UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/575,311	07/26/2012	Christopher Stepaniak	2010P00229WOUS	9184

24737 7590 09/13/2019

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
465 Columbus Avenue
Suite 340
Valhalla, NY 10595

EXAMINER	
GO, JOHN P	

ART UNIT	PAPER NUMBER
3686	

NOTIFICATION DATE	DELIVERY MODE
09/13/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

katelyn.mulroy@philips.com
marianne.fox@philips.com
patti.demichele@Philips.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOPHER STEPANIAK, LINA ARBASH MEINEL, and HANIA ABDULRAOUF AL-HALLAQ

Appeal 2017-011725
Application 13/575,311
Technology Center 3600

Before JAMES B. ARPIN, IRVIN E. BRANCH, and MICHAEL M. BARRY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject all pending claims.[2] We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

---

[1] We use "Appellant" to refer to the "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Koninklijke Philips N.V. as the real party in interest. Appeal Br. 2.

[2] Claims 1, 3–8, 10, 13, 15, 16, 18–20, 22, 25, and 27–34 are pending; claims 2, 9, 11, 12, 14, 17, 21, 23, 24, and 26 have been cancelled. *See* Final Act. 1 *and* Appeal Br. 22–29 (Claims App'x).

Introduction

Appellant's disclosure and claims "relate[] to tracking treatment plan creation workflow . . . with particular application to therapy treatment." Spec. 1.

> A method for tracking creation of a treatment plan for a patient includes obtaining an input indicative of a state of a task in the treatment plan creation workflow and generating a signal indicative of a set of tasks of the treatment plan creation workflow, including the state of the task corresponding to the received input.

Abstract.

Independent claim 1 is illustrative of the claims on appeal, shown here with certain limitations emphasized in ***bold italics***:

> 1. A method for tracking a treatment plan creation workflow for a patient, comprising:
>
> generating, ***with a computer processor***, a workflow which includes a set of tasks to be performed by a plurality of actors and performing the set of tasks creates a treatment plan for at least one treatment of the patient in response to an indication that the patient consents to the at least one treatment, and the treatment plan includes a radiation dose to be delivered to the patient in a region of interest according to imaging data, wherein the set of tasks is based on one or more types of treatment, wherein the set of tasks includes a plurality of tasks;
>
> obtaining state information about the set of tasks ***from a plurality of systems***;
>
> presenting the set of tasks ***through a web based application***, and the presented set of tasks include the state information of each task of the set of tasks;
>
> sending, ***with the computer processor***, a notification ***over a network to a device*** of one of the plurality of actors regarding at least one task to be performed of the set of tasks;

> receiving, ***with the computer processor***, an input indicative of a change in a state of the at least one of the tasks of the set of tasks;
>
> repeating sending notifications and receiving inputs until each task in the set of tasks are performed which create the treatment plan;
>
> in response to all tasks of the set of tasks being performed, implementing the treatment according to the created treatment plan which delivers the treatment to the patient including ***delivering the to be delivered radiation dose to the patient***; and
>
> storing the set of tasks, the state information, and the received inputs in a storage repository; and
>
> wherein at least one of the set of tasks includes receiving the imaging data which identifies the region of interest of the patient for the treatment ***through at least one of segmentation and contouring, and the imaging data is generated by a medical imaging device that performs at least one of computed tomography (CT), magnetic resonance (MR), positron emission tomography (PET), single photon emission tomography (SPECT), ultrasound (US), radiography (X-ray), mammography, positron emission mammography (PEM), digital tomosynthesis***.

Appeal Br. 22–23 (Claims App'x).

Rejections & References

The Examiner rejected all pending claims under 35 U.S.C. § 101 as ineligibly directed to a judicial exception. Final Act. 3–7.

The Examiner rejected claims 1, 4, 8, 10, 28, 31, and 32 under 35 U.S.C. § 103 as unpatentable over the combined teachings of Hussain (US 2006/0282302 A1; Dec. 14, 2006), Fitzgerald (US 2005/0027196 A1; Feb. 3, 2005), Tome (US 2009/0052623 A1; Feb. 26, 2009), and Kaufman (US 2003/0028401 A1; Feb. 6, 2003). Final Act. 7–15.

The Examiner rejected claim 3 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Earl (US 2004/0071261 A1; Apr. 15, 2004). Final Act. 15–16.

The Examiner rejected claim 5 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Scherpbier (US 2008/0164998 A1; July 10, 2008). Final Act. 16–17.

The Examiner rejected claims 6 and 7 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Reichert (US 2008/01725251 A1; July 17, 2008). Final Act. 17–19.

The Examiner rejected claim 13 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Haider (US 2009/0024413 A1; Jan. 22, 2009). Final Act. 13–14.

The Examiner rejected claim 15 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Ash (US 2006/0136260 A1; June 22, 2006). Final Act. 19–20.

The Examiner rejected claims 16, 19, 20, 22, and 27 under § 103 as unpatentable over the combined teachings of Hussain, Abraham (US 2006/0173725 A1; Aug. 3, 3006), and Haider. Final Act. 20–25.

The Examiner rejected claim 18 under § 103 as unpatentable over Hussain, Abraham, and Haider, Reichert, and Earl. Final Act. 25–26.

The Examiner rejected claim 25 under § 103 as unpatentable over the combined teachings of Hussain, Abraham, Haider, and Ash. Final Act. 26–27.

The Examiner rejected claims 29 and 30 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Loutzenhiser (US 2007/0136090 A1; June 14, 2007). Final Act. 27–29.

The Examiner rejected claim 33 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and Martin (US 2002/0004725 A1; Jan. 10, 2002). Final Act. 29–30.

The Examiner rejected claim 34 under § 103 as unpatentable over the combined teachings of Hussain, Fitzgerald, Tome, Kaufman, and McIlroy (US 5,583,758; Dec. 10, 1996). Final Act. 30–31.

ANALYSIS

Appellant waives arguments not made. 37 C.F.R. § 41.37(c)(1)(iv); *see also Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011)). The seven issues raised by Appellant are whether the Examiner errs (a) in the patent ineligibility rejection of all pending claims and (b) in the obviousness rejections of claims 1, 6, 15, 16, 19, and 20. Appeal Br. 5–21.[3]

(1) The § 101 Rejection

We have reviewed the Examiner's § 101 rejection in light of Appellant's contentions of reversible error. Appeal Br. 7–12; *see also* Reply Br. 2–3. We disagree with Appellant's contentions. Instead, as consistent with our discussion below, we adopt the Examiner's findings and reasons as set forth in the Final Office Action, from which this appeal is taken, and as set forth in the Answer. We highlight the following for emphasis.

[3] Based on Appellant's arguments: claims 3–5, 8, 10, 13, and 28–34 stand or fall with claim 1; claims 7 and 18 stand or fall with claim 6; claim 25 stands or falls with claim 15; and claims 18, 22, 25, and 27 stand or fall with claim 16

For the § 101 rejection, Appellant argues all pending claims together (*see* Appeal Br. 7–12), from which we select claim 1 as representative for all claims (*see* 37 C.F.R. § 41.37(c)(1)(iv)).

(1)(a) § 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 U.S. 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. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the 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, 69 (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 requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The Office recently 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)).[4]

See Guidance, 84 Fed. Reg. at 52, 54–55. 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:

[4] All references to the MPEP are to Rev. 08.2017 (Jan. 2018).

> (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.

(1)(b) Alice/Mayo Step One, Guidance Step 2A, Prong One

In determining whether claim 1 recites a patent-ineligible concept, we must "'be careful to avoid oversimplifying the claims' by looking at them generally and failing to account for the specific requirements of the claims." *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016). Here, as discussed in more detail below, claim 1 recites, in the words of the preamble, an abstract idea for "[a] method for tracking a treatment plan creation workflow for a patient."[5] The body of claim 1 recites limitations for this method that describe a concept that is a combination of mental processes and a certain method of organizing human activity. As the Guidance explains, mental processes and certain methods of organizing human activity are patent-ineligible abstract ideas. *See* Guidance, 84 Fed. Reg. at 52. "Adding one abstract idea . . . to another abstract idea . . . does not render the claim non-abstract." *RecogniCorp, LLC v. Nintendo Co. LTD.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (patent-ineligible claims were directed to a combination of abstract ideas).

[5] Claim 1's limitations describing the abstract idea are shown as plain text (i.e., *not* in ***bold italics***) in the claim as set forth in the Introduction, *supra*. In other words, for our analysis under prong one of step 2A of the Guidance, we put aside the technological recitations such as "through a web based application," "with the computer processor," etc.

In particular, the first step of claim 1 recites

> generating . . . a workflow which includes a set of tasks to be performed by a plurality of actors and performing the set of tasks creates a treatment plan for at least one treatment of the patient in response to an indication that the patient consents to the at least one treatment, and the treatment plan includes a radiation dose to be delivered to the patient in a region of interest according to imaging data, wherein the set of tasks is based on one or more types of treatment, wherein the set of tasks includes a plurality of tasks.

Generating a workflow with tasks for multiple people to carry out is an ordinary management task that can be performed mentally, which the Guidance explains is abstract as a mental process. *See* Guidance, 84 Fed. Reg. at 52. Absent the generically recited use of a computer, this generating step reads on a doctor setting forth a treatment plan without the assistance of any technology. In an exemplary scenario, a doctor assigns "a set of tasks" to two subordinates (e.g., telling one to get a patient ready for treatment and the other to get a treatment room ready) and requires one of the subordinates to obtain the patient's consent. In this example, the doctor reviews an image, e.g., from an MRI scan, and decides the treatment plan will "include[] a radiation dose to be delivered to the patient in a region of interest according to imaging data," as recited.

Thus, the first step encompasses a mental process. The second step's recitation of "obtaining state information about the set of tasks" reads on the doctor respectively asking the two subordinates if the patient is ready and the treatment room is ready is also abstract, because it constitutes a certain method of organizing human activity. *See* Guidance, 84 Fed. Reg. at 52 (explaining, *inter alia*, that managing interactions between people is one such abstract method of organizing human activity).

The claimed steps for presenting state information, sending a notification, receiving input for a change in a state for a tasks, and storing information are all steps that describe routine handling of relevant information among actors involved in the tasks. The Federal Circuit has found such activities to be abstract when, as here, they are part of carrying out other recited abstract ideas. *See, e.g.*, *Electric Power Group, LLC v. Alston S.A.*, 830 F.3d 1350, 1351–54; *see also RecogniCorp, LLC v. Nintendo Co. LTD.*, 855 F.3d at 1327; *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d at 1093–94.

Thus, we determine claim 1 recites an idea for "tracking a treatment plan creation workflow for a patient" that is abstract, because it encompasses a combination of mental processes and a certain method of organizing human activity. Because claim 1 recites a judicial exception in the form of an abstract idea, we next proceed to prong two of step 2A of the Guidance and consider whether the claim integrates the recited judicial exception into a practical application. Guidance, 84 Fed. Reg. at 54.

(1)(c) Alice/Mayo Step One, Guidance Step 2A, Prong Two

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)*"[6] and evaluate those elements to determine whether they integrate the judicial exception into a practical application. 84 Fed. Reg. at 54–55 (emphasis added); *see also* MPEP § 2106.05(a)–(c), (e)–(h).

[6] The additional elements are highlighted in ***bold italics*** in the claim as set forth in the Introduction, *supra*.

Here, the computer-related recitations such as "with a computer processor," and "through a web based application," and a "over a network to a device" add some specificity to the claim, but none of these limitations serves to improve a technology or technical field. Instead, they constitute routine uses of those technologies to automate the underlying method. Thus, they do not constitute an improvement to "the functioning of the computer itself" or "any other technology or technical field." *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).

Claim 1's requirement for "delivering the to be delivered radiation dose to the patient" also does not confer eligibility under prong two of our analysis under the Guidance. Claim 1's dose delivery is unlike the "opening the press" limitation in the claim at issue in *Diehr*, in which, from a patent eligibility perspective, the recited abstract idea was subsidiary to the claim's focus on a patent-eligible "process of curing synthetic rubber." *See Diehr*, 450 U.S. at 179 n. 5, 187. Claim 1's requirements, such as dose delivery and those related to the technology for imaging data (e.g., the "the imaging data is generated by a medical imaging device that performs at least one of computed tomography (CT), magnetic resonance (MR)," etc.) may be specific and non-abstract, but such specificity does not confer patent

eligibility. The Court has "rejected the argument that 'implement[ing] a principle in some specific fashion' will 'automatically fal[l] within the patentable subject matter of § 101.'" *Alice*, 573 U.S. at 222 (quoting *Flook*, 437 U.S. at 593).

Appellant's arguments similarly do not persuade us that claim 1 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); *see also id.* at (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)).

Appellant unpersuasively relies on decisions such as *DDR Holdings*, *Enfish*, and *McRO* as supporting a determination that claim 1 is *not* directed to an abstract idea. *See* Reply Br. 2–3 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016); *McRO*). Each of those cases involved claims focused on improving something other than a mental process or a method of organizing human activity—in *DDR*, the use of Web link technology to solve a specific problem arising from use of the Internet/Web, in *Enfish*, improved use of database technology through a self-referential database table, and in *McRO*, complex computer animation lip-synching software. *See DDR Holdings*, 773 F.3d at 1249–50, 1256–58 (Fed. Cir. 2014); *Enfish*, 822 F.3d at 1336–37; *McRO*, 837 F.3d at 1307. Here, by

contrast, claim 1 focuses on creating and delivering a treatment plan which, as discussed above, recites abstract ideas that may be performed by people using no technology beyond pen and paper.

Accordingly, because the recited judicial exception is not integrated into a practical application, the Examiner did not err in determining claim 1 is directed to an abstract idea.

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 claim 1 adds a specific limitation, or combination of limitations, that is not well-understood, routine, conventional activity in the field; or whether it simply recites well-understood, routine, conventional activities at a high level of generality. *Id.*

Here, Appellant's claims do not recite specific additional limitations (or a combination of limitations) that are beyond what was well-understood, routine, and conventional. The Examiner finds, and we agree, that beyond the limitations for the judicial exception, the technological limitations recited in claim 1 constitute the use technology that was well known to those of ordinary skill prior to the invention. Final Act. 5–6; *see also* Ans. 7–8. The disclosure in Appellant's Specification of the claimed technological

features is at a generic level. *See* Spec. 1–9; *see also* Figs. 1–3. There is no discussion of any technological functionality or considerations for the additional component recited in claim 1. In the context of step two of the *Alice/Mayo* analysis, we discern no persuasive argument for why the determination here should differ from the determination at prong two of step 2A of the Guidance.

> Regarding Appellant's assertion regarding preemption:
>
> > To be clear, the 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. Pty. Ltd., 717 F.3d 1269, 1281 (Fed. Cir. 2013); *see also Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) ("[w]hile 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.

Accordingly, we are not persuaded of error in the Examiner's conclusion that claims 1, 3–8, 10, 13, 15, 16, 18–20, 22, 25, and 27–34 are unpatentably directed to ineligible subject matter under 35 U.S.C. § 101.

The § 103 Rejections

We have reviewed the Examiner's § 103 rejections in light of Appellant's contentions of reversible error. We disagree with Appellant's contentions. Instead, as consistent with our discussion below, for the argued claims, we adopt the Examiner's findings and reasons as set forth in the Final Office Action from which this appeal is taken and as set forth in the Answer. We highlight the following for emphasis.

Claims 1, 3–5, 8, 10, 13, and 28–34

Appellant offers no substantive arguments for claims 3–5, 8, 10, 13, and 28–34 separate from claim 1, which therefore is representative for the group. Appeal Br. 12–14; 37 C.F.R. § 41.37(c)(1)(iv).

Regarding the teachings of Hussain cited by the Examiner in the § 103 rejection of claim 1, Appellant contends Hussain's "drug prescription is not reasonably interpreted as a treatment plan that includes a radiation dose to be delivered to a patient in a region of interest according to imaging data." Appeal Br. 12. This is unpersuasive. The rejection relies on Fitzgerald, not Hussain, for teaching for "a radiation dose to be delivered to a patient in a region of interest according to imaging data." Final Act. 10–11. In particular, the Examiner finds Hussain teaches "the treatment plan includes a dose to be delivered to the patient" (Final Act. 8 (citing Hussain ¶¶ 40–54) (emphasis omitted)) and Fitzgerald teaches "wherein the treatment plan includes a

radiation dose to be delivered to the patient in a region of interest according to imaging data" (*id.* at 10–11 (citing Fitzgerald ¶¶ 12, 22, Fig. 2)).

Appellant also contends with respect to Hussain that its "tasks of writing a prescription are not performed by a plurality of actors" and Hussain "does not disclose, suggest, or imply includes [sic] a set of tasks to be performed by a plurality of actors and performing the set of tasks creates a treatment plan." Appeal Br. 12. This is unpersuasive because, although we agree that writing a prescription is not performed by multiple actors, paragraph 84 of Hussain teaches creating patient timelines that "delineate what needs to be done for the patient" (i.e., in the vernacular of claim 1, a "treatment plan"), which includes "who is responsible for the tasks" (claim 1's "tasks to be performed by a plurality of actors," which are part of a created "treatment plan").

Appellant further contends Hussain does not teach or suggest that "performing the set of tasks creates a treatment plan," as recited. Appeal Br.12. Appellant similarly contends the cited references do not teach or suggest "repeating sending notifications and receiving inputs until each task in the set of tasks are performed which create the treatment plan." *Id.* at 13 (particularly arguing the relied upon disclosure of Hussain "does not include, suggest or imply creation of a treatment plan." *Id.* (citing Hussain ¶ 59).

These arguments are unpersuasive. Claim 1 recites generating "a workflow which includes a set of tasks to be performed by a plurality of actors and performing the set of tasks creates a treatment plan." As discussed above, Hussain teaches creating workflows for patient care involving multiple actors who will carry out the tasks of the workflow. *E.g.*, Hussain ¶ 84. We agree with the Examiner, because persons of ordinary skill in the

relevant art would have understood, consistent with the plain language of claim 1 and with Appellant's Specification, that carrying out Hussain's workflow tasks results in creation of the treatment plan, as recited. *See* Ans. 8–9; *see also Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown'") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp*., 755 F.2d 158, 163 (Fed. Cir. 1985).

Accordingly, we sustain the Examiner's § 103 rejections of claims 3–5, 8, 10, 13, and 28–34.

Claims 6, 7, and 18

Appellant offers no substantive arguments for claims 7 and 18 separate from those offered with respect to claim 6, which therefore is representative of the group. Appeal Br. 12–14; 37 C.F.R. § 41.37(c)(1)(iv).

Claim 6 depends from claim 1. The Examiner finds, in view of the art cited in the rejection of claim 1, Reichert teaches the disputed limitation of "simulating delivery of the radiation dose to be delivered to the patient," as recited. Final Act. 18 (citing Reichert ¶¶ 23, 27). Appellant contends the Examiner errs because Reichert's cited disclosure do not teach or suggest the disputed limitation. Appeal Br. 14–15; *see also* Reply Br. 5–6, 8.

This contention is unpersuasive. Each reference cited by the Examiner must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). The relevant inquiry is 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. *In re Keller*, 642 F.2d 413,

425 (CCPA 1981). Here, as discussed above, the Examiner finds Fitzgerald teaches "a radiation dose to be delivered to a patient in a region of interest according to imaging data," as recited in claim 1. The Examiner relies on Reichert only for its disclosure related to "provid[ing] a simulation indicating an effect of a planned service (ordered treatment service)." Ans. 11 (quoting Reichert ¶ 27). The Examiner determines, and we agree, that persons of ordinary skill in the relevant art would have had reason to combine the teachings of Reichert with those of Hussain, Fitzgerald, Tome and Kaufman. *See* Final Act. 18 (citing Tome ¶¶ 3, 28; Reichert ¶ 27)). Appellant does not contest the Examiner's identified reason to combine.

Thus, regardless that Reichert's simulation-related disclosure, by itself, may not teach "simulating delivery of a radiation dose," as recited, we discern no error in the Examiner's determination that Reichert's disclosure of "provid[ing] a simulation indicating an effect of a planned service (Reichert ¶ 27), in combination Fitzgerald's teaching of delivering a radiation dose to a patient, teaches or suggests "simulating delivery of the radiation dose to be delivered to the patient," as recited in claim 6.

Accordingly, we sustain the § 103 rejections of claim 6, 7, and 18.

Claims 15 and 25

Claim 15 recites, *inter alia*, "wherein implementing the treatment includes delivering a notice that the dose delivered meets a predetermined milestone and a dose tracker sends a signal indicative of the dose delivered to the patient as predetermined dose milestones are met." Appeal Br. 25 (Claims App'x). Claim 25 recites "a dose tracker that generates data indicative of a dose delivered to the patient based on the implemented treatment plan; and wherein the apparatus sends a notification to a device of

at least one actor of the plurality of actors that a dose delivered meets a predetermined milestone." *Id.* at 27.

In rejecting claims 15 and 25, the Examiner relies on Ash to teach the foregoing limitations. Final Act. 19–20, 26–27 (citing Ash ¶ 53). Appellant contends the Examiner errs because Ash does not teach or suggest providing notice (a) "as predetermined dose milestones are met," as recited in claim 15, or (b) "that a dose delivered meets a predetermined milestone," as recited in claim 25. Appeal Br. 15, 20. Appellant's contention is persuasive.

Ash discloses notifying pharmacists as to whether a particular dose to be delivered to a patient exceeds a predetermined limit. Ash ¶ 53. The Examiner responds to Appellant's contention by reasoning that "given the broadest reasonable interpretation, a 'predetermined dose milestone' may be interpreted as an amount deemed to be abnormal or outside of the normal range, as a normal range may be interpreted as a 'milestone.'" Ans. 12. Thus, the Examiner concludes, "dosages outside of the normal range may be interpreted as dosages that have 'reached' the milestone." *Id.* As Appellant replies, however, and we agree, a person of ordinary skill in the relevant art would *not* understand "predetermined dose milestone," as recited, in view of the Specification and Drawings, to encompass Ash's identification that "the dose range is outside the normal range" (Ash ¶ 53).

Thus, we do not sustain the § 103 rejections of claims 15 and 25.

Claims 16, 22, and 27

Appellant offers no substantive arguments for claims 22 and 27 separate from those offered with respect to claim 18, which therefore is representative for the group. Appeal Br. 16–17; 37 C.F.R. § 41.37(c)(1)(iv).

Appellant contends the Examiner errs in rejecting claim 16 because "Hussain does not disclose a set of tasks performed to create a treatment plan," as required by the claim. Appeal Br. 16. This is unpersuasive because, as discussed above with respect to claim 1, execution of Hussain's workflow tasks results in creation of the treatment plan, as recited. *See* Hussain ¶ 84 (disclosing creation of workflows for patient care involving multiple actors who will carry out the tasks of the workflow).

Appellant also contends the Examiner errs in rejecting claim 16 because Hussain fails to teach or suggest "a set of tasks that performed create a treatment plan that includes a radiation dose," as required by claim 16. Appeal Br. 17. This is unpersuasive because the Examiner relies on Abraham, not Hussain, for teaching the administering of a radiation dose. *See* Ans. 13 (citing Abraham ¶¶ 16, 33, 37). *In re Merck*, 800 F.2d at 1097; *In re Keller*, 642 F.2d at 425.

Appellant further contends the Examiner errs in rejecting claim 16 because "Abraham does not disclose generating a treatment plan that includes a radiation dose." This is unpersuasive because the Examiner relies on Hussain, not Abraham, for teaching generating a treatment plan. *See* Final Act. 20–21 (citing Hussain ¶¶ 9, 58–59). *In re Merck*, 800 F.2d at 1097; *In re Keller*, 642 F.2d at 425.

Accordingly, we sustain the § 103 rejection of claim 16, 22, and 27.

Claim 19

Claim 19 depends from claim 16 and recites "wherein at least one task includes sending the created treatment plan to a remote device of a physician for review." Appeal Br. 26 (Claims App'x). The Examiner finds Hussain teaches this requirement. Final Act. 23 (citing Hussain ¶¶ 83–84). Appellant

contends the Examiner errs, because the cited "disclosures of Hussain do not include, suggest or imply a treatment plan sent to a physician for review." Appeal Br. 20 (arguing that "[t]o the contrary, the disclosures indicate a communication are from a physician to all team members").

Appellant's contention is unpersuasive. As discussed above for claim 1, the "treatment plan," as recited, reads on Hussain's healthcare workflow timeline teaching. Hussain discloses displaying these timelines on portable communication devices used by healthcare workers, including physicians. Hussain ¶¶ 83–84. Persons of ordinary skill in the relevant art would have understood that displaying a treatment plan on a physician's portable device teaches sending it to that device. Such persons further would have understood that this teaches or suggests that the workflow (or treatment plan) is sent to the physician "for review."

Accordingly, we sustain the § 103 rejection of claim 19.

Claim 20

Claim 20 depends from claim 16 and recites "wherein in response to each task of the set of tasks being completed, implementing the plan which delivers the to be delivered dose to the patient." Appeal Br. 26 (Claims App'x). The Examiner finds Hussain teaches this requirement. Final Act. 23–24 (citing Hussain ¶¶ 59, 65). Appellant contends the Examiner errs, because the cited disclosure of Hussain teaches "[r]ecognizing that a multiple-stepped task is complete," which "does not disclose, suggest or imply implementing a plan, which delivers a dose to a patient." Appeal Br. 20. Appellant further contends Hussain's teaching of "ordering a drug for a patient is not delivering a dose to a patient, and certainly not a radiation dose. Thus, the assertion of Hussain must fail." *Id.*

Appellant's contentions are unpersuasive. As an initial matter we note that, as discussed above, the rejection relies on Abraham, not Hussain, for teaching delivery of a radiation dose. *See* Final Act. 20–22. We also note that, although Hussain certainly discloses multi-stepped tasks, Hussain does not require that a workflow or treatment plan include any multi-stepped tasks. *See* Hussain ¶ 59. Persons of ordinary skill in the relevant art would have understood Hussain broadly teaches workflows with any number of tasks, none of which need be multi-stepped.

Under its broadest reasonable interpretation, the recited "set of tasks" can include a set of a two simple tasks. The combined disclosures of Hussain and Abraham teach a workflow (or treatment plan) embodiment consisting of one or two tasks of administering a radiation dose. The limitations recited in claim 20 read on the performance of such an embodiment.

Accordingly, we sustain the § 103 rejection of claim 20.

DECISION

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1, 3–8, 10, 13, 15, 16, 18–20, 22, 25, and 27–34	§ 101	1, 3–8, 10, 13, 15, 16, 18–20, 22, 25, and 27–34	
1, 4, 8, 10, 28, 31, and 32	§ 103 Hussain, Fitzgerald, Tome, and Kaufman	1, 4, 8, 10, 28, 31, and 32	
3	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Earl	3	

Claims Rejected	Basis	Affirmed	Reversed
5	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Scherpbier	5	
6 and 7	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Reichert	6 and 7	
13	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Haider	13	
15	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Ash		15
16, 19, 20, 22, and 27	§ 103 Hussain, Abraham, and Haider	16, 19, 20, 22, and 27	
18	§ 103 Hussain, Abraham, Haider, and Earl	18	
25	§ 103 Hussain, Abraham, Haider, and Ash		25
29 and 30	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Loutzenhiser	29 and 30	
33	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and Martin	33	
34	§ 103 Hussain, Fitzgerald, Tome, Kaufman, and McIlroy	34	

Claims Rejected	Basis	Affirmed	Reversed
Overall Outcome		1, 3–8, 10, 13, 15, 16, 18–20, 22, 25, and 27–34	

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