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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DAVID HYMAN and ANDREI M. MARINESCU

Appeal 2018-000452
Application 12/104,466¹
Technology Center 3600

Before JOHNNY A. KUMAR, JOHN A. EVANS, and LARRY J. HUME,
Administrative Patent Judges.

HUME, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a Decision on Appeal under 35 U.S.C. § 134(a) from the Final Rejection of claims 21–29, 31–36, and 38–41, which are all claims pending in the Application. Appellants have canceled claims 1–20, 30, and 37. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is Beats Music, LLC. App. Br. 3.

STATEMENT OF THE CASE²

The Invention

Appellants' disclosed embodiments and claimed invention "relate[] generally to the technical field of communications and, in one example embodiment, to a method, apparatus, and system of advertising in a streaming media environment." Spec. ¶ 1.

Exemplary Claim

Claim 21, reproduced below, is representative of the subject matter on appeal:

21. A method of altering an advertisement based on a media content comprising:

receiving, at a central server, a request from a client device for access to media content, the media content and at least one characteristic of the media content being stored at a content database;

determining, by waveform analysis of the media content, a waveform characteristic, where the waveform characteristic is at least one of a tempo, a harmony, a rhythm, and a melody of the media content;

streaming, the media content from the central server to the client device by a network;

selecting, at least one of a good or a service that matches the at least one characteristic of the media content;

generating, an advertisement marketing the selected at least one good or service in accordance with the match between

² Our Decision relies upon Appellants' Appeal Brief ("App. Br.," filed Apr. 27, 2017); Reply Brief ("Reply Br.," filed Oct. 16, 2017); Examiner's Answer ("Ans.," mailed Aug. 16, 2017); Final Office Action ("Final Act.," mailed Sept. 28, 2016); Advisory Acton ("Adv. Act.," mailed Dec. 21, 2016); and the original Specification ("Spec.," filed Apr. 17, 2008).

the at least one good or service and the at least one characteristic of the media content;

altering, a visual motion and a color scheme of the advertisement based on the at least one waveform characteristic of the media content;

determining a placement of the advertisement at a specific location of the media content; and

additionally streaming, to the client device, the altered advertisement at the specific location of the media content being streamed.

*Rejection on Appeal*³

Claims 21–29, 31–36, and 38–41 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 15.

CLAIM GROUPING

Based on Appellants’ arguments (App. Br. 9–19) and our discretion under 37 C.F.R. § 41.37(c)(1)(iv), we decide the Appeal of the patent-ineligible subject matter of claims 21–29, 31–36, and 38–41 on the basis of representative claim 21.⁴

³ In response to an amendment after final rejection, the Examiner withdrew the indefiniteness rejection of claim 31 under 35 U.S.C. § 112(b). *See Adv. Act. Responsive to Appellants’ further arguments*, the Examiner withdrew the obviousness rejections of claims 21–29, 31–36, and 38–41 under 35 U.S.C. § 103(a). Ans. 3.

⁴ “Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.” 37 C.F.R. § 41.37(c)(1)(iv). In addition, when Appellants do not separately argue the patentability of dependent claims, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

ISSUE

Appellants argue (App. Br. 12–19; Reply Br. 1–7) the Examiner’s rejection of claim 21 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter is in error. These contentions present us with the following issue:

Under the USPTO’s Revised Guidance, informed by our governing case law concerning 35 U.S.C. § 101, is claim 21 patent-ineligible under § 101?

PRINCIPLES OF LAW

A. 35 U.S.C. § 101

“Whether a claim is drawn to patent-eligible subject matter is an issue of law that we review de novo.” *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319, 1331 (Fed. Cir. 2010).

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.⁵ 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., Inc.*, 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

⁵ This threshold analysis of whether a claim is directed to one of the four statutory categories of invention, i.e., a process, machine, manufacture, or composition of matter, is referred to as “*Step 1*” in the patent-eligibility inquiry under § 101.

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 rubber products” (*Diehr*, 450 U.S. at 191); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 183 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 “[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.* (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.”).

Abstract ideas may include, but are not limited to, fundamental economic practices, methods of organizing human activities, and mathematical formulas or relationships. *Alice*, 573 U.S. at 217–21. Under this guidance, we must, therefore, ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful. *Id.* at 217 (“[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.”).

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.* (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.*

B. USPTO Revised Guidance

The PTO recently published revised guidance in the Federal Register concerning the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (January 7, 2019) (hereinafter “Revised Guidance”) (<https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf>).

Under the 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);⁶ and

(2) additional elements that integrate the judicial exception into a practical application (*see* Manual for Patent Examining Procedure (“MPEP”) §§ 2106.05(a)–(c), (e)–(h)).⁷

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 are not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

⁶ Referred to as “*Revised Step 2A, Prong 1*” in the Revised Guidance (hereinafter “*Step 2A(i)*”).

⁷ Referred to as “*Revised Step 2A, Prong 2*” in the Revised Guidance (hereinafter “*Step 2A(ii)*”).

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.⁸

See Revised Guidance.

Step 2A(i) – Abstract Idea

Informed by our judicial precedent, the Revised Guidance extracts and synthesizes key concepts identified by the courts as abstract ideas to explain that the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation:

(a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;

(b) 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); and

(c) Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion).

Id. at 52.

Under the Revised Guidance, if the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas above), then the claim is patent-

⁸ Items (3) and (4) continue to be collectively referred to as “*Step 2B*” of the Supreme Court’s two-step framework, described in *Mayo* and *Alice*.

eligible at *Step 2A(i)*. This determination concludes the eligibility analysis, except in situations identified in the Revised Guidance.⁹

However, if the claim recites a judicial exception (i.e., an abstract idea enumerated above, a law of nature, or a natural phenomenon), the claim requires further analysis for a practical application of the judicial exception in *Step 2A(ii)*.

Step 2A(ii) – Practical Application

If a claim recites a judicial exception in *Step 2A(i)*, we determine whether the recited judicial exception is integrated into a practical application of that exception in *Step 2A(ii)* by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

The seven identified “practical application” sections of the MPEP,¹⁰ cited in the Revised Guidance under *Step 2A(ii)*, are:

- (1) MPEP § 2106.05(a) Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field
- (2) MPEP § 2106.05(b) Particular Machine

⁹ In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in of the Guidance for analyzing the claim should be followed. *See* Guidance, Section III.C.

¹⁰ *See* MPEP § 2106.05(a)–(c), (e)–(h). Citations to the MPEP herein refer to revision [R-08.2017].

- (3) MPEP § 2106.05(c) Particular Transformation
- (4) MPEP § 2106.05(e) Other Meaningful Limitations
- (5) MPEP § 2106.05(f) Mere Instructions To Apply An Exception
- (6) MPEP § 2106.05(g) Insignificant Extra-Solution Activity
- (7) MPEP § 2106.05(h) Field of Use and Technological Environment¹¹

If the recited judicial exception is integrated into a practical application as determined under one or more of the MPEP sections cited above, then the claim is not directed to the judicial exception, and the patent-eligibility inquiry ends. If not, then analysis proceeds to *Step 2B*.

Step 2B – “Inventive Concept” or “Significantly More”

Under our precedent, it is possible that a claim that does not “integrate” a recited judicial exception under *Step 2A(ii)* is nonetheless patent eligible. For example, the claim may recite additional elements that render the claim patent eligible even though a judicial exception is recited in a separate claim element.¹² The Federal Circuit has held claims eligible at the second step of the *Alice/Mayo* test (USPTO *Step 2B*) because the additional elements recited in the claims provided “significantly more” than the recited judicial exception (e.g., because the additional elements were unconventional in combination).¹³ Therefore, if a claim has been

¹¹ MPEP §§ 2106.05(a), (b), (c), and (e) are indicative of integration into a practical application, while MPEP §§ 2106.05(f), (g), and (h) relate to limitations that are not indicative of integration into a practical application.

¹² See, e.g., *Diehr*, 450 U.S. at 187.

¹³ See, e.g., *Amdocs (Israel), Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300, 1304 (Fed. Cir. 2016); *Bascom Global Internet Servs., Inc. v. AT&T*

determined to be directed to a judicial exception under *Revised Step 2A*, we must evaluate the additional elements individually and in combination under *Step 2B* to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself).¹⁴

Under the Revised Guidance, we must consider in *Step 2B* whether an additional element or combination of elements: (1) “Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present;” or (2) “simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.” *See* Revised Guidance, III.B.¹⁵

Mobility LLC, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014).

¹⁴ The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

¹⁵ In accordance with existing *Step 2B* guidance, an Examiner’s finding that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with at least one of the four specific types of evidence required by the USPTO *Berkheimer* Memorandum, as shown above. For more information concerning evaluation of well-understood, routine, conventional activity, *see* MPEP § 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum (USPTO Commissioner for Patents Memorandum dated Apr. 19, 2018, “Changes in

In the *Step 2B* analysis, an additional element (or combination of elements) is not well-understood, routine or conventional unless the Examiner finds an evidentiary basis, and expressly supports a rejection in writing with, one or more 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). . . .

See Berkheimer Memo 3.

The analysis in *Step 2B* further determines whether an additional element or combination of elements:

- (a) Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present; or
- (b) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception,

Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (hereinafter “*Berkheimer Memo*”).

which is indicative that an inventive concept may not be present.

Revised Guidance 56; *see also Berkheimer Memo.*

If the Examiner or the Board determines under *Step 2B* that the element (or combination of elements) amounts to significantly more than the exception itself, the claim is eligible, thereby concluding the eligibility analysis.

However, if a determination is made that the element and combination of elements does not amount to significantly more than the exception itself, the claim is ineligible under *Step 2B*, and the claim should be rejected for lack of subject matter eligibility.

ANALYSIS

Step 1

Claim 21, as a method claim, recites one of the enumerated categories of eligible subject matter in 35 U.S.C. § 101. Therefore, the issue before us is whether it is directed to a judicial exception without significantly more.

Step 2A(i): Does the Claim Recite a Judicial Exception?

The Examiner determined that claim 21 “is directed to the abstract idea of delivering an advertisement from a server to a user based on their selection of media content” (Ans. 4), i.e., “the focus of the inventive concept is directed towards certain methods of organizing human activity, and a mathematical relationships/formulas, which the courts have found to be directed towards an abstract idea.” *Id.* at 5.

We conclude claim 21 does not recite the judicial exceptions of either natural phenomena or laws of nature. We reevaluate, *de novo*, whether claim 21 recites an abstract idea based upon the Revised Guidance.

Claim 21 recites, in pertinent part, “[a] method of altering an advertisement based on a media content,” that includes the steps of:

(1) “receiving . . . a request from a client device for access to media content, the media content and at least one characteristic of the media content being stored at a content database.”

(2) “determining, by waveform analysis of the media content, a waveform characteristic, where the waveform characteristic is at least one of a tempo, a harmony, a rhythm, and a melody of the media content.”

(3) “streaming, the media content from the central server to the client device by a network.”

(4) “selecting, at least one of a good or a service that matches the at least one characteristic of the media content.”

(5) “generating, an advertisement marketing the selected at least one good or service in accordance with the match between the at least one good or service and the at least one characteristic of the media content.”

(6) “altering, a visual motion and a color scheme of the advertisement based on the at least one waveform characteristic of the media content.”

(7) “determining a placement of the advertisement at a specific location of the media content.”

(8) “additionally streaming, to the client device, the altered advertisement at the specific location of the media content being streamed.”

Claims App’x.

The Specification provides context as to what the claimed invention is directed to. In this case, the Specification discloses that the invention generally relates “to the technical field of communications and, in one example embodiment, to a method, apparatus, and system of advertising in a streaming media environment.” Spec. ¶ 1. Appellants’ Abstract more particularly describes the invention as providing for “selecting a good and/or a service being marketed in the advertisement based on an artist, an album, a track, a genre, a type, and/or a tempo of the media content and/or based on interests defined in a user profile associated with the user.” Spec. ¶ 75 (“Abstract”).

Appellants argue “[i]n *Enfish* and *DDR*, the claims were not drawn to an Abstract idea because they provided a specific improvement to an existing technology, and were limited to the computing technology those inventions improved.” App. Br. 15. “In *McRO*, the CAFC utilized preemption to find that since the claims at issue did not preempt any possible Abstract idea,” and “the present claims fit both criteria.” *Id.*

In *Enfish*, our reviewing court held claims directed to a self-referential logical model for a computer database patent-eligible under step one of *Alice*. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1330 (Fed. Cir. 2016). The disclosed technique enabled faster searching and more effective storage of data than previous methods. *Id.* at 1333. The court found the claims directed to “a specific improvement to the way computers operate, embodied in the self-referential table” (*id.* at 1336), and explained that the claims are “not simply directed to *any* form of storing tabular data, but instead are specifically directed to a *self-referential table* for a computer database” that functions differently than conventional databases. *Id.* at 1337.

We find the claims in *Enfish* are not sufficiently similar to the claims on Appeal because the present claims are not directed to a specific improvement to the way computers operate.

Appellants' reliance on *DDR* (App. Br. 15) is misplaced as the recited claims do not improve the computer. In *DDR*, the claims at issue involved, *inter alia*, “web pages displays [with] at least one active link associated with a commerce object associated with a buying opportunity of a selected one of a plurality of merchants” (claim 1 of US 7,818,399). *DDR*, 773 F.3d at 1249. The Federal Circuit found the claims in *DDR* to be patent-eligible under step *two* of the *Alice* test¹⁶ because “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *Id.* at 1257. Specifically, the Federal Circuit found the claims addressed the “challenge of retaining control over the attention of the customer in the context of the Internet.” *Id.* at 1258. We find the rejected claims are dissimilar to *DDR*'s web page with an active link, and the Specification does not support the view that the computer related claim elements are unconventional. *See Spec.* ¶¶ 38, 48, 60–62.

Appellants rely upon *McRO* to allege the claims on Appeal do not preempt any possible abstract idea. In *McRO*, the claims were not held to be abstract because they recited a “specific . . . improvement in computer animation” using “unconventional rules that relate[d] sub-sequences of phonemes, timings, and morph weight sets.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1302–03, 1307–08, 1314–15 (Fed. Cir.

¹⁶ Referred to herein as “*Step 2B*,” addressed *infra*.

2016). In *McRO*, “the incorporation of the claimed rules, not the use of the computer,” improved an existing technological process. *Id.* at 1314. Again, we find the claims on Appeal are not sufficiently similar to the patent-eligible claims in *McRO*.

Regarding preemption, “[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate 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); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (“[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”).

Similar to the Examiner’s conclusions, we determine that claim 21, as a whole, recites a certain method of organizing human activity in the form of a commercial interaction, i.e., targeted advertising and marketing activities. Under the broadest reasonable interpretation standard,¹⁷ we conclude

¹⁷ During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using “the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

limitations (2) through (7), as identified above, recite steps that would ordinarily occur when targeting or tailoring advertising to a particular user based upon the media content. *See* Final Act. 15; Ans. 4. For example, we conclude limitations (4) “selecting, at least one of a good or a service that matches the at least one characteristic of the media content;” (5) “generating, an advertisement marketing the selected at least one good or service in accordance with the match between the at least one good or service and the at least one characteristic of the media content;” (6) “altering, a visual motion and a color scheme of the advertisement based on the at least one waveform characteristic of the media content;” and (7) “determining a placement of the advertisement at a specific location of the media content” are operations that generally occur when developing targeted advertising in a streaming media content environment.

Aside from the “streaming” aspects of the claim, this type of activity, i.e., determining a targeted or tailored advertisement based upon a type of client device-selected media (i.e., type of product), as recited in limitations (2) through (7), for example, includes longstanding conduct that existed well before the advent of computers and the Internet, and could be carried out by a human in their mind or with pen and paper. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011).

Moreover, in *Intellectual Ventures I*, similar in key respects to the claims before us on appeal, tailoring content based on information about the

user¹⁸ has been determined as being directed to an abstract idea and, thus, patent-ineligible.

At step one of the *Alice* framework, it is often useful to determine the breadth of the claims in order to determine whether the claims extend to cover a “fundamental . . . practice long prevalent in our system” *Alice*, 134 S. Ct. at 2356. As noted, the claim relates to customizing information based on (1) information known about the user and (2) navigation data [T]ailoring is “a fundamental . . . practice long prevalent in our system” *Id.* There is no dispute that newspaper inserts had often been tailored based on information known about the customer—for example, a newspaper might advertise based on the customer’s location. Providing this minimal tailoring—e.g., providing different newspaper inserts based upon the location of the individual—is an abstract idea.

Intellectual Ventures I LLC v. Capital One Bank (USA), 792 F.3d 1363, 1369 (Fed. Cir. 2015).¹⁹

Thus, under *Step 2A(i)*, we agree with the Examiner that claim 21’s “method of altering an advertisement based on a media content,” as a whole,

¹⁸ For example, the type of media content streamed to a client device (user) can reasonably be construed as representing a user selection.

¹⁹ Our reviewing court recognizes that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). That need not and, in this case does not, “impact the patentability analysis.” *Id.* at 1241. Further, “[a]n abstract idea can generally be described at different levels of abstraction. . . . The Board’s slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* at 1240–41. Moreover, merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (Determining the pending claims were directed to a combination of abstract ideas.).

and under our Revised Guidance, recites a judicial exception of certain methods of organizing human activity, i.e., a commercial interaction in the form of advertising and marketing activities, and thus, is an abstract idea.

Step 2A(ii): Judicial Exception Integrated into a Practical Application?

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the “practical application” *Step 2A(ii)* in which we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

We conclude limitations (2) through (7) of claim 21 recite abstract ideas as identified in *Step 2A(i)*, *supra*, and none of the limitations integrate the judicial exception of a commercial interaction in the form of advertising and marketing activities into a practical application as determined under one or more of the MPEP sections cited above. We further conclude “receiving” limitation (1) represents insignificant data gathering, and “additionally streaming” limitation (8) represents post-solution activity.

Appellants argue “[w]aveform analysis is performed on the media content to determine a characteristic (e.g., a tempo, a harmony, a rhythm, or a melody) of the streaming media content. The extracted characteristics are then used to alter another media content (e.g., the selected advertisement).” App. Br. 18–19. Appellants further argue, allegedly similar to *Diehr*, the claims “merely use the mathematical equation to improve an existing

technology process ‘by transforming or reducing an article to a different state of thing.’” *Id.* at 19. Appellants further allege:

These features clearly add something more because not only are they additional (nonobvious) over conventional delivery of an advertisement from a server to user based on their selection of media content, but the features actual physical transform (e.g., visual motion and color scheme) the advertisement before it is delivered. Accordingly, the undersigned submits that the claims are also patentable when evaluated under step two of the Mayo/Alice test.

Id.

To the extent Appellants rely on the machine-or-transformation test set forth in *Bilski* (561 U.S. at 604–05), we are not persuaded that claim 21 satisfies the test. Claim 21 recites a method that merely includes the steps of “determining . . . a waveform characteristic . . . [that is] at least one of a tempo, a harmony, a rhythm, and a melody of the media content.” Claim 21 (emphasis added). The determined waveform characteristic is then used to alter “a visual motion and a color scheme of the advertisement.” *Id.*

We conclude the transformation or altering of one advertisement into another advertisement based upon a waveform characteristic is not a transformation or reduction of an article into a different state or thing constituting patent-eligible subject matter.²⁰ “The mere manipulation or reorganization of data . . . does not satisfy the transformation prong.”

²⁰ We further note the recited “waveform analysis,” “where the waveform characteristic is at least one of a tempo, a harmony, a rhythm, and a melody of the media content,” can be carried out in the human mind, as a mental process.

CyberSource, 654 F.3d at 1375. Thus, claim 21 fails to satisfy the transformation prong of the machine-or-transformation test.²¹

Thus, we find the claim as a whole merely uses instructions to implement the abstract idea on a computer or, alternatively, merely uses a computer as a tool to perform the abstract idea. Thus, on this record, Appellants have not shown under the guidance of Manual of Patent Examining Procedure section 2106.05(a) (“Improvements to the Functioning of a Computer or to Any Other Technology or Technical Field”) or section 2106.05(e) (“Other Meaningful Limitations”). Nor do Appellants advance persuasive arguments in the Brief(s) that are directed to the *Bilski* machine-or-transformation test, which would only be applicable to the method (process) claims on appeal. See MPEP §§ 2106.05(b) (Particular Machine) and 2106.05(c) (Particular Transformation).

Therefore, we conclude the abstract idea is not integrated into a practical application, and thus, the claim is directed to the judicial exception.

Step 2B – “Inventive Concept” or “Significantly More”

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the “inventive concept” step. For *Step 2B* we must “look with more specificity at what the claim elements add, in order to determine ‘whether they identify an “inventive concept” in the application of the ineligible subject matter’ to which the claim is directed.” *Affinity Labs*

²¹ The Supreme Court has made clear that a patent claim’s failure to satisfy the machine-or-transformation test is not dispositive of the § 101 inquiry. See *Bilski*, 561 U.S. at 604–05. However, the machine-or-transformation test is “a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101.” *Id.*

of Texas, LLC v. DIRECTV, LLC, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)).

In applying step two of the *Alice* analysis, our reviewing court guides we must “determine whether the claims do significantly more than simply describe [the] abstract method” and, thus, transform the abstract idea into patentable subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any “additional features” in the claims that constitute an “inventive concept,” thereby rendering the claims eligible for patenting even if they are directed to an abstract idea. *Alice*, 573 U.S. at 221. Those “additional features” must be more than “well-understood, routine, conventional activity.” *Mayo*, 566 U.S. at 79.

Limitations referenced in *Alice* that are not enough to qualify as “significantly more” when recited in a claim with an abstract idea include, as non-limiting or non-exclusive examples: adding the words “apply it” (or an equivalent) with an abstract idea²²; mere instructions to implement an abstract idea on a computer²³; or requiring no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.²⁴

²² *Alice*, 573 U.S. at 221–23.

²³ *Alice*, 573 U.S. at 221, *e.g.*, simply implementing a mathematical principle on a physical machine, namely a computer (citing *Mayo*, 566 U.S. at 84–85).

²⁴ *Alice*, 573 U.S. at 225, *e.g.*, using a computer to obtain data, adjust account balances, and issue automated instructions.

Evaluating representative claim 21 under step 2 of the *Alice* analysis, we conclude it lacks an inventive concept that transforms the abstract idea of commercial interactions in the form of advertising and marketing activities into a patent-eligible application of that abstract idea.

The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader*, 811 F.3d at 1325. In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer*, 881 F.3d at 1368.

As evidence of the conventional nature of the recited “method of altering an advertisement based on a media content” in method claim 21, the Specification discloses the client device may be “e.g., mobile device, a desktop computer, a telephone, an Internet appliance, and/or an automobile etc.” Spec. ¶ 38. The Specification further discloses:

[0060] The diagrammatic system view 500 may indicate a personal computer and/or the data processing system in which one or more operations disclosed herein are performed. The processor 502 may be a microprocessor, a state machine, an application specific integrated circuit, a field programmable gate array, etc. (e.g., Intel® Pentium® processor). The main memory 504 may be a dynamic random access memory and/or a primary memory of a computer system.

[0061] The static memory 506 may be a hard drive, a flash drive, and/or other memory information associated with the data processing system. The bus 508 may be an interconnection between various circuits and/or structures of the data processing system. The video display 510 may provide graphical representation of information on the data processing system. The alpha-numeric input device 512 may be a keypad, a

keyboard and/or any other input device of text (e.g., a special device to aid the physically handicapped).

[0062] The cursor control device 514 may be a pointing device such as a mouse. The drive unit 516 may be the hard drive, a storage system, and/ or other longer term storage subsystem. The signal generation device 518 may be a bios and/or a functional operating system of the data processing system. The network interface device 520 may be a device that performs interface functions such as code conversion, protocol conversion and/or buffering required for communication to and from the network 526. The machine readable medium 522 may provide instructions on which any of the methods disclosed herein may be performed. The instructions 524 may provide source code and/or data code to the processor 502 to enable any one or more operations disclosed herein.

Spec. ¶¶ 60–62.

Thus, because the Specification describes the additional elements in general terms, without describing the particulars, we conclude the claim limitations may be broadly but reasonably construed as reciting conventional computer components and techniques, particularly in light of Appellants' Specification, as quoted above.²⁵

With respect to this step of the analysis, Appellants argue:

These [waveform analysis] features clearly add something more because not only are they additional (nonobvious) over conventional delivery of an advertisement from a server to user based on their selection of media content, but the features actual physical transform (e.g., visual motion and color scheme) the advertisement before it is delivered. Accordingly, the undersigned submits that the claims are also patentable when evaluated under step two of the Mayo/Alice test.

App. Br. 19.

²⁵ Claim terms are to be given their broadest reasonable interpretation, as understood by those of ordinary skill in the art and taking into account whatever enlightenment may be had from the Specification. *Morris*, 127 F.3d at 1054.

The Manual of Patent Examining Procedure, based upon our precedential guidance, provides additional considerations with respect to analysis of the well-understood, routine, and conventional nature of the claimed computer-related components.

Another consideration when determining whether a claim recites significantly more than a judicial exception is whether the additional elements amount to more than a recitation of the words “apply it” (or an equivalent) or are more than mere instructions to implement an abstract idea or other exception on a computer. As explained by the Supreme Court, in order to transform a judicial exception into a patent-eligible application, the additional element or combination of elements must do “more than simply stat[e] the [judicial exception] while adding the words ‘apply it’”. *Alice Corp. v. CLS Bank*, 573 U.S. ___, 134 S. Ct. 2347, 2357, 110 USPQ2d 1976, 1982-83 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72, 101 USPQ2d 1961, 1965). Thus, for example, claims that amount to nothing more than an instruction to apply the abstract idea using a generic computer do not render an abstract idea eligible. *Alice Corp.*, 134 S. Ct. at 2358, 110 USPQ2d at 1983. *See also* 134 S. Ct. at 2389, 110 USPQ2d at 1984 (warning against a § 101 analysis that turns on “the draftsman’s art”)

In *Alice Corp.*, the claim recited the concept of intermediated settlement as performed by a generic computer. The Court found that the recitation of the computer in the claim amounted to mere instructions to apply the abstract idea on a generic computer. 134 S. Ct. at 2359-60, 110 USPQ2d at 1984. The Supreme Court also discussed this concept in an earlier case, *Gottschalk v. Benson*, 409 U.S. 63, 70, 175 USPQ 673, 676 (1972), where the claim recited a process for converting binary-coded decimal (BCD) numerals into pure binary numbers. The Court found that the claimed process had no substantial practical application except in connection with a computer. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676. The claim simply stated a judicial exception (e.g., law of nature or

abstract idea) while effectively adding words that “apply it” in a computer. *Id.*

MPEP § 2106.05(f) (“Mere Instructions To Apply An Exception”).

With respect to the *Step 2B* analysis, we conclude, similar to *Alice*, the recitation of a “method of altering an advertisement based on a ;media content” that includes a “central server,” a “client device,” and a “network” (claim 21) as argued by Appellants, and similarly for claims 31 and 38, is simply not enough to transform the patent-ineligible abstract idea here into a patent-eligible invention under *Step 2B*. See *Alice*, 573 U.S. at 221 (“[C]laims, which merely require generic computer implementation, fail to transform [an] abstract idea into a patent-eligible invention.”).

We conclude the claims fail the *Step 2B* analysis because claim 21, in essence, merely recites various computer-based elements along with no more than mere instructions to implement the identified abstract idea using the computer-based elements.

Therefore, because the claims fail under both the *Step 2A* and *Step 2B* analyses, we sustain the Examiner’s § 101 rejection of independent claims 21, and grouped claims 22–29, 31–36, and 38–41, not argued separately, and which fall therewith. See Claim Grouping, *supra*.

REPLY BRIEF

To the extent Appellants *may* advance new arguments in the Reply Brief (Reply Br. 1–7) not in response to a shift in the Examiner’s position in the Answer, we note arguments raised in a Reply Brief that were not raised in the Appeal Brief or are not responsive to arguments raised in the

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Examiner's Answer will not be considered except for good cause (*see* 37 C.F.R. § 41.41(b)(2)), which Appellants have not shown.

CONCLUSION

Under our Revised Guidance, governed by relevant case law, claims 21–29, 31–36, and 38–41 are patent-ineligible under 35 U.S.C. § 101, and we sustain the rejection.

DECISION

We affirm the Examiner's decision rejecting claims 21–29, 31–36, and 38–41.

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