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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROY JARED MAULDIN, BRIAN J. KIRBY, and JOHN B. JONES JR.

Appeal 2018-008723
Application 14/224,725
Technology Center 3600

Before JOHN A. EVANS, JOHN P. PINKERTON, and MICHAEL M. BARRY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–13, which are all the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

[1] Appellants identify Integrated Medical Systems International, Inc. as the real party in interest. App. Br. 3.

Introduction

The Specification provides that "[i]n the field of medical equipment . . . , regular maintenance and repair is important to provide a continuing high degree of reliability and operability," but "repairing medical instruments due to improper use or accident is time consuming and costly." Spec. ¶ 2−3. According to Appellants, "[b]etter care of the instruments can help to minimize or reduce these costs, but many organizations often lack an astute awareness of how to efficiently manage and improve maintenance and care of medical instruments." *Id.* ¶ 3. Therefore, Appellants' invention addresses these problems by disclosing "systems and methods for analyzing repair histories of medical devices in order to efficiently identify device care deficiencies that, if addressed, can help to reduce future repair costs." *Id.* ¶ 8.

Claims 1 and 6 are independent; claim 6 is representative:

> 6. A method for identifying deficiencies in medical device care, comprising:
>
> tracking, via at least one interface, repairs of a plurality of medical devices maintained by a healthcare provider;
>
> storing device repair data in memory based on the tracking, the device repair data indicating a repair history for the plurality of medical devices, wherein the device repair data includes, for each of a plurality of the repairs, a first op code indicative of whether the respective repair was preventable and a second op code indicative of a type of repair performed on a medical device;
>
> comparing the device repair data to industry repair data indicative of a plurality of industry-based statistics about repair histories for medical devices;
>
> automatically identifying a deficiency in medical device care based on the comparing and the first and second op codes;
>
> automatically providing a device care recommendation based on the identified deficiency; and

displaying, via an output interface, an indication of the device care recommendation.

App. Br. 26–27 (Claims App'x).

The Pending Rejections

1. The Examiner rejected claims 1–13 under 35 U.S.C. § 101 as directed to a patent-ineligible judicial exception. Final Act. 3–12; *see also* Ans. 3–5.

2. The Examiner rejected claims 1–13 under 35 U.S.C. § 103 as being unpatentable over Summers (US 2005/0065842 A1; Mar. 24, 2005). Final Act. 14–24; *see also* Ans. 5–9.

3. The Examiner rejected claims 1–13 under 35 U.S.C. § 103 as being unpatentable over Summers and either Applicant Admitted Prior Art ("AAPA") or Hoffman et al. (US 2006/0258955 A1; Nov. 16, 2006) ("Hoffman"). Final Act. 24–29.

ANALYSIS

A. The § 101 rejection

Appellants argue the Examiner erred in the § 101 rejection of independent claims 1 and 6, which recite similar limitations, and present no separate arguments for dependent claims 2–5 and 7–13 (which, accordingly, stand or fall with their respective parent independent claims). App. Br. 4–7; 37 C.F.R. § 41.37(c)(1)(iv). For our analysis, we select independent claim 6 as representative.

§ 101 General Legal Framework and the USPTO Guidance

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. The Supreme Court, however, has long interpreted 35 U.S.C. § 101 to include

implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted).

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*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk."). Concepts determined to be abstract ideas, and, thus, patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" in *Diamond v. Diehr*, 450 U.S. 175, 191 (1981).

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 (internal 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 requiring generic computer implementation fails to transform that abstract idea into a patent-eligible invention." *Id.* at 212.

In early 2019, the PTO published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50–57 (Jan. 7, 2019) ("Guidance"). Under the Guidance, we first look, in step one of the *Alice/Mayo* analysis, 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) ("prong one"); and
>
> (2) additional elements that integrate the judicial exception into a practical application ("prong two") (*see* MPEP § 2106.05(a)–(c), (e)–(h)).[2]

See Guidance, 84 Fed. Reg. at 53–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim adds "significantly more" under step two of the *Alice/Mayo* analysis, i.e., 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 simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Guidance, 84 Fed. Reg. at 56.

[2] All references to the MPEP are to the 9th ed., Rev. 08.2017 (Jan. 2018).

Alice/Mayo *Step One, Guidance Step 2A, Prong One (Do the Claims Recite a Patent-Ineligible Concept?)*

Under the first prong of step 2A of the Guidance, we determine whether the independent claims recites a patent-ineligible concept.

Claim 6 recites a method for identifying deficiencies that tracks repairs; stores repair data based on the tracking, the repair data indicating repair history and including information indicative of whether the repair was preventable and the type of repair performed; compares the repair data to industry repair data indicative of repair statistics and histories; identifies a deficiency based on the comparing and the repair data information; provides a care recommendation based on the identified deficiency; and displays an indication of the care recommendation.[3]

Under its broadest reasonable interpretation, claim 6 describes a method of tracking repair data for an item and comparing it to historical repair data for the item in order to identify a deficiency in care for the item,

[3] To determine whether the claims recite a judicial exception, our analysis under prong one of the Guidance sets aside high-level technological limitations in the claims such as "at least one interface," "a plurality of medical devices," "memory," "automatically," "an output interface," and "logic" (claim 1). We consider such limitations in our analysis under prong two of the Guidance (for determining whether a claim that recites a judicial exception is directed to that exception, or whether instead it integrates the exception into a practical application) and under step two of the *Alice/Mayo* framework (for determining whether a claim that is directed to a judicial exception recites significantly more than that exception). Although at this stage of our analysis we put aside these high-level technological limitations, we remain mindful that we must not express the basic concept of the claim in a way that is "untethered from the language of the claims." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016). Our analysis that follows assesses what the claims otherwise recite at the same level of generality or abstraction expressed in the claims. *Id.*

providing an item care recommendation, and displaying an indication of the recommendation. This is a concept relating to the collection, comparison, analysis, identification, and display of data, which a person can perform mentally or with only pen and paper. Thus, claim 6 describes a method for implementing a mental process that courts have found constitutes an abstract idea. Guidance, 84 Fed. Reg. at 52 (describing mental processes as "concepts performed in the human mind (including an observation, evaluation, judgment, opinion)"), *see also id.* at 52 n.14 (citing, e.g., *Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) ("Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person's mind.")). For example, claim 6 is similar to those at issue in *SmartGene*, where the Federal Circuit determined that "the claim at issue here involves a mental process excluded from section 101: the mental steps of comparing new and stored information and using rules to identify medical options." *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950, 955 (Fed. Cir. 2014).[4]

Accordingly, we agree with the Examiner's characterization of the claims as reciting "the collection, analysis, and display of data, which is considered an abstract idea." Ans. 3; *see also* Final Act. 8 (determining that claim 6 recites the concept of "**identifying conditions (deficiencies) in a**

[4] *See also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (characterizing collecting information, analyzing information by steps people go through in their minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas).

device caring activity (maintenance/repair)," which may be characterized as "an idea of itself").

Appellants argue the Examiner erred by "fail[ing] to 'consider[] the claims *in their entirety* to ascertain their character *as a whole* is directed to excluded subject matter" but instead "only look[ing] to the first few words of the claimed limitations" (App. Br. 10) and not the "steps that go beyond manipulation or generation of information" (*id.* at 12).[5] We do not agree. The Examiner has identified and considered the underlying steps of claim 6 as a basis for describing and explaining the recited abstract ideas. *See, e.g.*, Final Act. 8–9; Ans. 3. For example, when describing claim 6 as reciting the abstract concept of collecting, analyzing, and displaying data, the Examiner identifies and considers the underlying claim steps by explaining that:

> [t]he scope of the current claim is 'identifying conditions (i.e. deficiencies) in a medical device care based on repair histories' by collecting information of a device, analyzing collected information by comparing the collected information to a standard (industry-based statistics) to identify a deviation from the standard and generate a result, provide a recommendation based on the analysis result.

Ans. 3.[6] Contrary to Appellants' assertions, the Examiner's approach is consistent with Supreme Court and Federal Circuit precedent, which support reasonably synthesizing the claim language when identifying a recited

[5] *See also id.* ("The Examiner has attempted to distill the claim down to a 'simple' concept, assigned this concept to be the abstract idea, and has selectively removed large portions of claim language to fit the claims to this identified concept.").

[6] *See also* Final Act. 9 (describing claim 6 as reciting the abstract concept of manipulating existing information to generate additional information and mapping the elements of this concept to the associated limitations of claim 6).

abstract idea. *See, e.g.*, *Bilski*, 561 U.S. at 611 ("Claims 1 and 4 in [P]etitioners' application explain the basic concept of hedging, or protecting against risk. . . . The concept of hedging, described in claim 1 and reduced to a mathematical formula in claim 4, is an unpatentable abstract idea, just like the algorithms at issue in *Benson* and *Flook*.").[7] We note that those claim elements not addressed while identifying the recited abstract idea have been addressed as additional limitations in *Step 2A, Prong Two* or *Step 2B* of the § 101 analysis.

Guidance Step 2A, Prong One Conclusion

Thus, in accordance with the Guidance, claim 6 recites abstract ideas that fall within the mathematical concepts and mental processes groupings. *See* Guidance, 84 Fed. Reg. at 52. Because claim 6 recites a judicial exception (i.e., an abstract idea), we next proceed to the Guidance step 2A prong two to consider whether each of the claims integrates its recited judicial exception into a practical application. *See* Guidance, 84 Fed. Reg. at 54. Before proceeding, we note that any differences between the abstract ideas the Examiner has identified and the abstract ideas we identify for claim

[7] *See also Alice*, 573 U.S. at 219 (laying out the recited steps of the claimed method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk and concluding that "[o]n 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."); *Smart Sys. Innovations*, 873 F.3d at 1371 n.8 (concluding that the district court did not err in determining that claims covered the abstract concept of paying for a subway or bus ride with a credit card: "[t]he District Court here, as we have instructed, looked to the language of the claims to discern the character of the patent.").

6 do not give rise to a reversible error—they do not amount to a change in the thrust of the rejection.

Alice/Mayo Step One, Guidance Step 2A, Prong Two
(Do the Claims Integrate the Abstract Idea into a Practical Application?)

To determine whether the judicial exception is integrated into a practical application, we identify whether there are "*any additional elements recited in the claim beyond the judicial exception(s)*" and evaluate those elements to determine whether they integrate the judicial exception into a practical application. Guidance, 84 Fed. Reg. at 54–55 (emphasis added); *see also* MPEP § 2106.05(a)–(c), (e)–(h).

Claim 6 recites the computer-related terms of "at least one interface," "a plurality of medical devices," "memory," "automatically," and "an output interface."[8] Claim 6 combines these technology-related limitations (shown in *italics*) with the limitations reciting the judicial exception as follows[9]:

> 6. A method for identifying deficiencies in *medical device* care, comprising:
>
> tracking, *via at least one interface*, repairs *of a plurality of medical devices* maintained by a healthcare provider;
>
> storing *device* repair data *in memory* based on the tracking, the *device* repair data indicating a repair history for *the plurality of medical devices*, wherein the *device* repair data includes, for each of a plurality of the repairs, a first op code indicative of whether the respective repair was preventable and a second op code indicative of a type of repair performed *on a medical device*;

[8] Similarly, independent claim 1 recites computer-related terms of "at least one interface," a "memory," "a plurality of medical devices," and "logic."
[9] Independent claim 1 similarly combines its technological limitations with its abstract idea limitations.

> comparing the *device* repair data to industry repair data indicative of a plurality of industry-based statistics about repair histories *for medical devices*;
>
> *automatically* identifying a deficiency in medical *device* care based on the comparing and the first and second op codes;
>
> *automatically* providing a *device* care recommendation based on the identified deficiency; and
>
> displaying, *via an output interface*, an indication of the *device* care recommendation.

Although these computer-related recitations add a certain level of specificity to the claim, they do not constitute an improvement to "the functioning of the computer itself" or "any other technology or technical field;" rather, they constitute use of generic components for automating otherwise routine human activities. *See* MPEP § 2106.05(a) (quoting *Alice*, 573 U.S. at 225). Neither do these computer limitations qualify as applying the judicial exception with "a particular machine," because these components provide their conventional functions and require no more than general-purpose computer equipment. *See* MPEP § 2106.05(b); *see also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709,716-17 (Fed. Cir. 2014); *TLI Communications LLC v. AV Automotive LLC*, 823 F.3d 607, 613 (Fed. Cir. 2016) (explaining that mere recitation of concrete or tangible components is not an inventive concept). "In order for the addition of a machine to impose a meaningful limit on the scope of a claim, it must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly." *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed. Cir. 2010).

Similarly, we are not persuaded that claim 6 effects a particular transformation of the recited articles, which are simply used for their ordinary purposes, or that it adds any other meaningful (technological) limitations, i.e., limitations beyond simply "linking the use" of the abstract idea to generic technology. *See* MPEP § 2106.05 (c), (e)–(f), (g)–(h) (Use of well-known limitations beyond the judicially excepted matter constitutes "insignificant extra-solution activity" (g) and claim limitations "merely indicating a field of use or technological environment in which to apply a judicial exception do not amount to significantly more" (h).).

More specifically, we do not agree with Appellants' contentions that "both the individual elements of the claims and their combination improve upon how the technology —here, medical devices—fundamentally functions" (App. Br. 16) or that the "invention is directed to the implementation of a solution to a technological problem, specifically, a computer-related solution to improve efficient maintenance and care of medical instruments to 'provide a continuing degree of reliability and operability' of medical devices . . . and minimize or reduce costs in such maintenance" (*id.* at 14, citing Spec. ¶¶ 2–3).

The focus of the claims is on a process for identifying deficiencies in care and providing a recommendation for care using a computer and software as tools, not on an improvement in the computer or software itself as a tool. *See* Revised Guidance, 84 Fed. Reg. at 55 (explaining that courts have identified "merely us[ing] a computer as a tool to perform an abstract idea" as insufficient to integrate the judicial exception into a practical application); *Elec. Power Grp.*, 830 F.3d at 1354. Further, the claim's application to medical devices merely indicates the field of use or

technological environment in which to apply the recited abstract idea and does not amount to significantly more. *See* Revised Guidance, 84 Fed. Reg. at 55, 55 n.32. In fact, as currently claimed, Appellants' repair analysis and recommendation algorithm could be applied not only to medical devices but to many other technological environments or fields of use, such as vehicles, construction equipment, home systems, appliances, and software, just to name a few.

Appellants also argue to no avail that claim 6, similar to the claims in *Core Wireless*,[10] "results in an improved display with delimitations on the type of data to be displayed, in this case a display providing a device care recommendation that solves the medical device care problem described in the Specification." App. Br. 13–14. In *Core Wireless*, the court concluded the claims were not directed to an abstract idea, but rather were "directed to an improved user interface for computing devices." *Core Wireless*, 880 F.3d at 1362. The court noted that "[a]lthough the generic idea of summarizing information certainly existed prior to the invention, . . . these claims recite a specific improvement over prior systems." *Core Wireless*, 880 F.3d at 1362–63. Here, although claim 6 recites "at least one interface" and "an output interface,"[11] Appellants do not identify anything in the claims or the Specification to indicate that these interfaces amount to an improvement over conventional interfaces. To the contrary, the Specification describes the claimed interfaces in merely generic or conventional terms. *See, e.g.*, Fig. 1

[10] *Core Wireless S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1363 (Fed. Cir. 2018).

[11] Claims 12 and 13 further recite that "the at least one interface comprises a user interface or a network interface," but this does not change our analysis.

(items 33, 39, 42, 73), Spec. ¶ 12 ("local interface 33 . . . can include at least one bus. Furthermore, an input interface 36, for example, a keyboard or a mouse, can be used to input data from a user of the system 10, and an output interface 39, for example, a printer, monitor, liquid crystal display (LCD), or other display apparatus, can be used to output data to the user. Further, a network interface 42, such as at least one modem, may be used to exchange data with a network 102 (FIG. 3).").

We are not persuaded by Appellants' assertion that the claims are patent-eligible because they recite "particular information . . . not merely preexisting, but . . . 'received' . . . and 'tracked' . . . by an interface that can be either a user interface or network interface (Claims 12 and 13)" in order to make recommendations, display data, and transmit data. App. Br. 11. Receiving and tracking data, and subsequently providing and displaying results, are the type of extra-solution activity (i.e., in addition to the judicial exception) the courts have determined insufficient to transform judicially excepted subject matter into a patent-eligible application. *See* MPEP § 2106.05(g); 84 Fed. Reg. at 55, 55 n.31; *see, e.g., Bancorp Servs, L.L.C. v. Sun Life Assur. Co. of Can.*, 771 F. Supp. 2d 1054, 1066 (E.D. Mo. 2011) *aff'd*, 687 F.3d 1266 (Fed. Cir. 2012) (explaining that "storing, retrieving, and providing data . . . are inconsequential data gathering and insignificant post solution activity").[12] And, as discussed above, the claim's use of interfaces is, at best, generic and conventional.

[12] *See also Bilski*, 561 U.S. at 612 (holding the use of well-known techniques to establish inputs to the abstract idea as extra-solution activity that fails to make the underlying concept patent eligible); *Elec. Power Grp.*, 830 F.3d at 1355 (explaining that "selecting information, by content or

Appellants further argue that claim 6's analysis "does much more than merely 'generate additional information' . . . ; rather, [it] improves efficiency of maintenance and care of medical instruments and minimizes and reduces costs in such maintenance . . . not only by 'identifying a deficiency in medical device care' but also 'providing a device care recommendation based on the identified deficiency.'" App. Br. 11 (citing Spec. ¶¶ 2–3).[13] Here, Appellants reference, among other things, the claim's storing and comparing of particular op codes so as to identify a deficiency and provide a recommendation. *Id.* at 10–11, 13.

Although these limitations certainly narrow the scope of claim 6, limiting an abstract idea to a particular field of use does not convert an otherwise ineligible concept into an inventive one. *See* Guidance, 84 Fed. Reg. at 55, *id.* nn. 31–32. Moreover, that the claimed method may perform a specific set of rules does not necessarily render the claim non-abstract. *See, e.g., Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) (determining for a specific method of advertising and content distribution, that "each of [the] eleven steps merely instructs the practitioner to implement the abstract idea with routine, conventional activities," and that although "some of the eleven steps were not previously employed in this

source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes").

[13] *See also* App. Br. 15 ("The claimed solution results in a 'technical improvement over [the] prior art,' namely . . . improving efficiency of maintenance and care of medical instruments and minimizing and reducing costs in such maintenance . . . . The subject matter recited in the claims addresses a *specific and discrete* technical methodology for reaching this improvement."); *see also id.* at 16 (stating that "the Office Action overlooks that the steps are not conventional, well-understood, or routine").

art," that was "not enough—standing alone—to confer patent eligibility upon the claims at issue."); *accord Netflix, Inc. v. Rovi Corp.*, 114 F. Supp. 3d 927, 942 (N.D. Cal. 2015), *aff'd*, 670 F. App'x 704 (Fed. Cir. 2016). Contrary to Appellants' assertions, the Final Office Action did not overlook these limitations; rather, it considered them and determined that they were either part of the abstract idea itself or additional limitations that did not amount to significantly more than the abstract idea. *See, e.g.*, Final Act. 7–11.

In sum, we find no evidence that the recited combination of computer elements is unconventional or non-generic because it is merely performing the functions of tracking, storing, comparing, identifying, providing, and displaying data in a normal and routine way, as any other generic and conventional computing system would do.

Guidance Step 2A, Prong Two Conclusion

Because claim 6 recites a judicial exception and does not integrate it into a practical application, we next proceed under the Guidance to *Alice/Mayo* step two, to consider whether the claim recites significantly more than its recited exception. Guidance, 84 Fed. Reg. at 54.

Alice/Mayo Step Two; Guidance Step 2B

In step two of the *Alice/Mayo* analysis, we consider whether there are additional limitations that, individually or as an ordered combination, ensure the claims amount to "significantly more" than the abstract idea. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 72–73, 77–79). As stated in the Guidance, many of the considerations to determine whether the claims amount to "significantly more" under step two of the *Alice* framework are already considered as part of determining whether the judicial exception has

been integrated into a practical application. Guidance, 84 Fed. Reg. at 56. Thus, at this point of our analysis, we determine if the independent claims add a specific limitation, or combination of limitations, that is not well-understood, routine, conventional activity in the field; or whether, in addition to the recited judicial exception, they recite only well-understood, routine, conventional activities at a high level of generality. *Id.*

Here, claim 6 does not recite specific limitations (or a combination of limitations) that are beyond what was well-understood, routine, and conventional. The Examiner determines, and we agree, that the additional technological limitations recited in claim 6 constitute the use of technology that was well-known to those of ordinary skill prior to the invention. Final Act. 9–12. As the Examiner determines, and Appellants do not effectively rebut, Appellants' Specification discloses the claimed technological features only at a generic level, using such technology for routine, well understood, and conventional purposes. *See* Final Act. 10 (citing Spec. ¶ 12); *see also* Figs. 1, 3; Spec. ¶¶ 9, 11, 13. There is no evidence of any specific technical improvements or advances for the technological components recited in claim 6.

Appellants contend "[c]laims 1 and 6 do *not* preempt any type of data analysis for medical device repair or seek to broadly cover a fundamental economic practice, but rather, 'carve out a specific location' to address a problem in medical device repair." App. Br. 17. This argument is not persuasive.

> [T]he proper focus is not preemption *per se*, for some measure of preemption is intrinsic in the statutory right granted with every patent to exclude competitors, for a limited time, from practicing the claimed invention. *See* 35 U.S.C. § 154. Rather,

> the animating concern is that claims should not be coextensive with a natural law, natural phenomenon, or abstract idea; a patent-eligible claim must include one or more substantive limitations that, in the words of the Supreme Court, add "significantly more" to the basic principle, with the result that the claim covers significantly *less*. *See Mayo* 132 S. Ct. at 1294. Thus, broad claims do not necessarily raise § 101 preemption concerns, and seemingly narrower claims are not necessarily exempt.

CLS Bank Int'l v. Alice Corp., 717 F.3d 1269, 1281 (Fed. Cir. 2013); *see also Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) ("While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility."). Because we find the claimed subject matter covers patent-ineligible subject matter, the pre-emption concern is necessarily addressed. "Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, [] preemption concerns are fully addressed and made moot." *Ariosa Diagnostics*, 788 F.3d at 1379.

Conclusion

Appellants do not persuade us of reversible error in the § 101 rejection of independent claim 6. For similar reasons, Appellants have not persuaded us of reversible error in the § 101 rejection of independent claim 1, which recites similar limitations, and the § 101 rejection of dependent claims 2–5 and 7–13, which Appellants do not argue separately with particularity.

B. The § 103 rejections

For the reasons stated below, Appellants persuade us that the Examiner erred in finding Summers teaches "a first op code indicative of whether the respective repair was preventable" and "automatically

identifying a deficiency in medical device care based on . . . the first and second op codes," as recited in claim 6.

In rejecting claim 6 under 35 U.S.C. § 103 over Summers, the Examiner finds that Summers teaches "a first op code indicative of whether the respective repair was preventable" with its disclosure of a "'**prevention-driven environment**' that **is shared** on a continuous basis with a high quality feedback process within the organization and across entities involved with owner/operators, manufacturer and supplier." Final Act. 17 (citing Summers ¶¶ 18–19). The Examiner explains that,

> [a]s taught in ¶¶ [0018], if a critical safety-related problem is detected in one organization, however, this problem is not "shared" on a continuous basis to other organizations, and the "same" critical safety-related problem occurs in a 2nd organization a week later, the repair to the problem in the 2nd organization should be shown/listed as "preventable" repair. In other word [sic], if the same problem was informed to the 2nd organization in proper time and corrective action was taken to solve the problem before it occurs a week later, the repair could have been prevented.

Final Act. 17; *see also id.* at 18–19 (citing Summers Figs. 5, 7B). The Examiner also finds that Summers teaches an "op code" with its disclosure of measurement category impact codes such as severity, safety, reliability, quality, cycle time, and cost codes, each of which may be scaled from 1 to 5, 5 being most severe. Ans. 6–7 (citing Summers Figs. 6, 7B), *see also id.* at 8 (citing Summers ¶ 115).

Appellants argue that the "prevention-driven environment" of Summers does not teach an "op code indicative of whether the respective repair was preventable," but instead "is merely indicative of Summers' focus on sharing data between multiple servers to prevent future issues." Reply Br.

4 (citing Summers ¶¶ 14, 18). Appellants also dispute the Examiner's citation of Summers' measurement category impact codes as teaching this limitation because "[n]one of the codes shown in Figs. 6 or 7B are described as indicating a 'level of preventability,' or whether or not a repair is preventable." *Id.* at 5 (citing Summers Figs. 6, 7B). Appellants explain that "sharing of a code indicating 'level of severity/safety/reliability,' *i.e.*, an indicator of the *impact* a problem is creating, is not by itself a designation of whether that problem was *preventable*." *Id.* at 5–6.[14] Appellants' arguments are persuasive.

The Specification describes "a first op code indicative of whether the respective repair was preventable" as follows:

> A preventable status field 63 stores an op code that is selected by the technician or other user to indicate whether the problem indicated by the field 62 is preventable . . . . One op code indicates that the problem is preventable (*e.g.*, can be prevented by exercising certain care or maintenance). Another code indicates that the problem is not preventable *(e.g.*, cannot be prevented by exercising care or maintenance).

Spec. ¶ 16, *see also id.* ¶ 8 ("observation codes (also referred to as 'OP codes')"). The Specification also describes preventable status field 63 as a field for an entry of device repair data indicative of a repair performed on a particular device. *See id.* ¶ 14, Fig. 2. Accordingly, we understand "a first op code indicative of whether the respective repair was preventable" as being an observation ("OP") code indicating that the problem to be repaired is (or

[14] *See also id.* (submitting that even if the sharing such a code across organizations "'would allow the received organization to make change to its maintenance practice so that the respective repair can be made 'preventable' by inspecting the device earlier or changing the device earlier,'" this still would not satisfy the disputed limitation).

is not) preventable (i.e., whether or not it can be prevented by exercising certain care or maintenance).

Summers discloses a system and method for coordinating product inspection, repair, and product maintenance. Summers, Abstract. In a disclosed embodiment, Summers' invention includes:

> 1. An industry-wide Standard Maintenance Baseline and frequency-of-occurrence database . . . under continuous improvement . . . to identify and prioritize problems by category/type for safety, reliability, severity, cost and cycle time; . . . 2. A process by which Maintenance Providers, Strategic Suppliers and Manufacturers/OEMs jointly conduct root cause analysis and develop prevention-driven, best-in-class repair processes to reoccurring problems; and . . . 3. A technology-driven method to standardize data definition and improve the accuracy and productivity of the process of data collection, retrieval, analysis and use.

Summers, ¶¶ 43–45.

As cited by the Examiner, paragraph 18 of Summers describes the problem that Summers' invention aims at solving—i.e., the lack of data sharing across organizations—and provides an example in which critical safety problems are detected and corrected in one organization, but another organization may be unaware of the problem, which may result in unsafe or accident-prone conditions. Summer ¶ 18. Paragraph 19 of Summers discloses that "[t]o have a high quality, safe and productive maintenance process there must be . . . efficient change control process that creates a continuous improvement, prevention-driven environment that is shared on a continuous basis" across organizations. *Id.* at 19. These paragraphs describe a "prevention-driven" environment, in which a first organization may receive information shared by a second organization about a problem such that, if the problem is addressed by the first organization through

maintenance or repair, the first organization may be able to prevent an accident or incident from occurring. But these disclosures do not teach or suggest an OP code indicating that the problem to be repaired is (or is not) preventable.

Also cited by the Examiner, Figures 6 and 7B of Summers describe the use of measurement category impact codes to define a problem, the impact codes including severity, safety, reliability, quality, cycle time, and cost codes, each of which may be scaled from 1 to 5, 5 being most severe. Summers Figs. 6, 7B, *see also id.* ¶¶ 112, 114, 115. Although these measurement category impact codes may be "op codes" indicating the severity of different aspects of the problem or repair, the Examiner has not persuasively shown—nor do we determine—that they indicate the problem to be repaired was preventable or unpreventable.

In view of the foregoing, Appellants persuade us the Examiner erred in finding Summers teaches "a first op code indicative of whether the respective repair was preventable," as recited. As a corollary, we also are persuaded the Examiner erred in finding Summers teaches "automatically identifying a deficiency in medical device care" based in part on *the first op code*. For emphasis, we highlight the following additional reasons why the Examiner erred in finding Summers teaches "automatically identifying a deficiency in medical device care based on . . . the first and second op codes."

In addressing this limitation, the Examiner cites Summers' disclosure that "**[p]roblems found with the maintenance repair and inspection process**, the availability to use frequency-of-occurrence data and the development of certified best-in-class repair processes that are shared across

organizations will be beneficial to all involved organizations." Final Act. 21 (citing Summers ¶ 40). The Examiner explains that Summer's disclosure of "sharing 'repair data' such as 'severity code', 'safety code' or 'reliability code' to various organization would allow the received organization to make change [sic] to its maintenance practice so that the respective repair can be made 'preventable' by inspecting the device earlier or changing the device earlier." Ans. 7. The Examiner further explains that in view of Summers' disclosure of identifying and defining a new problem by category type, component, and subcomponent codes (including the measurement category impact codes), "the inclusion of the 'new or second code indicative of a type of problem found or repair indication' in the device care recommendation for providing a complete and updated repair recommendation would have been obvious." *Id.* at 8 (citing Summers ¶ 115).

Appellants argue that the cited disclosures of Summers do not teach or suggest the limitation at issue, but instead merely disclose "'certified best-in-class repair processes' that are 'shared across organizations[,]' 'user information' that includes 'deviation from industry standard information,'" and "a 'non-routine repairs process' in which a screen will indicate whether a root cause analysis exists." App. Br. 22 (citing Summers ¶¶ 40, 121). Appellants further submit that the Examiner's Answer provides no rationale or explanation to support the assertion that "a new or second code indicative of a type of problem" would have been obvious in view of paragraphs 115 and 121 of Summers, which Appellants argue "do not disclose or suggest such an outcome." Reply Br. 6–7 (citing Summers ¶¶ 115, 121).

Appellants' arguments are persuasive. Even if Summers' measurement category impact codes would allow the receiving organization

to change its maintenance practices and make a repair preventable, this does not persuasively show that a deficiency has been identified based in part on the measurement category impact code or that the measurement category impact code indicates that the problem to be repaired is preventable or not preventable. We also agree with Appellants that the Examiner has not provided sufficient evidence to support the assertion that "a new or second code indicative of a type of problem" would have been obvious. The Examiner's assertion amounts to no more than a conclusory statement that lacks sufficient factual basis. "[T]he [PTO] must make the necessary findings and have an adequate 'evidentiary basis for its findings'" and must articulate logical and rational reasons supporting its decisions. *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *see also Ex parte Poisson*, Appeal No. 2012-011084, at *5 (PTAB Feb. 27, 2015) ("[A]bsent supporting evidence in the record — of which there is none, the Examiner's opinion is an inadequate finding of fact on which to base the . . . analysis."). Nor has the Examiner persuasively shown how Summers teaches or suggests identifying a deficiency based on its measurement category impact code and this allegedly obvious "new or second code indicative of a type of problem."

Therefore, we do not sustain the Examiner's 35 U.S.C. § 103 rejection of claim 6 over Summers. We likewise do not sustain the § 103 rejection over Summers of independent claim 1, which includes commensurate limitations for which the Examiner relies upon the same erroneous findings (*see* App. Br. 25 (Claims App'x); Final Act. 14–22; Ans. 5–8). We also do not sustain the § 103 rejection over Summers of dependent claims 2–5 and 7–13, which include similar deficiencies. For the reasons stated above, we also decline to sustain the Examiner's § 103 rejection over Summers and

AAPA or Hoffman of claims 1–13, for which the Examiner relies upon the same erroneous findings to reject the disputed limitations as those in the § 103 rejection over Summers.

DECISION

We affirm the 35 U.S.C. § 101 rejection of claims 1–13.

We reverse the 35 U.S.C. § 103 rejections of claims 1–13.

Because we affirm at least one ground of rejection with respect to each claim on appeal, the Examiner's decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

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).

AFFIRMED