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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEAN-SEBASTIEN TREMBLAY,
SEBASTIEN DUMONT, ALI DUFOUR, and
JEAN-FRANCOIS LAGACE

Appeal 2018-001131
Application 12/644,919
Technology Center 3600

Before JENNIFER S. BISK, JOYCE CRAIG, and ALEX S. YAP,
Administrative Patent Judges.

CRAIG, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 2, 8, 9, 12, 13, 15, 16, 18, 20–23, and 30–33, which are all of the claims pending in this application.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ According to Appellants, the real party in interest is Carefusion 303, Inc. App. Br. 2.

² Claims 3–7, 10, 11, 14, 17, 19, 24–29, and 34 have been canceled. App. Br. 24–31 (Claims App'x).

INVENTION

Appellants' invention relates to an adaptable medical workflow system. Abstract. Claim 1 is illustrative and reads as follows:

1. A method of adapting a medical workflow of a healthcare worker, the method comprising the steps of:

 authenticating a medical device;

 receiving by a computer processor, a message, the message being one of a plurality of messages, from the medical device, each of the plurality of messages comprising an identification of a medical object;

 associating the received message with a session comprising a span of time within which the received message is received;

 retrieving, based on the received identification, with the computer processor, at least two medical action options and at least one state from a database, the at least one state corresponding to the identified medical object, the database comprising:

 (i) a plurality of medical object identifications;

 (ii) a plurality of states, each state associated with one or more of the plurality of medical object identifications, and the plurality of states including at least one of a patient state or a medication state; and

 (iii) a plurality of medical action options each associated with one or more of the plurality of medical object identifications;

 determining a probability associated with each of the retrieved medical action options;

 selecting, by the computer processor, possible actions from the retrieved medical action options, the possible actions including a first possible action and a second possible action to follow the first possible action, wherein the selecting is based on information related to past actions by an identified healthcare worker for the medical object in a previous workflow performed by the identified healthcare worker, the selecting is further based on all messages received during the session, and the selecting is also based on the retrieved states; and

communicating to an interface on the medical device, a menu comprising the possible actions, wherein the possible actions are prioritized in the menu based on respective probabilities and disabled in the menu based on the retrieved states.

REJECTIONS

Claims 1, 2, 8, 9, 12, 13, 15, 16, 18, 20–23, and 30–33 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception, without significantly more. Final Act. 6–9.

Claims 1, 2, 8, 12, 13, 15, 16, 18, 20, 22, and 30–33³ stand rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over the combination of Holland et al. (US 2005/0144043 A1; published June 30, 2005) (“Holland”), Stoval, III et al. (US 2009/0178004 A1; July 9, 2009) (“Stoval”), Crampe et al. (US 2004/0169673 A1; published Sept. 2, 2004) (“Crampe”), Beck et al. (US 2002/0178126 A1; published Nov. 28, 2002) (“Beck”), and Martin et al. (US 6,338,066 B1; issued Jan. 8, 2002) (“Martin”). Final Act. 9–19.

Claims 9, 21, and 23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Holland, Stoval, Crampe, Beck, Martin, and Miikkulainen et al. (US 2006/0112050 A1; published May 25, 2006) (“Miikkulainen”). Final Act. 18–19.

³ Although the Examiner identified claims 1, 2, 8, 12, 13, 15, 16, 18, 20, 22, and 24–29 in the rejection header, the Examiner also analyzed claims 30–33 in the body of the rejection. Final Act. 10, 17. Moreover, claims 24–29 have been canceled. We understand the Examiner to have rejected claims 1, 2, 8, 12, 13, 15, 16, 18, 20, 22, and 30–33 under 35 U.S.C. § 103(a), and we correctly identify the claims here for clarity.

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) (citation omitted).

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.⁴ However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “laws 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)).

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.”).

⁴ 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.

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 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 “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). 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.”).

However, the Federal Circuit has held claims ineligible as directed to an abstract idea when they merely collect electronic information, display information, or embody mental processes that could be performed by humans. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collecting cases). At the same time, “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. 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.” *Id.* 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.* (alteration 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);⁵ and

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).⁶

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

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.⁷

⁵ Referred to as “*Revised Step 2A, Prong 1*” in the Guidance (hereinafter “*Step 2A(i)*”).

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

⁷ 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*.

See Revised Guidance.

Step 2A(i) – Abstract Idea

Informed by our judicial precedent, the recent 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).

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-eligible at *Step 2A(i)*. This determination concludes the eligibility analysis, except in situations identified in the Revised Guidance.⁸

⁸ 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 the Guidance for analyzing the claim should be followed. See Guidance, Section III.C.

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.⁹

If the recited judicial exception is integrated into a practical application as determined under one or more of the cited MPEP sections, 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 the Revised Guidance, it is possible that a claim that does not “integrate” a recited judicial exception into a practical application 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.¹⁰ The Federal

⁹ See MPEP § 2106.05(a)–(c), (e)–(h). Citations to the MPEP herein refer to revision [R-08.2017].

¹⁰ See, e.g., *Diehr*, 450 U.S. at 187.

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).¹¹ Therefore, if a claim has been 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).¹²

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

¹¹ See, e.g., *Amdocs, Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300, 1304 (Fed. Cir. 2016); *BASCOM Glob. Internet Servs., Inc. v. AT&T 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).

¹² 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).

that an inventive concept may not be present.” See Revised Guidance, III.B.¹³

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

Revised Guidance; *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,

¹³ In accordance with existing *Step 2B* guidance, an Examiner’s conclusion that an additional element (or combination of elements) is well-understood, routine, conventional activity must be supported with a factual determination. 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. 9, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (hereinafter “*Berkheimer Memo*”).

the claim is ineligible under *Step 2B*, and the claim should be rejected for lack of subject matter eligibility.

ANALYSIS

Rejection of Claims under § 101

The Examiner concluded claim 1 recites the abstract idea of retrieving and selecting possible (workflow) action options corresponding to an identified medical object based on past actions taken by an identified healthcare worker during a particular span of time, and a state corresponding to the medical object, and communicating to an interface a menu of the possible workflow action options that are prioritized based on a probability value and disabled based on the state.

Final Act. 6 (emphasis omitted). The Examiner further concluded the claim recites a process for organizing human activity (i.e., managing human behavior by selecting tasks based on past actions and the state of the medical object). *Id.* (citing *Accenture Global Services, GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1344 (Fed. Cir. 2013)).

The Specification provides context as to what the claimed invention is directed to. In this case, the Specification discloses that the invention is directed to techniques for adapting a medical workflow. *See* Spec. ¶¶ 4–8.

Claim 1 recites, in pertinent part, the steps of:

associating the received message with a session comprising a span of time within which the received message is received;

retrieving, based on the received identification, [with the computer processor], at least two medical action options and at least one state from a database, the at least one state corresponding to the identified medical object, the database comprising:

(i) a plurality of medical object identifications;

(ii) a plurality of states, each state associated with one or more of the plurality of medical object identifications, and the plurality of states including at least one of a patient state or a medication state; and

(iii) a plurality of medical action options each associated with one or more of the plurality of medical object identifications;

determining a probability associated with each of the retrieved medical action options;

selecting[, by the computer processor,] possible actions from the retrieved medical action options, the possible actions including a first possible action and a second possible action to follow the first possible action, wherein the selecting is based on information related to past actions by an identified healthcare worker for the medical object in a previous workflow performed by the identified healthcare worker, the selecting is further based on all messages received during the session, and the selecting is also based on the retrieved states;.

Claims App'x (brackets added).

This type of activity, i.e., associating a message with a session, retrieving action options and other information from a database, determining a probability associated with each action option, and selecting from the action options based on past actions of a healthcare worker and other information, as recited in the limitations above, includes conduct that would ordinarily occur when managing personal behavior. For example, selecting actions for a healthcare worker based on the healthcare worker's past actions would occur when managing the personal behavior of a healthcare worker.

Thus, under *Step 2A(i)*, we agree with the Examiner that the method recited in claim 1 recites a judicial exception of managing personal behavior, which is a method of organizing human activity and, thus, an abstract idea. Independent claims 12 and 15 recite similar limitations, and we also

conclude those claims are directed to a judicial exception of managing personal behavior, which is a method of organizing human activity and, thus, 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.

None of the limitations integrates the managing personal behavior of associating a message with a session, retrieving action options and other information from a database, determining a probability associated with each action option, and selecting from the action options based on past actions of a healthcare worker and other information into a practical application as determined under one or more of the MPEP sections cited above. 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”). *See App. Br. 12.* In reviewing the record, we find the claims on appeal are silent regarding specific limitations directed to an improved

computer system, processor, memory, network, database, or Internet. Therefore, we find Appellants' claimed invention 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*, 773 F.3d at 1257 (emphasis added).

We also are not persuaded by Appellants' argument that the present application includes features that limit the claims to the specific process of adapting a medical workflow of a healthcare worker, including specific steps, and does not preempt other approaches for achieving the same result. App. Br. 15 (citing *McRO, Inc. v. Bandai Namco Games America, Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)).

In *McRO*, the claimed process used a combined order of specific rules that rendered information in a specific format that was applied to create a sequence of synchronized, animated characters. *McRO*, 837 F.3d at 1315. Notably, the recited process automatically animated characters using particular information and techniques—an improvement over manual three-dimensional animation techniques that was not directed to an abstract idea. *Id.* at 1316. The *McRO* court determined that *McRO*'s claim was not directed to an abstract idea because it "uses the limited rules in a process specifically designed to achieve an improved technological result" over "existing, manual 3-D animation techniques." *Id.*

Unlike in *McRO*, the recited "method of adapting a medical workflow of a healthcare worker" is not a rule-based improvement of a technological process. Additionally, the claims in *McRO* were drawn to improvements in the operation of a computer at a task, rather than applying a computer

system to perform generic data manipulation steps, as in Appellants' claim 1. *See id.* at 1314.

We are also not persuaded by Appellants' arguments that "the combination of elements impose meaningful limits in that the steps performed by the computer processor or server are applied to improve performance of the medical device or scanner." App. Br. 16 (citing *SiRF*). Appellants' arguments are directed to the 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). In *SiRF*, the Federal Circuit held "that the claims at issue are properly directed to patentable subject matter as they explicitly require the use of a particular machine (a GPS receiver) and could not be performed without the use of such a receiver." *SiRF Tech.*, 601 F.3d at 1333; *see id.* at 1332 (discussing the machine-or-transformation test from *In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008), *aff'd Bilski v. Kappos*, 561 U.S. 593 (2010)). Appellants have not persuaded us that a particular machine is required to perform the method recited in claim 1. A general purpose computer that applies a judicial exception by use of conventional computer functions does not qualify as a particular machine. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716–17 (Fed. Cir. 2014).

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

In applying step two of the *Alice* analysis, we “determine whether the claims do significantly more than simply describe [the] abstract method” and thus transform the abstract idea into patentable subject matter. *Ulramercial*, 772 F.3d at 715 (citation omitted). 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.

Evaluating representative claim 1 under step 2B of the *Alice* analysis, we conclude it lacks an inventive concept that transforms the abstract idea of transferring funds into a patent-eligible application of that abstract idea.

The recited limitation “authenticating a medical device” is conventional because the Specification describes that “medical information reception section 202 performs authentication of medical device 102 to ensure that medical device 102 is not a rogue medical device.” *See* Spec. ¶ 31. The Specification indicates that authenticating a medical device is sufficiently well-known that the Specification does not need to describe the particulars of such additional element to satisfy 35 U.S.C. § 112(a). *See Berkheimer* Memo § III.A.1.

We also find the recited limitations “receiving by a computer processor, a message, the message being one of a plurality of messages,

from the medical device, each of the plurality of messages comprising an identification of a medical object” and “communicating to an interface on the medical device, a menu comprising the possible actions, wherein the possible actions are prioritized in the menu based on respective probabilities and disabled in the menu based on the retrieved states” are well-understood, routine, and conventional activity because courts have found that receiving or transmitting data over a network is a well-understood, routine, and conventional computer function. *See, e.g., OIP Techs., Inc., v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (sending messages over a network); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (computer receives and sends information over a network); *see also* MPEP § 2106.05(d).

As evidence of the conventional nature of the recited “computer processor” in claim 1, the Specification describes that “[b]y way of illustration and not limitation, in certain configurations server 100 predicts workflow of a healthcare worker using a software application running on a processor of server 100.” Spec. ¶ 25. The Specification also describes the “medical device” recited in claim 1 as “a computer, a mobile phone, a laptop computer, a thin client device, a personal digital assistant (PDA), a portable computing device, a barcode scanner, a radio frequency identification (RFID) receiver or another device with a processor.” Spec. ¶ 26.

The Specification describes the “non-transitory, machine-readable medium encoded with instructions for execution by a computer processor,” recited in claim 12, only in the summary of the invention section. Spec. ¶ 6. The Specification describes the “system” and “database” recited in system

claim 15 in general terms, without providing particulars. *See* Spec. ¶¶ 24–25 (“system”), 25, 36 (“database”).

Because the Specification describes these additional elements in general terms, without describing the particulars, we conclude the claim limitations may be broadly but reasonably construed as reciting well-understood, routine, and conventional computer components and techniques.¹⁴ The Specification describes the elements in a manner that indicates the additional elements are sufficiently well-known that the specification does not need to describe the particulars in order to satisfy 35 U.S.C. § 112(a). *See Berkheimer* Memo § III.A.1.

Appellants argue that the recitations, when viewed as an ordered combination, amount to significantly more than the allegedly routine and generic functions listed by the Examiner, and provide a “non-conventional and non-generic arrangement of known, conventional pieces,” as identified by the courts. App. Br. 14–15. Appellants, however, have not persuaded us that the combination of additional elements amounts to a non-conventional and non-generic arrangement that provides a technical improvement in the art. App. Br. 21–22; *see BASCOM*, 827 F.3d at 1350–51 (holding that the combination of additional elements reciting generic computer network or Internet components, amounted to significantly more because the arrangement of the additional elements provided a technical improvement in the art).

¹⁴ 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. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

Thus, with respect to the Step 2B analysis, we conclude, similar to *Alice*, the recitation of a method for collecting and processing an electronic signature and payment data during a financial transaction that includes the additional limitations discussed above is simply not enough to transform the patent-ineligible abstract idea here into a patent-eligible invention. *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 Step 2B because claim 1, in essence, recites various computer-based elements along with no more than mere instructions to implement the identified abstract idea using the computer-based elements.

Accordingly, because the claims are directed to an abstract idea, without significantly more, we sustain the Examiner’s § 101 rejection of independent claims 1, 12, and 15, and grouped claims 2, 8, 9, 13, 16, 18, 20–23, and 30–33, not argued separately. *See App. Br. 17.*

Rejection of Claims under § 103(a)

We have reviewed the § 103(a) rejections of claims 1, 2, 8, 9, 12, 13, 15, 16, 18, 20–23, and 30–33 in light of Appellants’ arguments that the Examiner erred. We have considered in this decision only those arguments Appellants actually raised in the Briefs. Any other arguments Appellants could have made, but chose not to make, in the Briefs are waived. *See 37 C.F.R. § 41.37(c)(1)(iv).*

Appellants’ arguments are not persuasive of error. We agree with and adopt as our own the Examiner’s findings of facts and conclusions as set forth in the Answer (Ans. 14–17) and in the Action from which this appeal

was taken (Final Act. 10–19). We provide the following explanation for emphasis.

With respect to independent claim 1, Appellants contend the cited portions of Martin do not teach or suggest workflow action option predictions based on the user’s history during a particular session, as claim 1 requires. App. Br. 19. In particular, Appellants argue that Martin, alone or in combination with the other applied references, fails to teach or suggest “associating the received message with a session comprising a span of time within which the received message is received,” with “each of the messages comprising an identification of a medical object,” and

selecting, by the computer processor, possible actions, ... wherein the selecting is based on information related to past actions by an identified healthcare worker for the medical object in a previous workflow performed by the identified healthcare worker, the selecting is further based on all messages received during the session, and the selecting is also based on the retrieved states,

as recited in claim 1. *Id.* Appellants argue Martin teaches that predictions are based on population groups. *Id.*

We are not persuaded that the Examiner erred. Nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Here, Appellants attack Martin individually, even though the Examiner relied on the combination of Martin, Holland, Stoval, Crampe, and Beck in rejecting claim 1. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)) (“[T]he test for obviousness is what the combined teachings of the references would have suggested to

those having ordinary skill in the art.”). The test for obviousness is not whether the claimed invention is expressly suggested in any one or all of the references, but whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the combined teachings of those references. *See In re Keller*, 642 F.2d at 425.

The Examiner found Holland teaches a caregiver portable computing device that scans a caregiver badge to provide identification information to a central information system, which receives the identification information, verifies that the caregiver is an authorized user, retrieves the tasks the caregiver is authorized and scheduled to perform, and communicates those tasks to the caregiver portable computing device. Ans. 15; Final Act. 10–11. The Examiner further found Stoval teaches selecting workflow tasks based on past tasks performed by the healthcare worker, Crampe teaches a user interface for computer assisted surgery that includes displaying respective steps that the surgical team must follow, and Beck teaches authenticating medical devices based on the network address, serial number and stored authentication keys. Ans. 15; Final Act. 12–14.

The Examiner relied on Martin as teaching “associating the received message with a session comprising a span of time within which the received message is received,” and selecting a possible action, where the selecting is further based on all messages received during the session. Final Act. 14–15 (citing Martin col. 3:8–12, 55–60, col. 4:42–67; col. 5:9–22, 31–40; col. 8: 20–33, 43–57; and col. 9:7–16).

Because Appellants’ arguments are not commensurate in scope with the rejection actually made by the Examiner (*see* Ans. 14–15), we are not persuaded that the Examiner erred in finding that the combination of Martin,

Holland, Stoval, Crampe, and Beck teaches or suggests the disputed limitations.

Appellants next contend the Examiner erred because Martin teaches away from the identification of individual web surfers. App. Br. 20 (citing Martin col. 1:34–58).

We disagree. While the Background section of Martin, cited by Appellants, describes certain methods of identifying web surfers, Appellants have not identified where Martin actually criticizes, discredits, or otherwise discourages “associating the received message with a session comprising a span of time within which the received message is received” and “selecting a possible action based on all messages received during the session,” which is what the Examiner relied on Martin to teach. See *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004); *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (“A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not ‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed”) (citing *Fulton*).

Appellants further contend the Examiner erred because “[t]he field of endeavor of the claimed invention is medical devices and the field of endeavor of Martin is internet surfing.” App. Br. 21. Thus, Appellants contend, Martin is not analogous art to the claimed invention. *Id.*

Whether a prior art reference is “analogous” turns on a two-prong test: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Klein*, 647

F.3d 1343, 1348 (Fed. Cir. 2011) (citation and quotations omitted.). “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). The Supreme Court additionally guides that “familiar items may have obvious uses beyond their primary purposes.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 402 (2007).

Applying this reasoning to the facts presented here, we find Martin satisfies the first prong of the two-prong “analogous art” test articulated by the Court in *Klein*. Because Martin teaches predicting online behavior in a web-based system, we find Martin is in the same general field of endeavor as the claimed invention. *See* Claim 1. Given this evidence, we find unpersuasive Appellants unsupported allegation that “[t]he field of endeavor of the claimed invention is medical devices and the field of endeavor of Martin is internet surfing.” App. Br. 21. Claim 1 is directed to “adapting a medical workflow of a healthcare worker” based in part on past actions by the healthcare worker. Thus, we do not agree with Appellants that the field of endeavor of claim 1 is a medical device.

In the alternative, we find Martin satisfies the second prong of the *Klein* “analogous art” test, because we find it is “reasonably pertinent to the particular problem with which the inventor is involved.” *Klein*, 647 F.3d at 1348. In particular, we note Martin (col. 3:7–12) teaches “select[ing] one link from a set of potential links based on the predicted behavior of the surfer and the potential that the surfer will want to use the link presented.”

In the Reply Brief, Appellants raise the new argument that “Holland fails to teach or suggest a patient state or a medication state.” Reply Br. 6. Appellants, however, have waived this argument because they presented it for the first time in the Reply Brief, without a showing of good cause. *See* 37 C.F.R. § 41.41(b)(2) (2012); accord *Ex parte Borden*, 93 USPQ2d 1473, 1473–74 (BPAI 2010 (informative opinion) (“[T]he reply brief [is not] an opportunity to make arguments that could have been made in the principal brief on appeal to rebut the Examiner's rejections, but were not.”)). Appellants had the opportunity to raise the issue in the Appeal Brief, as the Examiner in the Final Action relied on Holland as teaching the required state. *See* Final Act. 10.

Accordingly, we sustain the Examiner’s § 103(a) rejection of independent claim 1, as well as the Examiner’s § 103(a) rejection of independent claims 12 and 15, which Appellants argue are patentable for similar reasons. App. Br. 22. We also sustain the Examiner’s rejection of dependent claims 2, 8, 9, 13, 16, 18, 20–23, and 30–33, not argued separately. *Id.*

DECISION

We affirm the Examiner’s decision rejecting claims 1, 2, 8, 9, 12, 13, 15, 16, 18, 20–23, and 30–33.

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