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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ALEXEY N. SPIRIDONOV and ANDREY GODER

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Appeal 2018-005154  
Application 13/655,201<sup>1</sup>  
Technology Center 3700

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Before BIBHU R. MOHANTY, NINA L. MEDLOCK, and  
PHILIP J. HOFFMANN, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellants appeal from the Examiner's rejection of claims 1, 2, 4, 5, 7–21, and 24. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

According to Appellants, their invention is directed to automated evaluation of programming code. Spec., Title. Claims 1, 19, and 20 are the

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<sup>1</sup> Appellants identify Facebook, Inc., as the real party in interest. Appeal Br. 2.

independent claims on appeal. Below, we reproduce claim 1 as illustrative of the appealed claims.

1. A system for evaluating code, comprising:  
a processor configured to:

select a programming problem type from a group of predetermined programming problem types, wherein the predetermined programming problem types includes a web programming problem type that requires an intended user to generate program code to render a webpage and the selected programming problem type has been selected based on a desired job of the intended user of the selected programming problem type;

determine a configuration associated with a programming problem, wherein the programming problem is based at least in part on the selected programming problem type;

generate an input data;

provide via a network to a second system, the programming problem based at least in part on the determined configuration, the input data, and a computer code development environment that at least includes a computer code compiler and a computer code editor;

receive via the network from the second system an output data, wherein the output data was generated by a code responsive to the programming problem and the input data, wherein, to generate the output data, the code responsive to the programming problem was created using the provided computer code editor, compiled using the provided computer code compiler, and executed by the provided computer code development environment running on the second system to create the output data; and

evaluate the output data; and

a memory coupled to the processor and configured to provide the processor with instructions.

## REJECTION

The Examiner rejects claims 1, 2, 4, 5, 7–21, and 24 under 35 U.S.C. § 101 as patent-ineligible.

### PRINCIPLES OF LAW CONCERNING 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 has long interpreted 35 U.S.C. § 101 to include implicit exceptions, however: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank*, 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 v. Prometheus Labs.*, 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, 69

(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; *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.”). Nonetheless, 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 environment.” *Id.* (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.*

The PTO recently published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). Under that 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)).

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* Guidance.

## ANALYSIS

Initially, we note that Appellants argue against the Examiner’s rejection of claims 1, 2, 4, 5, 7–21, and 24 as a group. Appeal Br. 10–19. We choose independent claim 1 for our analysis, and remaining claims 2, 4,

5, 7–21, and 24 stand or fall with claim 1. *See* 37 C.F.R. § 41.37 (c)(1)(iv). For the following reasons, we sustain the Examiner’s rejection of the claims.

For the reasons set forth below, we determine that in accordance with point (1) of the Guidance referenced above,<sup>2</sup> independent claim 1 recites subject matter, i.e., mental processes, which falls within the enumerated groupings of abstract ideas.

As set forth above, independent claim 1 recites a system for evaluating code, comprising (1) “a processor” configured as further described below, and (2) “a memory coupled to the processor [which is] configured to provide the processor with instructions.” Appeal Br., Claims App. (Claim 1). The processor is configured to: (3) “select a programming problem type from a group of predetermined programming problem types, wherein the predetermined programming problem types includes a web programming problem type that requires an intended user to generate program code to render a webpage and the selected programming problem type has been selected based on a desired job of the intended user of the selected programming problem type”; (4) “determine a configuration associated with a programming problem, wherein the programming problem is based at least in part on the selected programming problem type”; (5) “generate an input data”; (6) “provide via a network to a second system, the programming problem based at least in part on the determined configuration, the input data, and a computer code development environment that at least includes a computer code compiler and a computer code editor”; (7) “receive via the network from the second system an output data, wherein the output

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<sup>2</sup> This inquiry is referred to in the Guidance as Prong One of revised Step 2A. *See* Guidance, 84 Fed. Reg. at 54.

data was generated by a code responsive to the programming problem and the input data, wherein, to generate the output data, the code responsive to the programming problem was created using the provided computer code editor, compiled using the provided computer code compiler, and executed by the provided computer code development environment running on the second system to create the output data”; and (8) “evaluate the output data.”  
*Id.*

Here, claim 1 recites the abstract idea of mental processes, because each of the processes done by the processor—i.e., the claimed selecting based on data, determining a configuration based on data, generating data, providing data, receiving data, and evaluating data, as set forth in claim 1’s recitations (3)–(8), as identified above—may be done as a mental process. *See SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 Fed. Appx. 950, 955 (Fed. Cir. 2014) (Going through the “mental steps of comparing new and stored information[,] and using rules to identify . . . options” is an abstract idea.). Restated in further detail, it is claim 1’s recitation that a processor is configured to: (3) “select a programming problem type from a group of predetermined programming problem types, wherein the predetermined programming problem types includes a web programming problem type that requires an intended user to generate program code to render a webpage and the selected programming problem type has been selected based on a desired job of the intended user of the selected programming problem type”; (4) “determine a configuration associated with a programming problem, wherein the programming problem is based at least in part on the selected programming problem type”; (5) “generate an input data”; (6) “provide via a network to a second system,

the programming problem based at least in part on the determined configuration, the input data, and a computer code development environment that at least includes a computer code compiler and a computer code editor”; (7) “receive via the network from the second system an output data, wherein the output data was generated by a code responsive to the programming problem and the input data, wherein, to generate the output data, the code responsive to the programming problem was created using the provided computer code editor, compiled using the provided computer code compiler, and executed by the provided computer code development environment running on the second system to create the output data”; and (8) “evaluate the output data” that recites the abstract idea of mental processes, because, apart from the use of generic hardware including a processor and network, each of these steps may be done in the mind of a person. Consistent with the above analysis, Appellants’ Specification supports our finding that claim 1 is directed to the abstract idea of mental processes, as the Specification describes that “[i]n some embodiments, at least a portion of the evaluation is performed at a human evaluator.” Spec. ¶ 32.

In accordance with point (2) of the Guidance referenced above,<sup>3</sup> claim 1 does not recite any additional element that integrates the judicial exception into a practical application. As set forth above, independent claim 1 recites a system for evaluating code, comprising (1) “a processor” configured as further described below, and (2) “a memory coupled to the processor [which is] configured to provide the processor with instructions.” Appeal Br., Claims App. (Claim 1). The processor is configured to: (3)

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<sup>3</sup> This inquiry is referred to in the Guidance as Prong Two of revised Step 2A. *See* Guidance, 84 Fed. Reg. at 54.

“select a programming problem type from a group of predetermined programming problem types, wherein the predetermined programming problem types includes a web programming problem type that requires an intended user to generate program code to render a webpage and the selected programming problem type has been selected based on a desired job of the intended user of the selected programming problem type”; (4) “determine a configuration associated with a programming problem, wherein the programming problem is based at least in part on the selected programming problem type”; (5) “generate an input data”; (6) “provide via a network to a second system, the programming problem based at least in part on the determined configuration, the input data, and a computer code development environment that at least includes a computer code compiler and a computer code editor”; (7) “receive via the network from the second system an output data, wherein the output data was generated by a code responsive to the programming problem and the input data, wherein, to generate the output data, the code responsive to the programming problem was created using the provided computer code editor, compiled using the provided computer code compiler, and executed by the provided computer code development environment running on the second system to create the output data”; and (8) “evaluate the output data.” *Id.* For the below reasons, we find that any hardware recited by claim 1 is generic, and that other than the recitation of generic hardware, the claim otherwise discloses the abstract idea of mental processes, in accordance with point (1) of the Guidance referenced above.

Specifically, claim 1 itself does not recite any specific structure differentiating the recited memory, processor, network, and second system from generic components. Instead, to the extent that the claim describes the

hardware, the descriptions encompass generic components—i.e., a processor configured to select data, determine a configuration based on data, generate data, provide data, receive data, and evaluate data; a memory coupled to the processor and configured to provide the processor with instructions; and a second system provided on a network. Further, Appellants do not describe, in their Specification, any of the claimed hardware in such a way as to indicate that the hardware is anything other than generic. *See* Spec. ¶ 7 (“[A] processor or a memory described as being configured to perform a task may be implemented as a general component . . . . As used herein, the term ‘processor’ refers to one or more devices, circuits, and/or processing cores configured to process data, such as computer program instructions.”); Spec. ¶ 15 (“Examples of network 104 include one or more of the following: a direct or indirect physical communication connection, mobile communication network, Internet, intranet, Local Area Network, Wide Area Network, Storage Area Network, and any other form of connecting two or more systems, components, or storage devices together. Any number of components may be included in user system 102. Example components of user system 102 include a personal computer, a laptop computer, a tablet computer, a mobile device, a display device, a user input device, and any other device that may be used to receive, process, and/or solve a programming problem.”).

Further, we disagree with Appellants that “[s]imilar to the claim from [*DDR Holdings v. Hotels.com, LP*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)], the claimed solution is necessarily rooted in computer technology.” Appeal Br. 11. Consistent with the above analysis, and as described in Appellants’ Specification, except for the use of generic hardware, the claimed system

may be performed mentally. Restated, the claims “are not tied to any particular novel machine or apparatus” capable of rescuing them from the realm of abstraction. *See Ultramercial v. Hulu*, 772 F.3d 709, 716 (Fed. Cir. 2014). Thus, claim 1 is directed to the above-discussed abstract idea, and does not integrate the judicial exception into a practical application.

In accordance with points (3) and (4) of the Guidance referenced above,<sup>4</sup> claim 1 fails to recite a specific limitation beyond the judicial exception which is not well-understood, routine, and conventional in the field, but instead simply appends well-understood, routine, and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Taking the claim elements separately, the functions performed by the claimed hardware are purely conventional. Specifically, the claim uses known, generic components to perform their known, basic functions. Restated, the claim recites only well-understood, routine, and conventional functions and hardware. *See Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *see also In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (“Absent a possible narrower construction of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ . . . those functions can be achieved by any general purpose computer without special programming.”). There is no unconventional use of the claimed hardware, and the hardware does not produce any unexpected result. Considered as an ordered combination, claim 1’s hardware does not add anything that is not already present when the steps are considered separately.

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<sup>4</sup> This inquiry is referred to in the Guidance as Step 2B. *See* Guidance, 84 Fed. Reg. at 56.

Finally, we are not persuaded by Appellants' arguments that attempt to distinguish claim 1 from claims determined to be abstract in certain Federal Circuit cases. This is because, even if we agree with Appellants that claim 1 is distinguishable from claims in certain cases which the courts determined are abstract, this would only establish that Appellants' claim 1 is not abstract for the reasons set forth in those particular cases. This would fail to prove that Appellants' claim is not abstract for the reasons we fully set forth above

Based on the foregoing, we sustain the Examiner's rejection of claim 1 as patent ineligible. Because the remaining claims under appeal stand or fall with claim 1, we also sustain the rejection of claims 2, 4, 5, 7–21, and 24.

#### DECISION

We AFFIRM the Examiner's rejection of claims 1, 2, 4, 5, 7–21, and 24.

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