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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/367,144	12/01/2016	Benjamin J. Fletcher	GB920060101US3	1005
75949	7590	11/21/2019	EXAMINER	
IBM CORPORATION C/O: Fabian Vancott 215 South State Street Suite 1200 Salt Lake City, UT 84111			PATEL, HITESHKUMAR R	
			ART UNIT	PAPER NUMBER
			2441	
			NOTIFICATION DATE	DELIVERY MODE
			11/21/2019	ELECTRONIC

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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* BENJAMIN J. FLETCHER and  
ANDREW J. STANFORD-CLARK

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Appeal 2018-008964  
Application 15/367,144  
Technology Center 2400

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Before ROBERT E. NAPPI, JOHN A. HUDALLA, and SCOTT E. BAIN,  
*Administrative Patent Judges.*

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 through 20. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). According to Appellant, International Business Machines Corporation is the real party in interest. Appeal Br. 2.

## INVENTION

The invention is directed to a method for use with a publish/subscribe interface to enable a non-publish/subscribe first system (such as an IP network device) to obtain status information about a publish/subscribe device that cannot be pinged by the first system. Spec. Abstract. Claim 1 is illustrative of the invention and is reproduced below.

1. A device for enabling a first computer network device to determine whether a second computer network device has an online status or an offline status where the first computer network device cannot directly contact the second computer network device, the device comprising:
  - a processor;
  - a memory device for use by the processor, the memory device comprising instructions for execution by the processor to:
    - receive a request from the first computer network device that cannot directly contact the second computer network device, the request being for a status of the second computer network device indicating whether the second computer network device has an online or offline status;
    - determine whether the second computer network device is online or offline by accessing information about the second computer network device from a publish/subscribe system; and
    - indicate to the first computer network device whether the second computer network device is online or offline based on said information from said publish/subscribe system.

### EXAMINER'S REJECTION

The Examiner rejected claims 1 through 20 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. Final Act. 2–6.<sup>2</sup>

The Examiner has rejected claims 1 through 20 under 35 U.S.C. § 103 as being unpatentable over Tazuma (US 2006/0031394 A1, pub. Feb. 9, 2006), Hooker (US 2004/0210772 A1, pub. Oct. 21, 2004), and Cullen (US 2005/0021622 A1, pub. Jan. 27, 2005). Final Act. 7–14.

### ANALYSIS

We have reviewed Appellant's arguments in the Briefs, the Examiner's rejections, and the Examiner's response to Appellant's arguments. Appellant's arguments have persuaded us of error in the Examiner's rejection of all of the disputed claims under 35 U.S.C. § 101 and 35 U.S.C. § 103.

#### *Rejection under 35 U.S.C. § 101*

#### PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the Patent Act, which recites:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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<sup>2</sup> Throughout this Decision we refer to the Appeal Brief filed June 13, 2018 (“Appeal Br.”); the Reply Brief filed September 18, 2018, (“Reply Br.”); Final Office Action mailed March 7, 2018 (“Final Act.”); and the Examiner's Answer mailed July 19, 2018 (“Ans.”).

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in 35 U.S.C. § 101: “[l]aws of nature, natural phenomena, and abstract ideas.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012).

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*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). 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 water-proof 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 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 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 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 (citation 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 United States 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) (“Memorandum”). Under that guidance, we first determine 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) (9<sup>th</sup> Ed., Rev. 08.2017, Jan. 2018)).

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* Memorandum.

## DISCUSSION

The Examiner determined the claims are not patent eligible because they are directed to a judicial exception without reciting significantly more.

Final Act. 2–6. Specifically, the Examiner provided an analysis of representative claim 1 and concluded the claim recites limitations directed to concepts of comparing data that can be performed mentally and which have been considered by the courts to be abstract. Final Act. 3–4 (citing *Utah Research Foundation v. Ambry Genetics*, 774 F.3d 755 (Fed. Cir. 2014); *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013)); *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (Fed. Cir. 2011); *PerkinElmer, Inc. v. Intema Ltd.*, 496 F. App’x 65 (Fed. Cir. 2012); *In re Grams*, 888 F.2d 835 (Fed. Cir. 1989); *Accenture Global Servs. v. Guidewire Software, Inc.*, 728 F.3d 1336 (Fed. Cir. 2013); and *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)).

Appellant does not challenge the Examiner’s determination that the claims recite an abstract idea. Rather, Appellant argues that the claims recite an improvement to the operation of a computer and are necessarily rooted in computer technology. Appeal Br. 23–25; Reply Br. 14–18 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)). Further, Appellant asserts the Examiner has not established that the claimed elements are well known and conventional. Appeal Br. 25–26.

Appellant’s arguments have persuaded us of error in the Examiner’s rejection of independent claims 1, 12, and 18 under 35 U.S.C. § 101, because the record does not support the Examiner’s determination that the claims do not recite an improvement in a computer related technology.

Each of the independent claims recite receiving a request for a status of a second computer (a data gathering or observation element), determining whether the second computer is online or offline (a data analysis or evaluation element), and displaying the result. Thus, the claims set forth an

abstract mental process. However, the remainder of each independent claim recites that the request is for the status of a second computer and is from a computer that cannot directly contact the second computer. As such, the claims are directed to an improvement in a computer-related technology, i.e., providing the ability for a computer that cannot directly connect to another to obtain information about the second computer.

We concur with Appellant that the claimed invention is necessarily rooted in computer technology and improves the operation of the computer network, as were the claims in *DDR Holdings*. We disagree with the Examiner's statement that "determining the status of a device through use of a publisher/subscriber (pub/sub) interface . . . do[es] not address problems *specifically unique* to the Internet, so *DDR* has no applicability." Answer 15. In *DDR Holdings*, the claimed invention created a hybrid web page that combined advantageous elements from two web pages, bypassing the expected manner of sending a visitor to another party's web page, in order to solve the internet-centric problem of retaining website visitors. *DDR Holdings*, 773 F.3d at 1257–59. Similar to *DDR Holdings*, the instant claims overcome a problem specifically arising in the realm of computer networks, i.e., permitting a computer that cannot directly communicate with another to obtain status information concerning the other computer. Thus, we concur with Appellant that the claims are necessarily rooted in computer technology and improve the operation of the computer. As such, the independent claims, and the claims which depend thereupon, recite patent-eligible subject matter. Accordingly, we do not sustain the Examiner's rejection of independent claims 1, 12, 18, and the claims which depend

thereupon, under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter.

*Rejection under 35 U.S.C. § 103*

In the obviousness rejection of claim 1, the Examiner relied on Hooker for teaching the following limitation: “receive a request from the first computer network device that cannot directly contact the second computer network device, the request being for a status of the second computer network device indicating whether the second computer network device has an online or offline status.” Final Act. 8–9. Appellant argues the Examiner’s rejection is in error. Appeal Br. 10–15; Reply Br. 3–7. Specifically, Appellant argues that Hooker teaches determining which other users on a buddy list have published directory information for future communications, but that this has nothing to do with a scenario where one computer cannot directly contact another computer. Appeal Br. 13; Reply Br. 5. Appellant also argues that all the devices can directly communicate in Hooker’s system. Reply Br. 5.

In response to Appellant’s argument, the Examiner argues Hooker’s paragraphs 63 through 65 and Figure 5 teach this limitation. Answer 4–5. Each of independent claims 1, 12, and 18 recites a limitation directed to receiving a request from a computer, for the status of a second computer, where the computer cannot directly contact a second computer. We have reviewed the cited teachings of Hooker and disagree with the Examiner. Hooker teaches a computer that is notified if a buddy’s certificate is valid (is online) or not (is offline), and if the certificate is invalid, it may be withheld to prevent secured communication with that buddy. *See* Hooker para 64.

However, Hooker does not teach that the request for online or offline status is based on the computers' inability to directly contact each other. Rather, the communication of status in Hooker is to aid in establishing secure communication between devices. *See* Hooker para. 70. Thus, the Examiner has not shown the combination of the references teach or make obvious all of the limitations of independent claims 1, 12, and 18. Accordingly, we do not sustain the Examiner's obviousness rejection of independent claims 1, 12, 18, and claims 2 through 11, 13 through 17, 19, and 20 which depend thereupon.

#### CONCLUSION

We reverse the Examiner's rejection of claims 1 through 20 under 35 U.S.C. § 101 and under 35 U.S.C. § 103.

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1-20	101			1-20
1-20	103	Tazuma, Hooker, Cullen		1-20
<b>Overall Outcome</b>				1-20

REVERSED