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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* OCTAVIAN SOLDEA, GERARDO SANTIAGO FLORES, and  
RADU SERBAN JASINSCHI

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Appeal 2019-000904  
Application 14/762,908  
Technology Center 2600

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Before JOSEPH L. DIXON, ROBERT E. NAPPI, and JUSTIN BUSCH,  
*Administrative Patent Judges.*

Opinion for the Board filed by *Administrative Patent Judge*  
ROBERT E. NAPPI.

Opinion Dissenting-in-part filed by *Administrative Patent Judge*  
JUSTIN BUSCH.

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 through 5, 11, 13 through 15, 20, 24, and 26 through 32. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). According to Appellant, Koninklijke Philips N.V. is the real party in interest. Appeal Br. 3.

## INVENTION

The invention is directed to an apparatus for processing of medical images. Spec. Abstract. Claim 1 is illustrative of the invention and is reproduced below.

1. An apparatus for processing an image to determine medical information, the apparatus comprising:
  - a first processor configured to receive the image which represents characteristics of a part of a human or animal body, wherein the first processor is further configured to determine an image associated set of signatures from the image only, and wherein the image associated set of signatures provides a unique representation of characteristics of a corresponding image and is represented by less data than the corresponding image;
  - a database memory storage configured to store a plurality of sample images, each sample image comprising a sample associated set of signatures and medical data associated with said each sample image, wherein the sample associated set of signatures provides a unique representation of characteristics of a corresponding sample image and is represented by less data than the corresponding sample image;
  - a second processor configured to search the entire database memory storage and determine at least one matching sample based on a comparison between the image associated set of signatures and the sample associated set of signatures; and
  - a third processor configured to determine the medical information for the image based on the at least one matching sample and the medical data associated with the at least one matching sample.

## EXAMINER'S REJECTION<sup>2</sup>

The Examiner rejected claims 1 through 5, 11, 13 through 15, 20, 24, and 26 through 32 under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter. Final Act. 5.

The Examiner rejected claims 1 through 5, 11, 13 through 15, 20, 24, and 26 through 32 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Final Act. 4.

The Examiner rejected claims 24 and 29 through 32 under 35 U.S.C. § 102(e) as anticipated by Zankowski (US 2012/0027271 A1, published Feb. 2, 2012). Final Act. 6–10.

The Examiner rejected claims 1 through 5, 11, 13 through 15, 20, and 26 through 28 under 35 U.S.C. § 103 as being unpatentable over Zankowski, and Matsumoto (US 2006/0103670 A1, published May 18, 2006). Final Act. 11–16.

## ANALYSIS

### *Rejection under 35 U.S.C. § 101*

#### PRINCIPLES OF LAW

Patent-eligible subject matter is defined in 35 U.S.C. § 101 of the Patent Act, which recites:

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.

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<sup>2</sup> Throughout this Decision we refer to the Appeal Brief filed June 22, 2018 (“Appeal Br.”); Reply Brief filed November 15, 2018 (“Reply Br.”); Final Office Action mailed January 23, 2018 (“Final Act.”); and the Examiner’s Answer mailed September 17, 2018 (“Ans.”).

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in 35 U.S.C. § 101: “[l]aws of nature, natural phenomena, and abstract ideas.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”)

Concepts determined to be abstract ideas, and, thus, patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (citation omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (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 United States Patent and Trademark Office (“USPTO”) published revised guidance on the application of § 101. USPTO’s *2019 Revised Patent*

*Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Memorandum”). Under that guidance, we first determine 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); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) § 2106.05(a)–(c), (e)–(h) (9<sup>th</sup> Ed., Rev. 08.2017, Jan. 2018)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

*See* Memorandum.

## DISCUSSION

The Examiner determined the claims are not patent eligible because they are directed to a judicial exception without reciting significantly more. Final Act. 5–6. Specifically, the Examiner finds the claims are directed to the abstract idea of data recognition and storage. Final Act. 4 (citing

*Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014)).

Appellant argues the claims are not directed to an abstract idea but rather directed to image processing of digital images, which is not a process that can be performed by a human being. Appeal Br. 12–15. Further, Appellant argues that the claims are directed to solving a technical problem of reducing the computational resources of comparing a large number of reference images and as such recite significantly more than the abstract idea. Appeal Br. 17–18, Reply Br. 5–6 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014)).

Appellant's arguments have persuaded us of error in the Examiner's rejection of independent claims 1, 24, and 32 under 35 U.S.C. § 101, because the record does not support the Examiner's determination that the claims do not recite an improvement in a computer related technology.

Each of the independent claims recites limitations directed to receiving an image (a data gathering or observation element), and searching a database to determine a match (a data analysis or evaluation element). Thus, the claims include limitations which recite an abstract mental process. However, we concur with Appellant that the claimed invention is necessarily rooted in computer technology and improves the operation of the computer network, as were the claims in *DDR Holdings*. Thus, we consider the claims to be drawn to a practical application of the abstract idea. In *DDR Holdings*, the claimed invention created a hybrid web page that combined advantageous elements from two web pages, bypassing the expected manner of sending a visitor to another party's web page, in order to solve the internet-centric problem of retaining website visitors. *DDR Holdings*, 773

F.3d at 1257–59. Here, each independent claim recites a determination that an image associated with signatures from the image only, that provide a representation of a characteristic of the image which is less data than the corresponding image; that a comparison is made between the image associated with the signatures and other images to determine a match; and the match is used to determine medical information. Appellant’s Specification identifies that the use of images associated with signatures in the matching is to reduce computational resources and generate more accurate reliable data as it reduces the number of images used in the image comparison. Specification p. 2, ll. 1–11. Further, Appellant’s Specification discusses that the use of signatures represents significantly less data than that used to represent the image and allows for efficient communication between units. Specification, p. 3, 5-28. As such, the claims are directed to an improvement in a computer-related technology, i.e., more efficiently finding matches and medical information associated with medical images. Thus, similar to *DDR Holdings*, the instant claims overcome a problem specifically arising in computer memory devices, and thus are necessarily rooted in computer technology and improve the operation of the computer. Further, we concur with Appellant’s argument, on page 6 of the Reply Brief, that their claims are more similar to those at issue in *Finjan, Inc. v. Blue coat Sys., Inc.*, 879 F.3d 1299 (Fed. Cir. 2018) than those at issue in *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307 (Fed. Cir. 2016). In *Finjan*, the court held the “the claims recite more than a mere result. Instead they recite specific steps ... that accomplish the desired result.” *Finjan*, 879 F.3d at 1305. Here, the claims recite specific steps determining an image with a set of signatures and performing a search of the database to determine

a match between the image associated with the signatures and samples images in a database associated with signatures. It is these specific steps that produce the result of improved efficiency. As such, the independent claims, and the claims which depend thereupon, recite patent-eligible subject matter. Accordingly, we do not sustain the Examiner's rejection of independent claims 1, 24, and 32, and the claims which depend thereupon, under 35 U.S.C. § 101 for being directed to patent-ineligible subject matter.

*Rejection under 35 U.S.C. § 112*

The Examiner rejected claims 1 through 5, 11, 13 through 15, 20, 24, 26 through 32 as not complying with the written-description requirement because the Specification does not demonstrate Appellant had possession of the claimed “a unique representation of characteristics of a corresponding image” or “search the entire database memory storage.” Final Act 4.

Appellant argues that the originally filed Specification provides support for the signatures being a unique representation of a characteristic of the image. Appeal Br. 9 (citing the published application US 2015/0356733 A1 ¶¶ 12, 51, 92, 95, 96 and 104), Reply Br. 3–4. Appellant states:

a dictionary definition of “unique” as “belonging or connected to (one particular person, group, or place).” A synonym for “unique” is “specific.” A person having ordinary skill in the art would clearly understand the abovementioned paragraphs - presented in the context of the entire specification, and not in vacuum - to provide adequate description and support for the claimed limitation of “a unique representation of characteristics of a corresponding image.”

Appeal Br. 9. Further, Appellant asserts that the skilled artisan would understand the Specification to disclose the limitation of searching the entire

database, as the Specification discusses searching a database and there is no limiting language to indicate anything other than the whole database is searched. Appeal Br. 9–10, Reply Br. 3–4.

We are not persuaded of error in the Examiner’s written description rejection with respect to the “unique representation of characteristics” limitation, however we are persuaded of error with respect to the “search the entire database” limitation. The written-description requirement serves “to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him; how the specification accomplishes this is not material.” *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976). Here, as the Examiner identifies, the signature representative of a unique representation of a characteristic in a corresponding image is not discussed in the originally filed claims or the Specification. We have reviewed the sections of Appellant’s Specification cited in the arguments discussed above and do not find that they discuss that the signatures are unique as argued by Appellant. The Specification identifies the signatures as being representative of portions of the images, (an indication of a property of or derived from the image) but does not identify that they are specific to the image or belong to one particular person, group or place (a one of a kind characteristic of the image). Specification 3, ll. 23–25. Further, Appellant’s Specification discusses signatures being matched with signatures of other images, which also suggest that the signatures are not unique, associated with one particular,

person group or place. See Spec. p. 13, ll. 9–12.<sup>3</sup> Thus, Appellant’s arguments have not persuaded us the originally filed Specification demonstrates possession of the limitations directed to the “unique representation of characteristics.” As such we are not persuaded of error in the Examiner’s rejection under 35 U.S.C. § 112 as directed to this limitation.

With respect to the limitation directed to searching the entire database, the Examiner has not responded to Appellant’s arguments. We have reviewed Appellant’s arguments, and we concur that the skilled artisan would consider the discussions of searching the database, absent any discussion that only part of the database is searched, to demonstrate possession of the limitation as directed to searching the whole database. As such we are persuaded of error in the Examiner’s rejection under 35 U.S.C. § 112 as directed to this limitation.

*Rejection under 35 U.S.C. § 102*

Appellant argues that the Examiner’s rejection is in error as Zankowski does not teach the limitation directed to the images associated with a set of signatures provides a unique representation of a characteristic of an image as recited in independent claims 24 and 32. Appeal Br. 19–20. Specifically, Appellant argues that Zankowski’s sparse landmark signature is

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<sup>3</sup> We also note the Examiner’s and Appellant’s discussion of signatures in cryptography are of no consequence to this case. Answer 16, Reply Br. 3. Neither the claims or Appellant’s Specification relate to cryptography. Signatures in cryptography are used for verifying authenticity and do not necessarily relate to the characteristics of the data (image) as in Appellant’s claims and Specification.

not a unique signature, as one landmark signature can be mistaken for a different landmark signature. Appeal Br. 19–20 (citing Zankowski ¶¶ 23–26), Reply Br. 13.

The Examiner responds to Appellant’s arguments by finding that Zankowski teaches the sparse landmark signatures serve as an index.

Answer 18. The Examiner states:

Those of ordinary skill in the art would understand that the signature would be unique so that it is capable of being an index for the knowledge-base. Indices by their very function are unique in order to differentiate each and every entry. Applicant argues that ¶ 0026 of Zankowski indicates shared signatures. On the contrary, that paragraph merely states that the same body parts will have the same number of landmarks – which doesn’t indicate that signatures or landmarks themselves are identical – just the number.

Answer 18–19.

While we concur with the Examiner, Zankowski does teach using a signature landmark as an index we do not find that this teaching meets the definition of unique discussed above, i.e., specific to the image or belong to one particular person, group or place. For example, Zankowski discusses the three points of bone can be used as the signature to identify the pelvic girdle, a structure common to most people, and thus not unique to a specific person. *See* Zankowski ¶ 25. Further, as discussed by Appellant, one landmark signature can be mistaken for a different landmark signature. *See* Zankowski ¶ 26, and thus not unique to a specific group or place. Thus, the Examiner has not shown that the set of signature landmarks (or index generated therefrom) provide a unique representation. Accordingly, we do not sustain the Examiner’s anticipation rejection of independent claims 24 and 32 and dependent claims 29 through 31.

*Rejection under 35 U.S.C. § 103*

Appellant argues that the obviousness rejection of independent claim 1 is in error as the claim similarly recites a limitation directed to the images associated with a set of signatures provides a unique representation of a characteristic of an image. Appeal Br. 21.

We are persuaded of error in the Examiner's obviousness rejection of independent claim 1. The Examiner's rejection relies upon Zankowski to teach this disputed limitation. Final Act. 11, 12. As discussed above with respect to the anticipation rejection of claim 24, we disagree with the Examiner's finding that Zankowski teaches a set of signatures provides a unique representation of the image. Further, the Examiner has not shown that the additional teachings of Matsumoto teach such a signature providing a unique representation. Accordingly, we do not sustain the Examiner's obviousness rejection of independent claim 1, and dependent claims 2 through 5, 11, 13 through 15, 20, and 26 through 28.

CONCLUSION

In Summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/ Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1-5, 11, 13-15, 20, 24, 26-32	101	Eligibility		1-5, 11, 13-15, 20, 24, 26-32
1-5, 11, 13-15, 20, 24, 26-32	112 first paragraph	Written Description	1-5, 11, 13-15, 20, 24, 26-32	
24, 29-32	102	Zankowski		24, 29-32
1-5, 11, 13-15, 20, 26-28	103	Zankowski, Matsumoto		1-5, 11, 13-15, 20, 26-28
<b>Overall Outcome</b>			1-5, 11, 13-15, 20, 24, 26-32	

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

BUSCH, *Administrative Patent Judge*, dissenting in part.

I agree with and join the Majority's decision except with respect to the portion of the decision reversing the Examiner's rejection of claims 1–5, 11, 13–15, 20, 24, and 26–32 under 35 U.S.C. § 101 as being directed to an abstract idea without significantly more. I agree with the Examiner's findings and conclusions with respect to this ground of rejection.

As the Majority notes, the Supreme Court's two-step framework guides patent eligibility analysis under 35 U.S.C. § 101. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). As also set forth by the Majority, after the Briefs were filed, the Office published revised guidance for evaluating subject matter eligibility under 35 U.S.C. § 101, specifically with respect to applying the *Alice* framework. USPTO, 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance").

As part of our inquiry, we "look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016). The Guidance directs us to address this inquiry using two prongs of analysis: (i) does the claim recite a judicial exception (e.g., an abstract idea) ("Prong One"), and (ii) if so, is the judicial exception integrated into a practical application ("Prong Two"). 84 Fed. Reg. at 54. If the judicial exception is integrated into a practical application, the claim is patent eligible under § 101. 84 Fed. Reg. at 54–55. If the claim is directed to a judicial exception (i.e., the claim both recites a judicial exception and fails to integrate the exception into a practical application), we next determine whether the claim provides an

inventive concept, which includes determining whether any element, or combination of elements, amounts to significantly more than the judicial exception. *Alice*, 573 U.S. at 217; 84 Fed. Reg. at 56.

The Examiner concludes the claims are directed to the mental process of data recognition and storage. Final Act. 5 (citing *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014)); Ans. 17–18 (additionally citing *In re Abele*, 684 F.2d 902 (CCPA 1982)). Generally, Appellant argues the claims are not directed to an abstract idea and include an inventive concept because the claims overcome technical problems in the art. Appeal Br. 11–18; Reply Br. 4–12. More specifically, Appellant asserts the claims recite specific steps that solve the technological problems related to storing and processing a large number of images that occupy a large amount of space by only storing a signature of an image and comparing that signature to signatures of all the other images stored in a database. *See* Appeal Br. 10; Reply Br. 7 (quoting Spec. 1:21–2:11).

Because I agree with the Majority's determination that the claims recite abstract ideas, I do not address the Prong One analysis in detail. However, I initially note Appellant argues the claims as a group and independent claim 24 could be entirely performed by a person—i.e., claim 24 does not require computer components. *See* Appeal Br. 27 (claim 24). Additionally, independent claims 1, 24, and 32 do not recite any requirements regarding: (1) the size or type of the received image; (2) the size of each sample image stored in the database; or (3) the number of sample images (plus corresponding signatures and medical data) in the

“entire database” to which the received image is compared. I find the steps of determining a set of signatures, searching sample images and determining at least one matching sample, and determining medical information recite mental steps because each involves simply an evaluation of information.<sup>4</sup> In combination, these elements merely require performing a series of steps that, but for the generic computer implementation (recited in claims 1 and 32), could be performed mentally. *See* 84 Fed. Reg. 52. Accordingly, I would find Appellant’s claims recite an abstract idea because the Appellant’s claims as a whole, and in fact all of the limitations other than the generic computer elements recited in claims 1 and 32, recite abstract ideas.

Because the claims recite a judicial exception, I move to Prong Two and analyze whether the claims integrate the judicial exception into a practical application. 84 Fed. Reg. at 54. 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*

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<sup>4</sup> If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (“[W]ith the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.”); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375, 1372 (Fed. Cir. 2011) (holding that the incidental use of “computer” or “computer readable medium” does not make a claim otherwise directed to process that “can be performed in the human mind, or by a human using a pen and paper” patent eligible); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012) (explaining mental processes are not patentable); 84 Fed. Reg. at 52–53 nn.14–15.

*exception(s)*” and evaluate those *additional* elements to determine whether they integrate the judicial exception into a recognized practical application. 84 Fed. Reg. at 54–55 (emphasis added); *see also* Manual of Patent Examining Procedure (“MPEP”) §§ 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018).

This is where I respectfully disagree with the Majority Opinion. I initially note independent claim 24 does not recite any *additional* limitations beyond the abstract mental steps. *See* 84 Fed. Reg. at 54 (explaining that we look to the elements recited *in addition to* the abstract idea to determine whether the claims integrate the abstract idea into a practical application). However, for purposes of my Prong Two analysis, I treat independent claim 1 as representative and address the additional limitations recited therein because claim 1 includes additional limitations not recited in claim 24. Nevertheless, I find claim 1 recites only generic computer components at a high level that do not integrate the judicial exception into a practical application.

More particularly, claim 1 does not recite additional limitations that: (i) improve the functionality of a computer or other technology or technical field, *see* MPEP § 2106.05(a); (ii) use a “particular machine” to apply or use the judicial exception, *see* MPEP § 2106.05(b); (iii) transform an article to a different thing or state, *see* MPEP § 2106.05(c); or (iv) provide any other meaningful limitation, *see* MPEP § 2106.05(e). *See also* 84 Fed. Reg. at 55. Rather, claim 1’s additionally recited elements simply use computers as tools to implement the abstract idea requiring no more than generic computer elements to perform generic computer functions.

As referenced above regarding Prong One, I agree with the Examiner that each of the steps recited in claim 1, as broadly recited, merely describe mental steps a physician may perform. *See* Final Act. 5; Ans. 18. As also noted above, the claims do not limit either (1) the type and size of images received or stored in the database or (2) the number of sample images in the database. A doctor may identify a signature—i.e., a certain portion of the x-ray that contains relevant information (e.g., a particular pattern of lighter areas and darker areas around a potential injury)—of an x-ray image for a patient. The doctor may then recall previously reviewed x-rays and mentally determine whether the signature associated with previously reviewed x-rays (i.e., a particular pattern) matches the current x-ray. Given the breadth of Appellant’s claims, considered in light of the Specification, and particularly given the breadth of the claimed generation of a signature, I find the claims encompass a doctor performing these mental steps. In other words, contrary to Appellant’s assertion, the claims are directed to the *idea* of using a subset of data (i.e., a signature) in place of an entire image rather than a particular solution or set of steps to achieve the result. Therefore, to the extent Appellant alleges the invention improves a computer or technology, I disagree because I do not find the claims embody such an improvement.

Claim 1 does not recite an improvement to the functionality of a computer, other technology, or a technical field because, other than the recited mental steps, the claims recite only generic computer components (i.e., three processors and a database). “[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.” *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359,

1363 (Fed. Cir. 2015); *see Alice*, 573 U.S. at 224 (“use of a computer to create electronic records, track multiple transactions, and issue simultaneous instructions” is not an inventive concept). Moreover, to the extent claim 1 improves the speed of a comparison or the number of comparisons possible, this improvement lies in the use of generic technology, an improvement in the *process* (i.e., selecting which data—smaller amounts of data representing larger amounts of data—to compare), or some combination of the two.

Claim 1’s recited “first processor,” “database memory storage,” “second processor,” and “third processor” are generic computer elements recited at a high level of generality. The Specification indicates the processors may be implemented in a central processing unit (CPU) and/or a graphical processing unit (GPU) and, although the processors may be “physically separate processing entities,” “any suitable distribution of functionality between different . . . processors may be used without detracting from the invention.” Spec. 12:11–15, 15:18–16:25, 31:25–29; *see also* Spec. 19:2–3 (“signature processor 103 may be implemented by a GPU or a combination of a GPU and a CPU”). Otherwise, the Specification generally describes these elements by the particular *functions* the processors perform. *See* Spec. *passim*. The Specification describes the processors and database in a way that indicates these elements are generic computer elements. *Cf. Berkheimer Memo*<sup>5</sup> § III.A.1.

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<sup>5</sup> “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” at 3 (Apr. 19, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF> (explaining that a

Appellant argues merely reciting these generic components renders the claims patent eligible. *See* Reply Br. 6, 9 (alleging the claims use the recited processors and database memory storage to solve a technological problem and, therefore, the claims recite eligible subject matter).<sup>6</sup> However, using generic computer components, without more, does not render an otherwise ineligible claim eligible. 84 Fed. Reg. 55; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1096 (Fed. Cir. 2016) (“[T]he use of generic computer elements like a microprocessor or user interface do not alone transform an otherwise abstract idea into patent-eligible subject matter.”).

Appellant argues the claims “allow for increased flexibility, reduced cost, increased efficiency, reduced computational resources usage, generation of more accurate or reliable medical data and/or improved performance.” Appeal Br. 17–18 (citing Spec. 2:1–11). However, as discussed above and to the extent claim 1 even embodies these advantages, I find the improved data selection using generic computer components

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specification that describes additional elements “in a manner that indicates that the additional elements are sufficiently well-known that the specification does not need to describe the particulars of such additional elements to satisfy 35 U.S.C. § 112(a)” can show that the elements are well-understood, routine, and conventional).

<sup>6</sup> Appellant cites *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999 (Fed. Cir. 2018) in support of this argument. Appeal Br. 6, 9. I fail to see the relevance of the Federal Circuit’s holding that improved user interfaces may solve a technological problem to Appellant’s claims, which are not directed to a user interface.

provides the alleged benefits. In other words, the alleged improvement is not to a computer or other technology or technical field, but the improvement is in the process that constitutes the abstract idea and merely uses technology as a tool to apply the abstract idea. *See also* 84 Fed. Reg. at 55.

Appellant also asserts claim 1 is similar to various claims the Federal Circuit previously found eligible and contends the pending claims also should be found eligible. Appeal Br. 14; Reply Br. 5–10. In particular, Appellant argues: (1) the claims are similar to *Abele's* claim 6, which the Federal Circuit found were directed to an improved CAT-scan process and, therefore, eligible, Appeal Br. 13–15; Reply Br. 9–10; (2) the Examiner fails to consider the claims in light of the Specification, Reply Br. 7–8; (2) like the claims in *Finjan*, Appellant's claims are directed to specific steps to accomplish a result, not merely the result itself, Reply Br. 6 (citing *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299 (Fed. Cir. 2018)), 8–9; and (3) the Examiner has not properly identified evidence supporting a conclusion that the claims' additional elements are well-understood, routine, and conventional, Reply Br. 10–12 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1370 (Fed. Cir. 2018)). I disagree.

I disagree with Appellant that the Examiner failed to evaluate claim 1 in light of the Specification. It is true that we must interpret the claims in light of the Specification, but we do not *import limitations not recited* into the claims. *In re Van Geuns*, 988 F.2d 1181 (Fed. Cir. 1993). Appellant highlights certain disclosures in the Specification identifying alleged improvements, but does not persuasively identify any limitations that the Examiner improperly construes. Reply Br. 7–8.

Furthermore, I agree with the Examiner that claim 1 is more similar to *Abele*'s ineligible claim 5 than *Abele*'s eligible claim 6. *See Abele*, 684 F.2d at 908–09 (distinguishing claim 6, which was directed to an improved CAT-scan process, from claim 5, which was directed merely to an algorithm). Specifically, claim 1 does not require a particular type of image or a particular machine to generate the image. In contrast to the data in *Abele*, claim 1 merely recites determining a signature of one image and comparing it to the signature of other images, then retrieving medical data related to a matched image. *See In re BRCA1- & BRCA2-Based Hereditary Cancer Test Patent Litig.*, 774 F.3d 755, 763 (Fed. Cir. 2014) (concluding “comparing BRCA sequences and determining the existence of alterations” are patent-ineligible abstract ideas of comparing and analyzing).

Similarly, I find claim 1 to be more similar to the ineligible claims in *Intellectual Ventures* than the eligible claims in *Finjan*. In *Finjan*, the Federal Circuit determined the claims recited an improvement to computer technology because, unlike traditional virus scanning that could identify only previously known viruses, the eligible claims recited the ability to identify potentially hostile operations including “obfuscated code,” which “enables more flexible and nuanced virus filtering.” *Finjan*, 879 F.3d at 1304. On the other hand, claim 1 broadly recites merely implementing a mental process of comparing less than all available data using generic computers as tools.

For at least the foregoing reasons, the claims do not integrate the judicial exception into a practical application and I agree with the Examiner that the claims are directed to an abstract idea. Because I would determine

the claims are directed to an abstract idea, I analyze the claims under step two of *Alice* to determine if 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. 84 Fed. Reg. at 56. Thus, at this point of the analysis, I determine if the claims add a specific limitation, or combination of limitations, that is not well-understood, routine, conventional activity in the field, or simply append well-understood, routine, conventional activities at a high level of generality. 84 Fed. Reg. at 56.

An inventive concept “cannot be furnished by the unpatentable law of nature (or natural phenomenon or abstract idea) itself.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016); *see also* 84 Fed. Reg. at 56; *Alice*, 573 U.S. at 217 (explaining that, after determining a claim is directed to a judicial exception, “we then ask, ‘[w]hat else is there in the claims before us?’” (emphasis added, brackets in original) (quoting *Mayo*, 566 U.S. at 78)). Instead, an “inventive concept” is furnished by an element or combination of elements that is recited in the claim *in addition to* the judicial exception and sufficient to ensure the claim as a whole amounts to significantly more than the judicial exception itself. *Alice*, 573 U.S. at 218–19 (citing *Mayo*, 566 U.S. at 72–73); *see BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (explaining that the Supreme Court in

*Alice* “only assessed whether the claim limitations *other than the invention’s use of the ineligible concept* to which it was directed were well-understood, routine and conventional” (emphasis added)).

As discussed above, claim 1’s only additionally recited elements are the processors and database. As discussed above, the Specification supports the conclusion that the additional elements are generic devices recited at a high level of generality, and Appellant does not argue these elements, individually or in combination, were beyond what was well-understood, routine, and conventional in the art. *See Berkheimer Memo* § III.A.1. Moreover, the selection of which data (i.e., the signatures) to compare is part of the abstract idea and not an additional element. “If a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.” *BSG Tech*, 899 F.3d at 1290–91 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1370 (Fed. Cir. 2018)). “[I]t is irrelevant whether [the claimed abstract idea] may have been non-routine or unconventional as a factual matter . . . narrowing or reformulating an abstract idea does not add ‘significantly more’ to it.” *BSG Tech*, 899 F.3d at 1291.

For the reasons discussed above, I am not persuaded the Examiner erred, and I would sustain the Examiner’s rejection of claims 1–5, 11, 13–15, 20, 24, and 26–32 under 35 U.S.C. § 101.