827 F.3d at 1351. Notably, this customizable filtering solution improved the computer system’s performance and, therefore, was patent-eligible. *See id.* But unlike the filtering system improvements in *BASCOM* that added significantly more to the abstract idea in that case, the claimed invention here uses generic computing components to implement an abstract idea as noted previously.

Appellant also argues the Examiner provided no support for the assertion that certain claim elements are well understood, routine, or conventional. Reply Br. 6, 7. Regarding a determination that “additional” claim elements are merely routine and conventional, the Federal Circuit has explained that:

Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination. 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.

Berkheimer v. HP Inc., 881 F.3d 1360, 1369 (Fed. Cir. 2018).

To find an element to be well understood, routine, or conventional, the Examiner must support the rejection with one of the following:

1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that demonstrates the well-understood, routine, conventional nature of the additional element(s).
2. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s).

3. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s).

4. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s).

Berkheimer Memo.¹

The Examiner, contrary to Appellant’s arguments, did provide a citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s). In particular, the Examiner cited to *Bancorp Services, L.L.C. v. Sun Life Assurance Co. of Can.*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“The computer required by some of *Bancorp*’s claims is employed only for its most basic function, the performance of repetitive calculations, and as such does not impose meaningful limits on the scope of those claims.”). Ans. 8.

In conclusion, the additional recited elements—considered individually and as an ordered combination—do not add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two. *See Alice*, 573 U.S. at 221; *see also* Guidance, 84 Fed. Reg. at 56.

Accordingly, we sustain the Examiner’s rejection of claims 1–20 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

¹ Memorandum on *Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (Berkheimer v. HP, Inc.)* (Apr. 19, 2018) available at: <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF>

Section 103

Claim 1 recites, in part, generating a personalized web page by “receiving an automated personalization task, wherein the automated personalization task corresponds to one or more semantic queries for associating dynamic data with the dynamic element field, and associating the semantic queries to the dynamic element field.” Appellant argues that as defined in the Specification, “an automated personalization task is a specified action (such as a hotlink) that causes the system to automatically perform a task (such as adding hotlinked HTML) to the dynamic data field, or by implementing semantic queries that select data from a set of candidate data to include in the dynamic element field.” App. Br. 26–27. “In this way, the dynamic element field is truly dynamic, as it can change based on the automated personalization task and the data retrieved when the task is performed.” *Id.* “In contrast, the pre-defined fields for customization” of Farmer, Appellant argues, “are neither dynamic nor populated with automated tasks.” *Id.* Rather, Appellant argues, “Farmer explains that a user customizes the fields using a pre-existing template. After the user fills in the blanks of the fields, the system sends the personalized document to the recipient.” *Id.*

“The field simply presents the data that a user provided, and it is not dynamic but rather remains static once the user fills in the field. In contrast, by using an automated personalization task with a dynamic field, the method of claim 1 can create a document that includes up-to-the minute, and even variable, content.” *Id.*

In the Answer, the Examiner concludes the Specification merely states that an automated personalized task requires that the dynamic element be hot linked. Ans. 11. The Examiner finds that Farmer teaches a dynamic

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template with fields that are dynamic for personalization. *Id.* The Examiner points out that Hahn is relied on to teach semantic queries. *Id.* at 12.

Absent persuasive technical reasoning or evidence to the contrary, we are not persuaded of error in the Examiner’s response. Farmer teaches the disputed limitations of claim 1 because Farmer teaches dynamic data is associated through a dynamic element field. Farmer, ¶¶ 9–15 (describing “generating a dynamic website”).

Accordingly, we sustain the Section 103 rejection of claim 1, and claims 2–8, which depend, directly or indirectly, from claim 1. For the same reasons, and because Appellant makes the same or essentially the same arguments with respect to independent claims 9 and 16 as for claim 1, we sustain the Section 103 rejection of claims 9–20.

DECISION

For the above reasons, the Examiner’s rejections of claims 1–20 are affirmed.

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) (2009).

AFFIRMED