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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JULIE CHEITLIN CHERRY,
NICK PILCH, and STEPHEN J. BLEYENDAAL

Appeal 2017-002957
Application 13/941,457
Technology Center 3600

Before MAHSHID D. SAADAT, JOHNNY A. KUMAR, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

AMUNDSON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants¹ seek our review under 35 U.S.C. § 134(a) from a final rejection of claims 1–11, i.e., all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellants identify the real parties in interest as Robert Bosch GmbH and Robert Bosch Healthcare Systems, Inc. App. Br. 2.

STATEMENT OF THE CASE

The Invention

According to the Specification, the invention relates to “a content updating system and, more specifically to a system used for revising and updating clinical content.” Spec. ¶¶ 2, 7, Abstract.²

Exemplary Claim

1. A method of operating a clinical content management system, comprising:
 - providing a master server with a master content database including best practices master content;
 - providing at least one first derivative content database operably connected to the master content database;
 - storing at the at least one first derivative content databases derived content derived from the best practices master content, wherein the derived content need not be the same as the best practices master content;
 - tracking at the master server the stored derived content for each of the at least one first derivative content databases;
 - including new content in the master content database;
 - identifying with the master server each of the at least one first derivative content databases including derived content related to the new content using the tracked stored derived content;
 - issuing a notice of the new content based upon the identified at least one first derivative content database including derived content related to the new content; and

² This decision uses the following abbreviations: “Spec.” for the Specification, filed July 13, 2013; “Final Act.” for the Final Office Action, mailed November 10, 2015; “App. Br.” for the Appeal Brief, filed April 11, 2016; “Ans.” for the Examiner’s Answer, mailed October 14, 2016; and “Reply Br.” for the Reply Brief, filed December 14, 2016.

tracking at the master server whether the new content is incorporated into the identified at least one first derivative content database including derived content related to the new content.

App. Br. 38 (Claims App.).

The Prior Art Supporting the § 103(a) Rejections

Stoycos et al. (“Stoycos”)	US 2002/0087053 A1	July 4, 2002
Bleyendaal et al. (“Bleyendaal”)	US 2007/0005394 A1	Jan. 4, 2007
Evans et al. (“Evans”)	US 7,895,275 B1	Feb. 22, 2011
Beraja et al. (“Beraja”)	US 2011/0112849 A1	May 12, 2011
Pei et al. (“Pei”)	US 2011/0161289 A1	June 30, 2011

The Rejections on Appeal

Claims 1–11 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 2–4.

Claims 9–11 stand rejected under 35 U.S.C. § 112 ¶ 2 as indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.³ Final Act. 4–5.

Claims 1, 2, and 6–11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Beraja, Bleyendaal, and Pei. Final Act. 6–13.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Beraja, Bleyendaal, Pei, and Evans. Final Act. 13–15.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Beraja, Bleyendaal, Pei, and Stoycos. Final Act. 15–17.

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 112, e.g., to rename § 112’s subsections. Because Application 13/941,457 claims priority to an application filed before the AIA’s effective date for applications, this decision refers to the pre-AIA version of § 112.

ANALYSIS

We have reviewed the rejections of claims 1–11 in light of Appellants’ arguments that the Examiner erred. For the reasons explained below, we disagree with Appellants’ assertions regarding Examiner error. We adopt the Examiner’s findings and reasoning in the Final Office Action (Final Act. 2–20) and Answer (Ans. 2–25). We add the following to address and emphasize specific findings and arguments.

The § 101 Rejection of Claims 1–11

INTRODUCTION

The Patent Act defines patent-eligible subject matter broadly: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 70 (2012), and *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347, 2354 (2014), the Supreme Court explained that § 101 “contains an important implicit exception” for laws of nature, natural phenomena, and abstract ideas. See *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). In *Mayo* and *Alice*, the Court set forth a two-step analytical framework for evaluating patent-eligible subject matter: First, “determine whether the claims at issue are directed to” a patent-ineligible concept, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If so, “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements” add enough to transform the “nature of the claim” into “significantly more” than a patent-

ineligible concept. *Id.* at 2355, 2357 (quoting *Mayo*, 566 U.S. at 79); *see Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016).

Step one in the *Mayo/Alice* framework involves looking at the “focus” of the claims at issue and their “character as a whole.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Step two involves the search for an “inventive concept.” *Alice*, 134 S. Ct. at 2355; *Elec. Power Grp.*, 830 F.3d at 1353. An “inventive concept” requires more than “well-understood, routine, conventional activity already engaged in” by the relevant community. *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016) (quoting *Mayo*, 566 U.S. at 79–80). But “an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.” *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). Under step two, “an inventive concept must be evident in the claims.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017).

MAYO/ALICE STEP ONE

The Examiner determines that the claims are directed to “using categories to organize, store, and transmit information” and “comparing new and stored information and using rules to identify options,” in particular:

including new content in a master content database including best practices master content, storing derived content, tracking stored derived content, identifying a derivative content database including derived content related to the new content, issuing a notice of the new content, and tracking whether the new content is incorporated into the derivative content database.

Final Act. 2–3, 18; *see* Ans. 2–4.

Appellants argue that the claims are not directed to an abstract idea because: (1) “[t]he alleged ‘abstract idea’ . . . specifically requires at least two different types of databases”; and (2) “[d]atabases are not abstract ideas.” App. Br. 4. Appellants also argue that the claims “require[] steps performed by two different computers” and are “inextricably tied to computer based communication and notification schemes interconnecting computers.” *Id.*

Appellants’ arguments do not persuade us of Examiner error. Implementing an abstract idea using a “physical machine” does not impart patent eligibility. *See Mayo*, 566 U.S. at 84; *see also* Ans. 2–3. “[N]ot every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry.” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016). The inability of a human to accomplish each step “does not alone confer patentability.” *See FairWarning, IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016). In *Alice*, for example, “[a]ll of the claims [we]re implemented using a computer.” 134 S. Ct. at 2353, 2360. As the Examiner explains, the claims in *Alice* “maintained several shadow accounts on a computer (e.g., databases), but the claims were nonetheless found to be directed to an abstract idea.” Ans. 3.

Appellants assert that the Examiner “fail[s] to provide any legal basis” for the abstract idea and “offers merely a conclusory statement contrary to the dictates of legal precedent.” App. Br. 5. Appellants also assert that the Examiner “fails to provide any analysis of the claims with claims of other patents which have been determined to be, or not to be, directed to patent eligible material.” Reply Br. 9; *see id.* at 2.

Appellants' assertions disregard: (1) the Examiner's explanation that the claims "are directed toward an abstract idea consistent with the types of abstract ideas identified by the courts"; and (2) the Examiner's discussion of *SmartGene* and *Cyberfone*. Final Act. 18; Ans. 2–4; see *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App'x 988 (Fed. Cir. 2014); *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950 (Fed. Cir. 2014). In *Cyberfone*, the Federal Circuit determined that claims for "using categories to organize, store, and transmit information" were directed to an abstract idea. 558 F. App'x at 990–92. In *SmartGene*, the Federal Circuit determined that claims for "comparing new and stored information and using rules to identify medical options" were directed to an abstract idea. 555 F. App'x at 951–52, 954–55. Also, like the claims here, the claims in *SmartGene* required a computer and multiple databases, i.e., a "computing device," a "first knowledge base comprising a plurality of different therapeutic treatment regimens," a "second knowledge base comprising a plurality of expert rules," and a "third knowledge base comprising advisory information." *Id.* at 951–52.

Adding one abstract idea ("using categories to organize, store, and transmit information") to another abstract idea ("comparing new and stored information and using rules to identify options") does not render the claims nonabstract. *RecogniCorp*, 855 F.3d at 1327. Hence, we discern no error in the Examiner's analysis of court decisions.

In addition, the claims here cover data collection, manipulation, and communication. App. Br. 38–41 (Claims App.). The Federal Circuit has ruled that claims covering data collection, manipulation, and communication were directed to abstract ideas. See, e.g., *SAP Am., Inc. v. Investpic, LLC*,

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No. 2017-2081, 2018 WL 2207254, at *2, 4–5 (Fed. Cir. May 15, 2018); *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1368–73 (Fed. Cir. 2017); *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1047, 1054–56 & n.6 (Fed. Cir. 2017); *Elec. Power Grp.*, 830 F.3d at 1351–54.

Appellants contend that “the Examiner must establish that the alleged abstract idea is directed to a fundamental principle/truth, building block of human ingenuity, or basic tool of scientific and technological work” and the Examiner has not done so. App. Br. 5. We disagree. The “abstract idea” category encompasses a variety of concepts including, among other things, mathematical formulas and methods of organizing human activity. See *Alice*, 134 S. Ct. at 2355–56; *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367 (Fed. Cir. 2015) (deeming the claim at issue “not meaningfully different from the ideas found to be abstract in other cases before the Supreme Court and our court involving methods of organizing human activity”); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1351–55 (Fed. Cir. 2014) (creating a contractual relationship); *Fort Props., Inc. v. Am. Master Lease LLC*, 671 F.3d 1317, 1318, 1322–23 (Fed. Cir. 2012) (enabling tax-free property exchanges); *Bancorp Servs., L.L.C. v. Sun Life Assur. Co.*, 687 F.3d 1266, 1277 (Fed. Cir. 2012) (administering and tracking life-insurance-policy values); *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1330–34 (Fed. Cir. 2012) (applying for credit); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1367–68, 1376–77 (Fed. Cir. 2011) (verifying credit-card transactions); *In re Comiskey*, 554 F.3d 967, 970–71, 981 (Fed. Cir. 2009) (conducting an arbitration); *In re Schrader*, 22 F.3d 290, 291, 293–94 (Fed. Cir. 1994) (bidding at an auction).

Appellants assert that the Examiner “simply generaliz[es]” the claims to an inappropriate “level of abstraction.” App. Br. 5. We disagree. The Examiner accurately assesses the “focus” of the claims and their “character as a whole.” *See Elec. Power Grp.*, 830 F.3d at 1353; Final Act. 2–3, 18; Ans. 2–4.

Citing footnote 3 in *Alice*, Appellants assert that the Examiner “has failed to follow Supreme Court precedent.” App. Br. 4. Appellants misread Supreme Court precedent. Footnote 3 concerns step two, not step one. *Alice*, 134 S. Ct. at 2355 & n.3. Footnote 3 and the sentence it relates to read as follows:

We have described step two of this analysis as a search for an “inventive concept”—*i.e.*, an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.”³

³ Because the approach we made explicit in *Mayo* considers all claim elements, both individually and in combination, it is consistent with the general rule that patent claims “must be considered as a whole.” *Diamond v. Diehr*, 450 U.S. 175, 188 (1981).

Alice, 134 S. Ct. at 2355 & n.3 (alteration in original) (additional citations omitted).

MAYO/ALICE STEP TWO

Appellants argue that “the Examiner has failed to properly analyze the claim[s] under” *Mayo/Alice* step two and “has failed to provide any such analysis.” App. Br. 6. We disagree.

The Examiner determines that claim 1 does not include:
additional elements that are sufficient to amount to significantly more than the judicial exception because the additional

limitations, other than the abstract idea per se, amount to no more than limitations which require no more than a generic computer to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the industry (such as communicating, generating, identifying, including, issuing, providing, receiving, reviewing, storing, tagging, and tracking data) and limitations which generally link the use of the judicial exception to a particular technological environment or field of use (such as databases and servers).

Final Act. 3; *see* Ans. 4–5, 7. The Examiner makes a similar determination for the dependent claims. Final Act. 3–4; *see* Ans. 7.

More specifically, the claims recite as additional elements a “master server,” a “master content database,” a “first derivative content database,” a “second derivative content database,” and a “master session server.” App. Br. 38–41 (Claims App.). Those additional elements perform conventional computer operations, i.e., collecting, manipulating, and communicating data. Court decisions have recognized those operations as well understood, routine, and conventional to a skilled artisan. *See, e.g., Alice*, 134 S. Ct. at 2360; *SAP Am.*, 2018 WL 2207254, at *2, 6 (noting that “[s]ome of the claims require various databases and processors”); *Intellectual Ventures I v. Symantec Corp.*, 838 F.3d 1307, 1318–20 (Fed. Cir. 2016); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1334 (Fed. Cir. 2015); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–16 (Fed. Cir. 2014); *buySAFE*, 765 F.3d at 1355; *Cyberfone*, 558 F. App’x at 993.

Appellants assert that the claims satisfy *Mayo/Alice* step two because “the invention” is both “novel” and “useful” and “the inventive concept” transforms them into significantly more than a patent-ineligible abstract idea. App. Br. 9–10. Appellants also assert that “[t]he unconventional

approach set forth in the claims . . . provides enhanced functionality” and “improved functionality of a clinical management system.” Reply Br. 8.

Appellants’ assertions do not persuade us of Examiner error. “The search for a § 101 inventive concept is . . . distinct from demonstrating § 102 novelty.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016); see *Diehr*, 450 U.S. at 188–89; *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017). “[U]nder the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016). “[A] claim for a *new* abstract idea is still an abstract idea.” *Synopsys*, 839 F.3d at 1151. Similarly, a claim for a beneficial abstract idea is still an abstract idea. See *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379–80 (Fed. Cir. 2015). Further, the Federal Circuit has expressly rejected the notion that “abstract ideas remain patent-eligible under § 101 as long as they are new ideas, not previously well known, and not routine activity.” *Ultramercial*, 772 F.3d. at 714–16. Thus, the claims’ alleged novelty and improvements fail to provide an inventive concept needed to satisfy *Mayo/Alice* step two.

As the Examiner explains, the “judicial exceptions need not be old or long-prevalent; even newly discovered judicial exceptions are still exceptions, despite their novelty.” Final Act. 19. “[T]his purported novelty is understood to be part of the judicial exception.” Ans. 6; see *Parker v. Flook*, 437 U.S. 584, 591–92 (1978) (explaining that the novel mathematical algorithm was “treated as though it were a familiar part of the prior art”).

Appellants contend that: (1) “[t]he claim does not monopolize an abstract idea”; (2) “not *all* clinical content management systems fall within the scope of the claim”; and (3) “not all systems which include derivative content in separate databases fall within the scope of the claim.” App. Br. 8, 10.

Appellants’ contentions do not persuade us of Examiner error. *See* Ans. 5–6 (addressing monopolization and preemption); *see also* Final Act. 18–19. While preemption may denote patent ineligibility, its absence does not demonstrate patent eligibility. *See FairWarning*, 839 F.3d at 1098. For claims covering a patent-ineligible concept, preemption concerns “are fully addressed and made moot” by an analysis under the *Mayo/Alice* framework. *Ariosa*, 788 F.3d at 1379.

Appellants argue that “the Examiner has failed to provide any legal basis for the proposition that any method which uses known computer actions is *per se* insufficient to transform a claim into [a] patent-eligible application of that abstract idea.” App. Br. 6. Appellants mischaracterize the Examiner’s position. *See* Final Act. 3–4. The Examiner does not rely on any such proposition. *See* Ans. 4; *see also* Final Act. 3–4.

Appellants assert that the claims here “are similar to the claims in *DDR Holdings*, and are thus drawn to patentable subject matter.” Reply Br. 3, 9 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)). *DDR Holdings* does not help Appellants.

In *DDR Holdings*, the Federal Circuit determined that certain claims satisfied *Mayo/Alice* step two because “the claimed solution amount[ed] to an inventive concept for resolving [a] particular Internet-centric problem,” i.e., a challenge unique to the Internet. *DDR Holdings*, 773 F.3d at 1257–59;

see Synopsys, 839 F.3d at 1151 (noting that “[i]n *DDR Holdings*, we held that claims ‘directed to systems and methods of generating a composite web page that combines certain visual elements of a “host” website with content of a third-party merchant’ contained the requisite inventive concept”). In *DDR Holdings*, the Federal Circuit explained that the patent-eligible claims specified “how interactions with the Internet are manipulated to yield a desired result . . . that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink.” *DDR Holdings*, 773 F.3d at 1258. The court reasoned that those claims recited a technological solution “necessarily rooted in computer technology” that addressed a “problem specifically arising in the realm of computer networks.” *Id.* at 1257.

According to the Federal Circuit, “*DDR Holdings* does not apply when . . . the asserted claims do not ‘attempt to solve a challenge particular to the Internet.’” *Smart Sys.*, 873 F.3d at 1375 (quoting *TLI Commc’ns*, 823 F.3d at 613). The claims here do not attempt to solve a challenge particular to the Internet. Among other things, they do not require any unconventional network configurations or any uncommon communications. App. Br. 38–41 (Claims App.).

Appellants argue that “the ordered combination recited in the claims is inventive, like the claims in *BASCOM*.” Reply Br. 6, 9. We disagree that the claims here resemble the claims in *BASCOM*. There, the claims recited a “specific method of filtering Internet content” requiring “the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user.” *BASCOM*, 827 F.3d at 1345–46, 1350. The Federal Circuit reasoned that the claims

covered “a technology-based solution . . . to filter content on the Internet that overcomes existing problems with other Internet filtering systems” and “improve[s] an existing technological process.” *Id.* at 1351 (citing *Alice*, 134 S. Ct. at 2358); *see Alice*, 134 S. Ct. at 2358 (explaining that “the claims in *Diehr* were patent eligible because they improved an existing technological process”). In contrast to *BASCOM*, the claims here do not cover a technology-based solution that improves an existing technological process. *See* Ans. 5, 7.

Appellants contend that “like the claims in *Amdocs*, the Appellant’s [sic] claims are patentable.” Reply Br. 7, 9 (citing *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016)). We disagree that the claims here resemble the claims in *Amdocs*. There, the patents concerned network components “arrayed in a distributed architecture” that “collect[ed] and process[ed] data close to its source,” and thereby “enable[d] load distribution” and reduced network congestion. *Amdocs*, 841 F.3d at 1291–92, 1300, 1303, 1306. The Federal Circuit decided that the claims satisfied *Mayo/Alice* step two because they: (1) “entail[ed] an unconventional technological solution . . . to a technological problem” that required generic computer components to “operate in an unconventional manner to achieve an improvement in computer functionality”; or (2) “recite[d] a technological solution to a technological problem specific to computer networks—an unconventional solution that was an improvement over the prior art.” *Id.* at 1299–1306.

The claims here do not achieve an improvement in computer functionality. *See* Ans. 5, 7. Appellants do not describe an advance in hardware or software that, for example, causes a computer itself or a

database itself to operate faster or more efficiently. Appellants do not address the operation of a computer itself or a database itself. Instead, Appellants discuss decentralized content control that allegedly “enables the continuous improvement of crowd-sourced or customer-sourced medical content based on results.” Reply Br. 7–8 (quoting Spec. ¶¶ 50–51). Further, the claims here do not recite a technological solution to a technological problem specific to computer networks, e.g., because they do not require any unconventional network configurations. App. Br. 38–41 (Claims App.). Rather, they require generic computer components “operably connected” to one another.

SUMMARY

For the reasons discussed above, Appellants’ arguments have not persuaded us of any error in the Examiner’s findings or conclusions under *Mayo/Alice* step one or step two. Hence, we sustain the § 101 rejection of claims 1–11.

The § 112 ¶ 2 Rejection of Claims 9–11

INTRODUCTION

Section 112’s second paragraph requires that the specification “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112 ¶ 2.

Due to the need for “particular[ity]” and “distinct[ness],” claim language that “is ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the claimed invention” warrants a rejection under § 112 ¶ 2. *In re Packard*, 751 F.3d 1307, 1311, 1313 (Fed. Cir. 2014); see *Ex parte McAward*, Appeal 2015-006416, 2017 WL

3669566, at *5 (PTAB Aug. 25, 2017) (precedential); *see also In re Warmerdam*, 33 F.3d 1354, 1361 (Fed. Cir. 1994) (explaining that “[t]he legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope”); *In re Moore*, 439 F.2d 1232, 1235 (CCPA 1971) (requiring “a reasonable degree of precision and particularity” in claims). Similarly, the Supreme Court has held in a litigation context that § 112 ¶ 2 “require[s] that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). The definiteness requirement “strikes a ‘delicate balance’ between ‘the inherent limitations of language’ and providing ‘clear notice of what is claimed.’” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017) (quoting *Nautilus*, 134 S. Ct. at 2129).

CLAIMS 9–11

Claims 9–11 recite:

9. The method of claim 1, further comprising:

allowing the identified at least one first derivative content database to modify the new content; and

tracking at the master server whether the new content is modified.

10. The method of claim 1, further comprising:

allowing the identified at least one first derivative content database to reject the new content; and

tracking at the master server whether the new content is rejected.

11. The method of claim 10, further comprising:
 allowing the identified at least one first derivative content database to modify the new content; and
 tracking at the master server whether the new content is modified.

App. Br. 41 (Claims App.).

THE EXAMINER'S POSITION

The Examiner finds that a skilled artisan understands that a “database” is “a structured set of data held in a computer”⁴ or “a comprehensive collection of related data organized for convenient access”⁵ rather than a component according to claims 9–11 that rejects the new content or modifies the new content. Final Act. 4–5; Ans. 24–25. Because “[i]t is unclear how a database . . . might perform the claimed functions,” the Examiner concludes that claims 9–11 fail to satisfy § 112’s definiteness requirement. Final Act. 4–5.

DISCUSSION

Appellants contend that “[t]he claims are definite” and quote a Wikipedia entry for “database” to support that contention. App. Br. 12–13; *see* Reply Br. 9–10. That Wikipedia entry states that: (1) “[a] database is an organized collection of data”; (2) “[a] database management system (DBMS) is a computer software application that interacts with the user, other applications, and the database itself to capture and analyze data”; and (3) “[s]ometimes a DBMS is loosely referred to as a ‘database’.” App. Br. 12–13 (emphasis omitted); *see* Reply Br. 9. Based on those statements,

⁴ *See* Oxford Dictionaries, <https://en.oxforddictionaries.com/definition/database>.

⁵ *See* Dictionary.com, <http://www.dictionary.com/browse/database>.

Appellants assert that “one of ordinary skill in the art understands that a ‘database’ refers not only to the data or data structure, but also to the software used to create, update, and administer the data.” App. Br. 13; *see* Reply Br. 9–10. Appellants also assert that “[t]he ordinary meaning of the word ‘database’ as including the DBMS is confirmed” by Pei’s disclosure that “[t]he server database and/or client database may resolve which update information to apply from independent updates.” App. Br. 13–14 (emphasis omitted) (quoting Pei ¶ 13); *see* Reply Br. 10–12 (citing Pei ¶¶ 13, 65, claims 4–7).

Appellants’ arguments do not persuade us of Examiner error. A Microsoft dictionary defines “database” as “[a] file composed of records, each containing fields together with a set of operations for searching, sorting, recombining, and other functions.” *Microsoft Computer Dictionary* 141 (5th ed. 2002) (“*Computer Dictionary*”). That dictionary separately defines “database management system” as “[a] software interface between the database and the user.” *Id.*

In addition, an IEEE dictionary defines “database” as: (1) “[a] collection of logically related data stored together in one or more computerized files”; (2) “[a] collection of data fundamental to a system”; (3) “[a] collection of related data stored in one or more computerized files in a manner that can be accessed by users or computer programs via a database management system”; and (4) “[a] collection of interrelated data, often with controlled redundancy, organized according to a schema to serve one or more applications.” *The Authoritative Dictionary of IEEE Standards Terms* 268 (7th ed. 2000) (“*IEEE Dictionary*”). That dictionary separately defines “database management system” as: (1) “[a] computer system involving

hardware, software, or both that provides a systematic approach to creating, storing, retrieving and processing information stored in a database”; and (2) “[a]n integrated set of computer programs that provide the capabilities needed to establish, modify, make available, and maintain the integrity of a database.” *Id.* That dictionary explains that “[a] DBMS acts as an interface between computers’ programs and data files as well as between users and the database.” *Id.*

The Microsoft and IEEE dictionaries demonstrate that a skilled artisan understands that a “database” differs from and does not include a “database management system.” *See Computer Dictionary* 141; *IEEE Dictionary* 268. Anyone with Internet access can edit a Wikipedia entry.⁶ For example, the current Wikipedia entry for “database” differs from the entry that Appellants quote in the Appeal Brief.⁷ Further, the Wikipedia entry from July 2013—contemporaneous with application filing—did not state that “[s]ometimes a DBMS is loosely referred to as a ‘database’.”⁸ Consequently, we credit the Microsoft and IEEE dictionaries more than the Wikipedia entry that Appellants quote. Additionally, insofar as that entry distinguishes a “database” from a “database management system,” it actually supports the Examiner’s position. *See App. Br.* 13; *Ans.* 8.

Moreover, Appellants misplace their reliance on Pei. As Appellants note, Pei states that “the server database and/or client database may resolve which update information to apply from independent updates.” Pei ¶¶ 13,

⁶ *See* Wikipedia, <https://en.wikipedia.org/wiki/Wikipedia:Tutorial/Editing>.

⁷ *See* Wikipedia, <https://en.wikipedia.org/wiki/Database>.

⁸ *See* Internet Archive, <https://web.archive.org/web/20130727225234/https://en.wikipedia.org/wiki/Database>.

65; *see* App. Br. 13; Reply Br. 10–11. But Pei clarifies those statements by explaining that a “resolver unit” in the server associated with the database actually determines which update information to apply. Pei ¶¶ 41–42, 55–56, 63, Fig. 2 (distinguishing “database” from “[r]esolver”); *see* Ans. 9 (citing Pei ¶¶ 41–42, 55–56, 63, Fig. 2). Pei also explains that the server associated with the database enforces conflict-resolution rules for update information. Pei ¶¶ 14, 66, 69.

Further, even if a Pei database did by itself resolve which update information to apply, that resolver functionality does not correspond to a database management system. *See Computer Dictionary* 141; *IEEE Dictionary* 268. Consequently, contrary to Appellants’ contention, Pei does not “establish that the word ‘database’ is commonly used to identify not solely data, but also data and the software used to create, update, and administer the data.” *See* Reply Br. 12. And the disclosure in one patent publication does not necessarily show common usage, e.g., because inventors can act as their own lexicographers. *See Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 677 (Fed. Cir. 2015). As Appellants point out, claims 4–7 in Pei recite a “database” that “resolve[s] which update information to apply.” *See* Reply Br. 11–12.

Appellants assert that the Specification “uses the word ‘database’ in a manner consistent with the broad meaning of the word ‘database’ which includes not just the data but also editing functionality.” Reply Br. 13; *see id.* 9–10 (quoting Spec. ¶ 28); *see also* App. Br. 12 (quoting Spec. ¶ 28). We disagree. As the Examiner finds, the Specification does not “describe an actual database performing an editing functionality normally attributed to software which controls content in databases.” Ans. 7–8.

Instead, the Specification describes “content editors” who provide proposed new content for a master content database or various derivative content databases. Spec. ¶¶ 19–20. Proposed new content for the master content database from a “content editor” is “accompanied by the credentials of the particular content editor and the basis for the change.” *Id.* ¶ 24. The credentials may include “the laboratory or school/research team which is submitting the new content,” “a study or research project which supports the new content,” and “the name of the author generating the new content.” *Id.* An “expert panel” reviews “the proposed new content along with the associated credentials of the content editor.” *Id.* ¶ 25. “The expert panel may accept the new content for addition to the master content database, reject the new content, or determine that a modified version of the new content is to be added to the master content database.” *Id.* Proposed new content for a derivative content database from a “content editor” is also “accompanied by the credentials of the particular content editor and the basis for the change,” and the process then “entails a review of the new content along with the associated credentials.” *Id.* ¶ 28. For example, an “expert panel” may “assess[] the new content to determine if the new content is to be designated as a best practice.” *Id.*

A customer who owns a derivative content database may act as a “content editor,” and “the customer may modify the derivative content database based upon their own research efforts or using a customized review process.” Spec. ¶ 29. When the master content database incorporates new content related to content in the customer’s derivative content database, the customer receives an alert, and the customer may “accept the new content,

. . . reject the new content, or modify the new content thereby creating another derivative new content.” *Id.* ¶¶ 31–32.

Hence, consistent with the Examiner’s finding, the Specification indicates that a person (e.g., a customer) or an entity (e.g., an expert panel) rejects the new content or modifies the new content and that a database does not do so. *See Spec.* ¶¶ 19–20, 24–25, 28–29, 31–32; Final Act. 4–5.

SUMMARY

We agree with the Examiner that claims 9–11 are unclear when viewed in light of the Specification. *See Final Act.* 4–5; *Ans.* 7–9. Thus, we sustain the § 112 ¶ 2 rejection of claims 9–11.

The § 103(a) Rejections of Claims 1–3 and 6–11

INDEPENDENT CLAIM 1

Appellants argue that the Examiner erred in rejecting claim 1 because the cited portions of Beraja do not disclose “a master server with a master content database including best practices master content” or a “derivative content database” as required by claim 1. *App. Br.* 15–18; *see Reply Br.* 13. Appellants also argue that the Examiner “has failed to identify a derivative content database in the system of Beraja” because “the medical related information databases 104 is [sic] not a derivative content database.” *App. Br.* 17–18.

Appellants’ arguments do not persuade us of Examiner error because Beraja discloses: (1) server 120 with medical practice database 108 containing best practices; (2) medical related information databases 104 operably connected to medical practice database 108 through an interactive protocol system; and (3) automatically updating medical related information databases 104 with best practices. Beraja ¶¶ 100, 103–104, 110,

Figs. 10–11, 15; *see* Ans. 9–12; *see also* Final Act. 6–7. For example, Beraja explains that “a medical professional peer determines which medical practices should be considered best practices and, as such, be included on the system,” e.g., in medical practice database 108. Beraja ¶¶ 100, 142, 144, Figs. 10–11, 15. If it is determined that additional best practices need to be added to the system, medical related information databases 104 are updated with the additional best practices, e.g., “automatically updated with the best practices.” *Id.* ¶¶ 110, 143, Fig. 15.

Appellants contend that claim 1 differs from Beraja because:

(1) medical practice database 108 and medical related information databases 104 contain the same best practices; and (2) “a ‘derived content’ as defined by the claim must be content which can be *different* from the master content, e.g., an *editable* content from the master content, or new content which is simply ‘related to’ master content.” App. Br. 17–19. As the Examiner reasons, however, “the claims merely state that the derived content need not be the same as the master content,” and “[s]tating that the content ‘need not be the same’ does not exclude the situation where the content is the same.” Ans. 11–13.

“[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.” *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). Here, the Specification describes an embodiment where the “master content database” and the “derivative content database” contain the same best practices. Spec. ¶ 30; *see* Ans. 11, 14–15. In particular, the Specification explains that a “derivative content server” may “only maintain the best practices of a particular set of master content in the master content database,” e.g., a customer who “simply

maintain[s] the best practices version of content on a derivative content server.” Spec. ¶¶ 30–31.

Moreover, the Examiner relies on the combination of references to reject claim 1, and Bleyendaal discloses derived content that may differ from the master content. *See* Final Act. 6–8; Bleyendaal ¶¶ 7–10. For instance, Bleyendaal discloses that: (1) “the order set provider may make a change to the subscriber’s order set(s) [best practices] based on new medical information that is judged to warrant the change”; and (2) “the subscriber may use the order set(s) [best practices] as it sees fit, e.g., by implementing the order sets in the form provided, and/or with some subscriber-specific modifications being made to the order set.” Bleyendaal ¶¶ 9–10. Thus, even under Appellants’ incorrect claim interpretation, the combination of disclosures in Beraja and Bleyendaal teaches or suggests the disputed database limitations.

Appellants assert that: (1) Beraja does not store derived content; (2) Beraja does not track derived content; (3) Bleyendaal does not track derived content; and (4) Bleyendaal does not identify a derivative content database including derived content related to new content. App. Br. 18–23. As the Examiner explains, however, those assertions rest on Appellants’ incorrect claim interpretation. *See* Ans. 12–16. Thus, those assertions do not persuade us of Examiner error.

Further, the references teach or suggest the disputed limitations. For instance, Beraja stores derived content in medical related information databases 104, e.g., best practices derived from medical practice database 108, and Beraja tracks derived content to automatically update best practices. *See* Beraja ¶¶ 110, 141–144, Fig. 15. Bleyendaal identifies a

derivative content database including derived content related to new content to permit a subscriber to receive a notice “indicat[ing] that changes have been made to one or more order sets, and that the subscriber may wish to review the order sets in question and determine whether a change in practice or procedure should be made.” *See* Bleyendaal ¶¶ 7–10.

Appellants contend that the Examiner “has failed to explain why one of ordinary skill in the art would find it obvious to incorporate the tracking of Pei which ensures synchronizing data amongst multiple databases when the alleged system as modified is designed to *not* synchronize data amongst multiple databases.” App. Br. 24. The Examiner asserts, however, that contention rests on Appellants’ incorrect claim interpretation. *See* Ans. 16–17.

Further, the Examiner finds that “Pei discloses data replication across enterprise boundaries” and addresses “preserving the integrity of data stored in multiple databases.” Final Act. 9; *see* Ans. 16; Pei ¶ 1. The Examiner reasons that:

it would have been obvious to one of ordinary skill in the art, at the time of the invention . . . to have modified the combined teachings of Beraja and Bleyendaal so as to have included the ability to use a sequence number to track data incorporated into a database, in accordance with the teaching of Pei, in order to preserve the integrity of data stored in multiple databases such as the first derivative content database, the second derivative content database, and the master content database . . . since so doing could be performed readily and easily by any person of ordinary skill in the art, with neither undue experimentation, nor risk of unexpected results.

Final Act. 9; *see* Ans. 16. Hence, insofar as the “master content database” and the “derivative content database” contain the same best practices, the

Examiner provides articulated reasoning with a rational underpinning for why a person of ordinary skill would have combined the references, including identifying an advantage achieved with the combination.

Because Appellants' arguments do not persuade us of Examiner error, we sustain the § 103(a) rejection of claim 1.

DEPENDENT CLAIM 2

Appellants contend that the Examiner erred in rejecting claim 2 because Beraja does not disclose "identifying the new content as related to a master content" or "tagging the new content based upon the identification of the new content as related to the master content," as recited in claim 2. App. Br. 25–27. In particular, Appellants argue that Beraja does not discuss "identifying any existing best practices which are related to the new best practice" or "providing a new best practice with a metatag." *Id.* at 26.

Appellants' arguments do not persuade us of Examiner error. Claim 2 does not require a best practice as the "new content" or a metatag. *See* Ans. 17–18. Accordingly, the Examiner finds that Beraja discloses reviewing best practices on the system and selecting protocols and rules ("identifying the new content") relating to best practices to incorporate into best practices when updating best practices. Final Act. 6–7, 10; Ans. 18–19; *see* Beraja ¶¶ 110, 141–144, Fig. 15. The Examiner determines that "tagging" is "broadly interpreted" according to "the common definition of tagging which includes attaching a label to something." Ans. 18. The Examiner then finds that identifying an updated best practice when storing it on the system meets the tagging limitation. *Id.* at 18–19.

Because Appellants' arguments do not persuade us of Examiner error, we sustain the § 103(a) rejection of claim 2.

DEPENDENT CLAIMS 3 AND 6–8

Claims 3 and 6–8 depend directly or indirectly from claim 1. Appellants do not argue patentability separately for these dependent claims. App. Br. 27, 33; *see In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (explaining that the applicable rules “require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art”). Because Appellants do not argue the claims separately, we sustain the § 103(a) rejections of these dependent claims for the same reasons as claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DEPENDENT CLAIMS 9–11

Appellants argue that the Examiner erred in rejecting claims 9 and 10 because Beraja does not disclose the “allowing” and “tracking” limitations in each claim. App. Br. 28–32. More specifically, Appellants assert that “the *exact* new best practice is disclosed as being transferred to the medical related information databases 104” when updating best practices, and “[t]here is no mention whatsoever of the medical related information databases 104 *modifying*” or “*rejecting* the new best practice.” *Id.* at 28–29, 31. In addition, Appellants contend that “[t]here is no indication that such updating” or “any unmentioned rejection” is “tracked by a server.” *Id.* at 29, 32. Appellants do not argue patentability separately for claim 11. *Id.* at 33.

Appellants’ arguments do not persuade us of Examiner error. The Examiner finds that Beraja: (1) “describes allowing users to determine whether to update the best practices included in the system”; (2) “indicates that one institution may update the best practice (e.g., master content database), which may be reviewed by a medical professional peer to

determine whether to include the updated best practice into the best practices in the system (e.g., derivative content database)”; and (3) “indicates best practices are updated (e.g., tracked) based on whether the new content is added.” Ans. 20–22 (citing Beraja ¶¶ 141–144); *see* Final Act. 6–7, 12–13.

For example, Beraja describes “an institution updating the best practice” in addition to “a medical professional peer [who] decides whether or not a best practice is updated” and “update[s] the best practices to be included in the system.” Beraja ¶¶ 141, 143–144, Fig. 15. Further, Beraja discloses optional automatic updating, and thus teaches or suggests (1) tracking to implement automatic updating and (2) optional manual acceptance/rejection of an update. *Id.* ¶ 110; *see id.* ¶¶ 141–144, Fig. 15. Also, as discussed above, Bleyendaal teaches or suggests manual acceptance/rejection of an update. *See* Bleyendaal ¶¶ 9–10.

Because the references teach or suggest the disputed limitations in claims 9 and 10, we sustain the § 103(a) rejection of these claims and claim 11 (not argued separately). *See* 37 C.F.R. § 41.37(c)(1)(iv).

The § 103(a) Rejection of Claims 4 and 5

Claim 4 depends from claim 1 and further requires:

providing a second derivative content database operably connected to the master content database, the second derivative content database including derived content derived from the master content;

including the new content in the second derivative content database prior to including the new content in the master content database; and

tracking at the master server that the new content is incorporated into the second derivative content database.

App. Br. 39 (Claims App.).

Appellants assert that the Examiner erred in rejecting claim 4 because Stoycos does not disclose “including the new content in the second derivative content database prior to including the new content in the master content database.” App. Br. 35. In particular, Appellants contend that Stoycos discloses entering information at a workstation but “there is no mention of first entering the update into a derivative content *database*.” *Id.*

Appellants’ arguments do not persuade us of Examiner error. The Examiner finds that “Stoycos teaches a distributed real time replication-based system which includes the ability for updating content in the second derivative content database prior to including the new content in the master content database.” Final Act. 16. More specifically, Stoycos discloses controller 58 with acquisition database 56 and local clients 60 with local-client workstations 62 and local-client databases 64. Stoycos ¶¶ 29–30, Fig. 2. A local client 60 can communicate directly with the controller 58 and exchange data with the acquisition database 56. *Id.* ¶ 30, Fig. 2. A user at a local-client workstation 62 can annotate study data, e.g., data in a local-client database 64. *Id.* ¶¶ 30–31, Fig. 2. The annotated study data is subsequently sent from a local client 60 to the controller 58 and stored in the acquisition database 56. *Id.* ¶¶ 31–33. The Examiner determines that the annotated study data is stored in a database (“derivative content database”), e.g., a local-client database 64, prior to inclusion in the acquisition database 56 (“master content database”). *See* Ans. 24–25; *see also* Final Act. 15–16 (citing Stoycos ¶ 32). Consequently, Stoycos teaches or suggests the disputed limitation in claim 4.

Because Appellants’ arguments do not persuade us of Examiner error, we sustain the § 103(a) rejection of claim 4.

Claim 5 depends from claim 4. Because Appellants do not argue patentability separately for claim 5, we sustain the § 103(a) rejection of claim 5 for the same reasons as claim 4. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

We affirm the rejection of claims 1–11 under 35 U.S.C. § 101.

We affirm the rejection of claims 9–11 under 35 U.S.C. § 112 ¶ 2.

We affirm the rejections of claims 1–11 under 35 U.S.C. § 103(a).

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