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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/672,452	03/30/2015	James R. Kozloski	YOR920140457US1	7610
98841	7590	09/25/2020	EXAMINER	
Otterstedt, Wallace & Kammer, LLP			GRANT, MICHAEL CHRISTOPHER	
P.O. Box 381			ART UNIT	
Cos Cob, CT 06807-0381			PAPER NUMBER	
			3715	
			NOTIFICATION DATE	
			DELIVERY MODE	
			09/25/2020	
			ELECTRONIC	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAMES R. KOZLOSKI, CLIFFORD A. PICKOVER,
VALENTINA SALAPURA, and MAJA VUKOVIC

Appeal 2020-001773
Application 14/672,452
Technology Center 3700

Before NINA L. MEDLOCK, CYNTHIA L. MURPHY, and
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 15–18, 25–28, and 30. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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 International Business Machines Corporation. Appeal Br. 3.

BACKGROUND

The Specification's disclosure "relates to assistive technology, and more particularly to a device configured to monitor a user's cognitive tone." Spec. ¶ 1.

CLAIMS

Claims 15, 25, and 27 are the independent claims on appeal. Claim 15 is illustrative of the appealed claims and recites:

15. A cognitive monitor embodied as a wearable device and comprising:

an electrorheological fluid or a magnetorheological fluid contained in the wearable device;

a first sensor housed in the wearable device and configured to collect a physiologic measurement indicative of a current cognitive tone of a user by physical contact with the user;

a second sensor configured to collect an electronic communication indicative of the current cognitive tone of the user; and

a processor connected in communication with the first sensor to receive the physiologic measurement, connected in communication with the second sensor to receive the electronic communication, configured to determine in real-time a category of the current cognitive tone by analyzing a combination of the physiologic measurement and the electronic communication, according to a rules engine implementing a custom dictionary of terms that suggest a cognitive tone, and configured to impose a haptic effector on the user by activating the electrorheological fluid or the magnetorheological fluid in response to the category of the current cognitive tone,

wherein the first sensor and the electrorheological or magnetorheological fluid are housed in a wristband of the wearable device, wherein the first sensor is a heart rate monitor

and the processor applies a hidden model to obtain from the first sensor a virtual measure of blood perfusion in the brain.

Appeal Br. 32 (Claims Appendix).

REJECTION

The Examiner rejects claims 15–18, 25–28, and 30 under 35 U.S.C. § 101 as claiming a judicial exception without significantly more.

DISCUSSION

PRINCIPLES OF LAW

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*. *Id.* 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.* (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.*

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) (“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 2019 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 2019 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
2019 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.
- 2019 Revised Guidance, 84 Fed. Reg. at 52–56.

ANALYSIS

Step 2A, Prong One

Per the 2019 Revised Guidance, we begin our *Alice*-step-one analysis by determining whether independent claim 1 “recites” an abstract idea under Prong One of Step 2A. (2019 Revised Guidance, 84 Fed. Reg. at 54.) The Guidance “extracts and synthesizes key concepts identified by the courts as abstract ideas,” and these concepts include “[m]ental processes,” and, more

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* 2019 Revised Guidance - Section III(A)(2), 84 Fed. Reg. at 54–55.

particularly, “concepts performed by the human mind” such as “observation, evaluation, judgement, [and/or] opinion.” (*Id.* at 52.)

As an initial matter, we note that the Final Action was mailed in April 2019, and thus, each of the Final Action, the Examiner’s Answer, and Appellant’s Briefs was filed after the issuance of the Revised Guidance on January 7, 2019.

With respect to each of the independent claims, the Examiner determines that the claim recites an abstract idea in the form of mental processes. Final Act. 3. The Examiner determines that:

Applicant claims a process that can be performed mentally by a human being in terms of collecting information (first and second sensor data), analyzing that data (determining a category of the current cognitive tone based on combining the data), and displaying/outputting certain results based on that analysis (selecting an effector and providing it via a feedback mechanism).

Id.

We are persuaded of error in the rejection by Appellant’s argument that the Examiner has not shown that the independent claims recite an abstract idea. *See, e.g.*, Reply Br. 15–16. Specifically, we agree with Appellant that the Examiner has not established that the alleged mental processes in the independent claims can be practically performed in the human mind. *See id.* (citing October 2019 Update: Subject Matter Eligibility, Section II(C)(i)). The Examiner determines that the claims recite an abstract idea because they require collecting information, analyzing data, and displaying or outputting a result, which can be performed as mental processes.” Final Act. 3. Each of the independent claims requires the use of sensors for obtaining and sending physiological measurements; processing

the measurements to determine a “real-time category of the current cognitive tone” by analyzing the combination of the physiological measurement and electronic communication; and outputting a signal “to impose a haptic effector on the user by activating the electrorheological fluid or the magnetorheological fluid in response to the category of the current cognitive tone.” *See* Appeal Br. 32, 33–34 (claims 15, 25, and 27). Although the Examiner determined that steps for collecting information, analyzing data, and outputting results can be performed as mental processes, the Examiner’s determination does not address adequately the specific requirements of the independent claims. For example, the claims require processing data to output a signal “to impose a haptic effector on the user by activating” electrorheological or magnetorheological fluid. The Examiner does not provide an explanation as to how outputting the results of an analysis in the form of imposing a haptic effector, as claimed, can be performed in the human mind. Similarly, the Examiner does not explain adequately how the collection of physiological measurement data or the analysis of such data in combination with electronic communication indicative of a user’s cognitive tone and through the use of a rules engine can be practically performed in the human mind. Thus, at the very least, the Examiner’s Prong-One analysis is incomplete.

Based on the foregoing, the Examiner has not established, on the record before us, that the independent claims recite an abstract idea under Prong One of Step 2A of the Revised Guidance.⁴ Accordingly, we do not

⁴ Thus, the Examiner has not established, on the record before us, that the independent claims are “directed to” an abstract idea as required by *Alice* step one.

sustain the rejection of the independent or dependent claims and we need not proceed to Step 2A, Prong Two or Step 2B of the Revised Guidance.⁵

CONCLUSION

We REVERSE the rejection of claims 15–18, 25–28, and 30.

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
15–18, 25–28, 30	101	Eligibility		15–18, 25–28, 30

REVERSED

⁵ Per the Revised Guidance, “[i]f the claim does not recite a judicial exception, it is not directed to a judicial exception” and “[t]his concludes the eligibility analysis.” 2019 Revised Guidance, 84 Fed. Reg. at 54.