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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SIDDHARTHA MALLIK, TAO LUO, JING JIANG, TINGFANG
JI, KRISHNA KIRAN MUKKAVILLI, NAGA BHUSHAN, JOSEPH
BINAMIRA SORIAGA, KAMBIZ AZARIAN YAZDI, PETER GAAL,
JOHN EDWARD SMEE, AND CHIH PING LI

Appeal 2018-006565
Application 14/968,376
Technology Center 2100

Before ST. JOHN COURTENAY III, LARRY J. HUME, and
JOYCE CRAIG, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–4 and 6–25, which constitute all the claims pending in this application. Claim 5 is cancelled. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We affirm-in-part.

¹ According to Appellants, the real party in interest is Qualcomm. App. Br. 2.

STATEMENT OF THE CASE

Embodiments of Appellants' invention relate to: "wireless communication systems, and more particularly, to data encoding and decoding to reduce the impact of bursty interference in wireless communication systems." Spec. ¶ 2.

Exemplary Claim

1. A method of wireless communication, comprising:

receiving, by a base station, a plurality of data bits;

generating, by the base station, one or more code blocks, each of the one or more code blocks including one or more information bits and one or more parity bits, wherein for each code block the one or more information bits are generated based, at least in part, on data bits in the received plurality of data bits, and wherein for each code block the one or more parity bits are generated based, at least in part, on the one or more information bits of the code block;

generating, by the base station, one or more parity check code blocks, each of the one or more parity check code blocks including one or more information bits, wherein for each parity check code block the one or more information bits correspond to information bits of the one or more code blocks, and wherein each information bit of a parity check code block corresponds to a different set of information bits of the one or more code blocks; and

transmitting, by the base station, each of the one or more code blocks and the one or more parity check code blocks to a mobile device.

App. Br. 14 (Claims Appendix).

*Rejection*²

Independent claims 1, 13, 16, and 21, and associated dependent claims 2–4, 6–12, 14, 15, 17–20, and 22–25, are rejected under 35 U.S.C. § 101, as being directed to a judicial exception, without significantly more. *See* Final Act. 7–12.

ANALYSIS

We have considered all of Appellants’ arguments and any evidence presented. We highlight and address specific findings and arguments for emphasis in our analysis below.

Rejection under § 101 of Independent Claims 1, 13, 16, and 21

Issue: Did the Examiner err in rejecting independent claims 1, 13, 16, and 21, and associated claims 2–4, 6–12, 14, 15, 17–20, and 22–25 that depend therefrom, under 35 U.S.C. § 101, as being directed to a judicial exception, without significantly more?

Principles of Law

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. *Mayo Collaborative Servs. v. Prometheus Labs.*,

² The Examiner withdrew all other previous rejections under 35 U.S.C. §§112, 102, 103. *See* Ans. 2.

Inc., 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

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 Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217–18 (2014) (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, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding of rubber products” (*Diehr*, 450 U.S. at 193); “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 (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 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 (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 Patent Subject Matter Eligibility 2019 Revised Guidance

The USPTO recently published revised policy guidance on the application of § 101. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “2019 Revised

Guidance”). Under the 2019 Revised Guidance, we first look to whether the claim recites:

(1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, mental processes, or certain methods of organizing human activity such as a fundamental economic practice or managing personal behavior or relationships or interactions between people); 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)).³

2019 Revised Guidance, 84 Fed. Reg. at 51–52, 55.

A claim that integrates a judicial exception into a practical application applies, relies on, or uses the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. 2019 Revised Guidance, 84 Fed. Reg. at 54. When the judicial exception is so integrated, then the claim is not directed to a judicial exception and is patent eligible under § 101. *Id.*

Only if a claim: (1) recites a judicial exception, and (2) does not integrate that exception into a practical application, do we then evaluate whether the claim provides an inventive concept. 2019 Revised Guidance, 84 Fed. Reg. at 56; *Alice*, 573 U.S. at 217-18. For example, we 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**

³ All references to the MPEP are to the Ninth Edition, Revision 08–2017 (rev. Jan. 2018).

(4) simply appends well-understood, routine, and 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 56.

Because there is no single definition of an “abstract idea” under *Alice* step 1, the PTO has recently synthesized, for purposes of clarity, predictability, and consistency, key concepts identified by the courts as abstract ideas to explain that the “abstract idea” exception includes the following three groupings:

1. Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;
2. Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion); and
3. Certain methods of organizing human activity—fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions).

According to the 2019 Revised Guidance, “claims that do not recite [subject] matter that falls within these enumerated groupings of abstract ideas should not be treated as reciting abstract ideas,” except in rare circumstances. Even if the claims recite any one of these three groupings of abstract ideas, these claims are still not “directed to” a judicial exception (abstract idea), and thus are patent eligible, if “the claim as a whole integrates the recited judicial exception into a practical application of that exception.” 2019 Revised Guidance, 84 Fed. Reg. at 53.

For example, additional limitations that **are** indicative of “integration into a practical application” include:

1. Improvements to the functioning of a computer, or to any other technology or technical field – *see* MPEP § 2106.05(a);
2. Applying the judicial exception with, or by use of, a particular machine – *see* MPEP § 2106.05(b);
3. Effecting a transformation or reduction of a particular article to a different state or thing – *see* MPEP § 2106.05(c); and
4. Applying or using the judicial exception in some other 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(e).

In contrast, additional limitations that are **not** indicative of “integration into a practical application” include:

1. Adding the words “apply it” (or an equivalent) with the judicial exception, or merely include instructions to implement an abstract idea on a computer, or merely using a computer as a tool to perform an abstract idea – *see* MPEP § 2106.05(f);
2. Adding insignificant extra-solution activity to the judicial exception – *see* MPEP § 2106.05(g); and
3. Generally linking the use of the judicial exception to a particular technological environment or field of use – *see* MPEP 2106.05(h).

See 2019 Revised Guidance, 84 Fed. Reg. at 54–55 (“Prong Two”).

The Examiner's Rejection under 35 U.S.C. § 101

The Examiner concludes independent claims 1, 13, 16, and 21 recite the abstract idea of mathematical concepts, including encoding and decoding. *See* Final Act. 8. The Examiner further determines the claims amount “to no more than receiving and transmitting [] signals over a wireless network. These generic computing elements alone do not amount to significantly more than the judicial exception.” *Id.*

Thus, the Examiner concludes that claims 1–4 and 6–25 are not patent eligible under 35 U.S.C. § 101. We review *de novo* and apply the 2019 Revised Guidance in this Decision.

Step 1 — Statutory Subject Matter Classes

In *Step 1* we consider whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. § 101: process, machine, manufacture, or composition of matter. We note that all claims 1–4 and 6–25 before us on appeal are method (process) claims.⁴

Thus, the claimed invention recites a process including a number of steps. Accordingly, the claimed invention falls within the “process” subject-matter category, and is thus statutory, with the exception of a software-only embodiment (e.g., software *per se*, and/or including a signal or carrier wave modulated with instruction data).

⁴ *See* 35 U.S.C. § 100(b)(“The term “process” means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.”).

We note Appellants' Specification describes implementing the instructions in a software-only embodiment:

In one or more exemplary designs, the functions described may be implemented in hardware, *software*, firmware, or any combination thereof. *If implemented in software*, the functions may be stored on or *transmitted over* as *one or more instructions* or code on a computer-readable medium. Computer-readable media includes both computer storage media and communication media including *any medium that facilitates transfer of a computer program from one place to another*. Computer-readable storage media may be any available media that can be accessed by a general purpose or special purpose computer. By way of example, and *not limitation*, such computer-readable media can include RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, *or any other medium* that can be used to *carry* or store *desired program code means in the form of instructions or data structures* and that can be accessed by a general purpose or special-purpose computer, or a general-purpose or special-purpose processor.

Spec. ¶ 137 (emphasis added).

To the extent that a broad but reasonable interpretation of Appellants' claimed invention covers an embodiment that consists of disembodied software instructions *per se*, we note that software in itself, with no structural tie to an article of manufacture (e.g., a medium), machine (e.g., a computer), process, or composition of matter, is not patentable subject matter, because “[a]bstract software code is an idea without physical embodiment.” *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 449 (2007).

Thus, software *per se*, or a computer program *per se*, does not fall within a statutory class (i.e., disembodied code is not a process, machine, manufacture, or composition of matter). “The four categories [of § 101]

together describe the exclusive reach of patentable subject matter. If a claim covers material not found in any of the four statutory categories, that claim falls outside the plainly expressed scope of § 101 even if the subject matter is otherwise new and useful.” *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007). *See also* MPEP § 2106(I)(iv) (listing examples of claims that are not directed to one of the statutory categories: “a computer program *per se*”) (citing *Gottschalk v. Benson*, 409 U.S. 63, 72 (1972)).

We leave further consideration of this issue to the Examiner in the event of further prosecution of this application.

Step 2A, Prong 1

The Judicial Exception

Under the 2019 Revised Guidance (1), we begin our analysis by identifying specific claim language that recites a judicial exception within the following categories of abstract ideas: (a) mathematical concepts, (b) mental steps, and, (c) certain methods of organizing human activities.

We note claim 1 recites the following “generating” steps which involve mathematical concepts including the use of parity bits (i.e., an abstract idea):

generating, by the base station, one or more code blocks, each of the one or more code blocks including one or more information bits and one or more parity bits, wherein for each code block the one or more information bits are generated based, at least in part, on data bits in the received plurality of data bits, and wherein for each code block the one or more parity bits are generated based, at least in part, on the one or more information bits of the code block; [and,]

generating, by the base station, one or more parity check code blocks, each of the one or more parity check code blocks including one or more information bits, wherein for each parity check code block the one or more information bits correspond to information bits of the one or more code blocks, and wherein each information bit of a parity check code block corresponds to a different set of information bits of the one or more code blocks;

Claim 1 (emphasis added).

We conclude each “generating” limitation of claim 1, under a broad but reasonable interpretation,⁵ recites mathematical relationships, mathematical equations and/or mathematical calculations which are mathematical concepts, i.e., a specific subject matter group that is identified as an abstract idea under the 2019 Revised Guidance. In particular, these steps generate code blocks including information bits and parity bits, which we conclude involve mathematical relationships and calculations on sets of binary values.

Thus, after applying the 2019 Revised Guidance, and considering the claim as a whole, we conclude Appellants’ claim 1 falls into the category of *mathematical concepts* (an abstract idea). Independent claims 13, 16, and 21 recite similar language of commensurate scope.

We address *infra* the “receiving . . . data bits” and “transmitting . . . code blocks,” limitations under *Step 2A, prong 2*, as insignificant extra-solution and post-solution activity, respectively. Claim 1.

⁵ We give the claims their broadest reasonable interpretation consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

Step 2A, Prong 2

Integration of the Judicial Exception into a Practical Application

Claims 13–15

We conclude independent claim 13 **integrates** the judicial exception into a **practical application**, because the “decoded parity check code blocks” are positively recited as actually being used to determine when to correct errors in the “decoded code blocks.” Thus, claim 13 effects an improvement under MPEP § 2106.05(a) in wireless communication technology that more efficiently corrects for bits dropped due to radio frequency (RF) interference from other proximate mobile devices, or neighboring base stations in adjacent cells. *See Spec.* ¶¶ 6, 13.

Therefore, we conclude independent claim 13 is patent eligible and *our analysis for claim 13 ends*. Accordingly, we reverse the Examiner’s rejection under 35 U.S.C. § 101 of independent claim 13, and claims 14 and 15, which depend therefrom.

Claims 1–4, 6–12, and 16–25

In contrast, for the reasons which follow, we conclude the generated mathematical parity data is not positively recited as actually being used in independent claims 1, 16, and 21, and thus we conclude independent claims 1, 16, and 21 **do not integrate** the judicial exception into a **practical application**. For example, although claim 21 recites “decoding, by the mobile device, the one or more code blocks,” the claim does not require the “decoding” to be performed using the “parity check code blocks.”

Applying the 2019 Revised Guidance, we address *infra* the relevant “practical application” MPEP sections 2106.05(a)–(c) and (e)–(h), seriatim, for claims 1–4, 6–12, and 16–25:

MPEP § 2106.05(a) “Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field” [R-08.2017]

We consider the question of whether remaining claims 1–4, 6–12, and 16–25 are directed to a *specific improvement* in the capabilities of the recited base station or mobile device, or, instead, “a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1336 (Fed. Cir. 2016).

In support of the contention that the claims on appeal are not directed to an abstract idea, Appellants cite *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016):

Thus, the relevant question under *McRO* is whether the present claims provide an improvement by merely implementing an existing process on a computer, or whether the claims provide a distinct process that improves an existing technological process. Here, the present claims provide a novel, non-obvious, and thus, distinct process for efficiently transmitting data in bursty interference conditions. This is strongly suggested by the fact that the arrangement of features of the present claims does not represent a previously known process, which is evidenced by the lack of prior art showing the specific arrangement of the claimed features. Of course, *Appellant notes that the lack of a prior rejection is not evidence of patentability*. But the lack of a prior art rejection certainly is evidence of a previously unknown and unconventional process. Thus, the present claims recite a unique, unconventional, and previously unknown process.

App. Br. 9 (emphasis added).

As acknowledged by Appellants (*id.*), the Supreme Court guides: “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of *no relevance* in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89 (emphasis added).

For the reasons which follow, we do not find persuasive Appellants’ attempt to analogize the claims on appeal to the subject claims considered by the court in *McRO*. App. Br. 9–10.

We note the subject claim considered by the *McRO* court concerned a method for automatically animating lip synchronization and facial expressions. *McRO*, 837 F.3d at 1303. The *McRO* court concluded the subject claims did not recite an abstract idea because the computer animation *improved* the prior art through the use of *rules*, rather than artists, to set morph weights and transitions between phonemes. *Id.* at 1308. Thus, the claimed invention in *McRO* allowed for computer performance of animation steps that previously had to be performed by human animators. *Id.* at 1309. The subject claims in *McRO* used “limited *rules* in a process specifically designed to achieve an improved technological result” over “existing, manual 3-D animation techniques.” *Id.* at 1316 (emphasis added).

Here, Appellants’ claimed invention does not apply positively recited *rules, per se*. The invention under appeal merely adapts to a technological setting (comprising generic base stations and mobile devices) the known concept of using parity bits to detect errors. *See* independent claims 1, 16, and 21.

Thus, we agree with the Examiner (Final Act. 8, 10–12) that Appellants’ claims merely implement generic base stations and mobile

devices to perform the recited method steps. We emphasize that *McRO* also guides: “[t]he abstract idea exception prevents patenting a *result* where ‘it matters not by what process or machinery the result is accomplished.’” 837 F.3d at 1312 (quoting *O’Reilly v. Morse*, 56 U.S. 62, 113 (1854)) (emphasis added).

Appellants additionally contend the claims provide a technical solution to a communication system problem: *solving transmission loss due to bursty interference by correcting errors without the need for retransmission of all the code blocks*. App. Br. 5–6.

In support, Appellants urge:

[T]he features of the present claims provide a solution, by providing a way to enable a wireless system to provide a transmission with code blocks and parity check code blocks with information bits corresponding to information bits of the code blocks. As such, a system implementing the claimed features would be able to correct errors in the decoded code blocks *using the parity check code blocks without the need for a retransmission of all the code blocks*. See Specification at [0106].

App. Br. 11–12 (emphasis added).

In reviewing the claims before us on appeal, we note independent claims 1, 16, and 21 are *silent* regarding specific limitations directed to an *improved* communication system, base station, or mobile device. For example, claim 1 does not positively recite that the generated blocks which are subsequently transmitted as data are *actually used to perform any practical application, such as error correction*.⁶ Moreover, independent

⁶ See *Ex parte Nehls*, 88 USPQ2d 1883, 1889 (BPAI 2008) (precedential) (“[T]he nature of the information being manipulated does not lend

claims 1, 16, and 21 are *silent* regarding the argued negative limitation: “*without the need for a retransmission of all the code blocks.*” App. Br. 11–12.

Therefore, without more, we conclude Appellants’ claimed invention (claims 1, 16, and 21) does not provide a solution “necessarily rooted in *computer technology* in order to overcome a problem specifically arising in the realm of computer networks,” such as considered by the court in *DDR Holdings LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (emphasis added).

MPEP § 2106.05(b) Particular Machine

Appellants advance no arguments that the method claims on appeal are tied to a particular machine. *See* MPEP § 2106.05(b) “Particular Machine.” Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

MPEP § 2106.05(c) Particular Transformation

Section 2106.05(c) of the MPEP guides: “Another consideration when determining whether a claim recites significantly more is whether the claim effects a transformation or reduction of a particular article to a different state or thing.” “[T]ransformation and reduction of an article ‘to a different state or thing’ is the clue to patentability of a process claim that does not include particular machines.” *Bilski v. Kappos*, 561 U.S. 593, 658 (2010) (quoting *Benson*, 409 U.S. at 70, 175). If such a transformation exists, the claims are likely to be significantly more than any recited judicial

patentability to an otherwise unpatentable computer-implemented product or process.”).

exception. However, *Bilski* emphasizes that although the transformation of an *article* is an *important clue*, it is not a stand-alone test for eligibility. See MPEP § 2106.05(c).

Here, Appellants advance no arguments in the Briefs that are directed to the *Bilski* machine-or-transformation test. To the extent Appellants may contend the claims on appeal transform data by “generating . . . one or more code blocks . . . [and] one or more parity check code blocks” (claim 1), our reviewing court guides that, if not appropriately limiting, “[t]he mere manipulation or reorganization of *data*, however, does not satisfy the transformation prong.” *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (emphasis added). See also *Benson*, 409 U.S. at 71–72 (holding that a computer-based algorithm that merely transforms data by converting BCD [(Binary Coded Decimal)] numerals to pure binary numerals is not patent eligible).

Given the absence of any argument, and on this record, we are not persuaded that any of method claims 1–4, 6–12, and 16–25 satisfy the transformation prong of the *Bilski* machine-or-transformation test.

MPEP § 2106.05(e) Other Meaningful Limitations

In reviewing the Appeal Brief and Reply Brief, we find Appellants advance no arguments as to any purportedly “meaningful” claim limitations under *MPEP § 2106.05(e) —Other Meaningful Limitations*. Arguments not made are waived. See 37 C.F.R. § 41.37(c)(1)(iv).

MPEP §2106.05(f) Mere Instructions to Apply an Exception

As discussed above under *Step 1* of our analysis, we note Appellants' Specification (¶ 137) describes implementing instructions in a software-only embodiment. We further note Appellants advance no arguments in the Briefs under MPEP §2106.05(f) specifically contending the claims are more than *merely instructions* to implement the abstract idea on a generic computer, base station, or mobile device. Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

MPEP § 2106.05(g) Insignificant Extra-Solution Activity [R-08.2017]

We note the “receiving” step of claim 1 merely gathers information. Courts have found such data gathering steps to be insignificant extra-solution activity. *See, e.g., In re Bilski*, 545 F.3d 943, 963 (Fed. Cir. 2008) (*en banc*), *aff'd sub nom Bilski v. Kappos*, 561 U.S. 593 (2010) (characterizing data gathering steps as insignificant extra-solution activity).

Similarly, we conclude the “transmitting” step of claim 1 is merely post-solution activity. The Supreme Court guides that the “prohibition against patenting abstract ideas ‘cannot be circumvented by attempting to limit the use of the formula to a particular technological environment’ or [by] adding ‘insignificant postsolution activity.’” *Bilski*, 561 U.S. at 610–11 (quoting *Diehr*, 450 U.S. at 191–92).

MPEP § 2106.05(h) Field of Use and Technological Environment

Appellants advance no specific arguments in the Briefs contending the claims describe *a field of use* that limits the abstract idea to a particular

technological environment, such that there is purportedly no preemption. Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Claims 1–4, 6–12, and 16–25

For all of the aforementioned reasons, on this record, we are of the view that Appellants’ independent claims 1, 16, and 21, and associated dependent claims 2–4, 6–12, 17–20, and 22–25, do not operate the recited generic wireless communications components, namely base stations and mobile devices, in a manner to achieve an improvement in the technology of the base stations or wireless devices, or in the technology of wireless communication. Therefore, on this record, we conclude claims 1–4, 6–12, and 16–25 *do not recite additional elements that integrate the judicial exception into a practical application*.

The Inventive Concept, Step 2B

Independent Claims 1, 16, and 21

Under the 2019 Revised Guidance, 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 adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); **or**, simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

The Examiner finds:

the claimed limitations merely recite a known and conventional use of parity code blocks being used to determine the presence of error in a code block received from a transmission, The Examiner finds the generation of parity check code blocks for detecting error in the received code block is known and conventional use of parity bits used in error detection/correction and thus, cannot be a technological solution to the problem of preventing inference from transmission of data and removing the need for retransmission.

Final Act. 3.

In reviewing the prosecution history, we note the Examiner's Final Action (June 22, 2017) was mailed before *Berkheimer v. HP Inc.* (881 F.3d 1360 (Fed. Cir. 2018)) was decided on February 8, 2018. However, the Answer was mailed on April 9, 2018, over a month after the *Berkheimer* decision. Having constructive notice of the Federal Circuit *Berkheimer* decision, and the April 19, 2018 USPTO *Berkheimer* Memorandum,⁷ Appellants *make no specific mention* of either authority in the Reply Brief, filed June 6, 2018. Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

However, Appellants contend in the Appeal Brief: “the present claims do not merely recite a *known and conventional* encoding and decoding algorithm, but rather provide for a distinct, *novel and non-obvious*,

⁷ *See* the USPTO April 19, 2018 *Berkheimer* Memorandum, entitled “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (“USPTO *Berkheimer* Memorandum”).

process for correcting errors in a data transmission.” App. Br. 5 (emphasis added).

As discussed above, “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of *no relevance* in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89 (emphasis added). Our reviewing court further emphasizes that “[e]ligibility and novelty are separate inquiries.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017); *see also Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) (holding that “even assuming” that a particular claimed feature was novel does not “avoid the problem of abstractness”).

Here, we turn to Appellants’ Specification for context, and find the Specification (¶ 48) provides non-limiting, exemplary descriptions of generic mobile devices and base stations that are sufficient to support the Examiner’s finding (Final Act. 3) of the claimed “well-understood, routine, and conventional” components.⁸

⁸ *See e.g.*, Spec. ¶ 48:

A UE 115 [(“User Equipment”)] may also be referred to by those skilled in the art as a mobile station, a subscriber station, a mobile unit, a subscriber unit, a wireless unit, a remote unit, a mobile device, a wireless device, a wireless communications device, a remote device, a mobile subscriber station, an access terminal, a mobile terminal, a wireless terminal, a remote terminal, a handset, a user agent, a mobile client, a client, or some other suitable terminology. A UE 115 *may be* a cellular phone, a personal digital assistant (PDA), a wireless modem, a wireless communication device, a handheld device, a tablet

Further regarding the use of the recited generic base station and mobile device(s), the Supreme Court has held “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 134 S. Ct. at 2358. Our reviewing court provides additional guidance: *See FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1096 (Fed. Cir. 2016) (“[T]he use of generic computer elements like a microprocessor or user interface do not alone transform an otherwise abstract idea into patent-eligible subject matter.”); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (claims reciting, *inter alia*, sending messages over a network, gathering statistics, using a computerized system to automatically determine an estimated outcome, and presenting offers to potential customers found to merely recite “well-understood, routine conventional activities” by either requiring conventional computer activities or routine data-gathering steps (internal citation omitted)).

Therefore, on the record before us, Appellants have not shown that independent claims 1, 16, and 21 (and claims 2–4, 6–12, 17–20, and 22–25 that depend therefrom) add a specific additional limitation beyond the judicial exception that is not “well-understood, routine, and conventional” in the field (*see* MPEP § 2106.05(d)).

In light of the foregoing, we conclude that each of Appellants’ claims 1–4, 6–12, and 16–25, considered as a whole, is directed to a patent-

computer, a laptop computer, a cordless phone, a wireless local loop (WLL) station, *or the like*.

(emphasis added).

ineligible abstract idea that is not integrated into a practical application, and *does not include an inventive concept*.

Accordingly, for the reasons discussed above, we sustain the Examiner's rejection under 35 U.S.C. § 101 of independent claims 1, 16, and 21, and associated dependent claims 2–4, 6–12, 17–20, and 22–25, which depend therefrom.

CONCLUSIONS

The Examiner erred in rejecting claims 13–15 under 35 U.S.C. § 101.

The Examiner did not err in rejecting claims 1–4, 6–12, and 16–25 under 35 U.S.C. § 101, as being directed to a judicial exception, without significantly more.

DECISION

We reverse the Examiner's decision rejecting claims 13–15 under 35 U.S.C. § 101.

We affirm the Examiner's decision rejecting claims 1–4, 6–12, and 16–25 under 35 U.S.C. § 101, as being directed to a judicial exception, without significantly more.

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART