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EXAMINER
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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* LALITHA AGNIHOTRI, LILLA BOROCZKY,  
and LUYIN ZHAO

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Appeal 2015-002475  
Application 12/747,602<sup>1</sup>  
Technology Center 3600

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Before HUBERT C. LORIN, BIBHU R. MOHANTY, and  
BRADLEY B. BAYAT, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellants seek our review under 35 U.S.C. § 134 (2002) of the Final Rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

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<sup>1</sup> The Appellants identify KONINKLIJKE PHILIPS N.V. as the real party in interest. Appeal Br. 2.

## SUMMARY OF DECISION

We AFFIRM.

### THE INVENTION

Claim 1, reproduced below, is illustrative of the subject matter on appeal.

1. A method, comprising:

storing, on a non-transitory computer readable storage medium, a plurality of cases, each case including at least one image of one of a plurality of modalities and non-image information;

mapping, by a processor, a feature relationship between a feature from images of a first modality to a feature from images of a second modality, wherein the first modality is different from the second modality; and

storing the feature relationship on the non-transitory computer readable storage medium.

### THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Li	US 2003/0103663 A1	June 5, 2003
Gueck	US 2004/0204965 A1	Oct. 14, 2004
Niemeyer	US 2008/0130970 A1	June 5, 2008
Collins	US 7,899,225 B2	Mar. 1, 2011

The following rejections are before us for review:

1. Claims 1–20 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.
2. Claims 1–4, 6, 7, 9–13, and 16–20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer and Gueck.

3. Claims 5 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Collins.
4. Claims 8 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Li.

### ISSUES

Did the Examiner err in rejecting claims 1–20 under 35 U.S.C. § 101 as being directed to ineligible subject matter; claims 1–4, 6, 7, 9–13, and 16–20 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer and Gueck; claims 5 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Collins; and claims 8 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Li?

### ANALYSIS

*The rejection of claims 1–20 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.*

The Appellants’ challenge to the rejection fails to show error in the rejection.

The Examiner analyzed the claims in accordance with the two-step framework for determining whether claimed subject matter is judicially-excepted from patent eligibility under § 101 as articulated in *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014). Ans. 1–2.

In accordance therewith, the Examiner found that (1) “[t]he claims are drawn to an abstract idea, being a basic concept of providing healthcare” (Ans. 2) and (2) “[t]he claims do not amount to significantly more than the

abstract idea itself” because they “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” (*id.*). From this the Examiner determined that the claimed subject matter runs afoul of 35 USC §101.

The Appellants argue that “the 35 U.S.C. § 101 rejection requires factual evidence that supports the Examiner’s assertion that claims 1–20 are directed to an abstract idea” (Reply Br. 3.).

There is no such requirement. *See e.g.*, “July 2015 Update: Subject Matter Eligibility” to the “2014 Interim Guidance on Subject Matter Eligibility (2014 IEG) published on Dec. 16, 2014 (79 Fed. Reg. 74618)”:

The courts consider the determination of whether a claim is eligible (which involves identifying whether an exception such as an abstract idea is being claimed) to be a *question of law*. Accordingly, courts do not rely on evidence that a claimed concept is a judicial exception, and in most cases resolve the ultimate legal conclusion on eligibility without making any factual findings.

Page 6, second paragraph (emphasis added). Evidence may be helpful in certain situations where, for instance, facts are in dispute. But it is not always necessary. It is not necessary in this case.

The Appellants argue that the claims encompass “more than a basic recitation of the practices of providing healthcare” (Reply Br. 3). According to the Appellants, each of the “features in claim 1 exceeds the basic, general concept of ‘providing healthcare’” (*id.*).

We disagree.

Claim 1 recites three steps; (a) storing; (b) mapping; and (c) storing. All three steps involve information. A first type of information is stored and

then a second type of information is generated and then stored. This is the essence of information generation – to take information and generate from that new information. Claim 1 as a whole is directed to that: the concept of information generation. Information generation is a fundamental building block of research, not to mention fundamental to human behavior for, among many goals, to attain knowledge. We naturally constantly take in information and from that generate new information. The abstract idea category of judicially-excepted subject matter broadly covers building blocks of human ingenuity, like fundamental economic practices (see *Alice*). Information generation is such a building block and thus properly categorized as an abstract idea. Thus, we agree with the Examiner that claim 1 is directed to an abstract idea.

We find the Examiner properly and reasonably found that claim 1 is directed to “a basic concept of providing healthcare” (Ans. 2) and that that is an abstract idea. We have described it as “information generation” (see above) but that is simply a higher level of abstraction than the Examiner’s articulation of it. *Cf. Apple, Inc. v. Ameranth, Inc.*, 2016 WL 6958650, \*7 (Fed. Cir. 2016) (“An abstract idea can generally be described at different levels of abstraction. As the Board has done, the claimed abstract idea could be described as generating menus on a computer, or generating a second menu from a first menu and sending the second menu to another location. It could be described in other ways, including, as indicated in the specification, taking orders from restaurant customers on a computer.”). The Appellants go to an even lower level of abstraction – wording what the claim is directed to so that it includes all the terms recited in the claim. But that does not

make the claim any less directed to an abstract idea. Under the first step of the *Alice* framework, “[w]e must 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. However it is described, we do not see that the Appellants have adequately shown that claim 1 is not directed to an abstract idea. That the claim includes more words than the Examiner relied upon to articulate the abstract idea is an insufficient reason to persuasively argue that claim 1 is not directed to an abstract idea. *Cf. Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014), *cert. denied*, 136 S. Ct. 119, 193 L. Ed. 2d 208 (2015) (holding that claims reciting “1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory” were drawn to an abstract idea). We note that the Appellants have put forward no rebuttal evidence showing claim 1 is *not* directed to an abstract idea irrespective of the level of abstraction at which it may be described (e.g., “providing healthcare” or “information generation”).

Pages 3–6 of the Reply Brief address the second step of the *Alice* framework; that is, step two is “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.’” *Alice*, 134 S. Ct. at 2355. (alteration in original) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012)). We have considered the elements of claim 1 both individually and as an ordered combination, in light of the Appellants’ discussion, to determine whether the additional elements transform the

nature of the claim into a patent-eligible application. We are unpersuaded that the Examiner erred in finding that they do not. *See e.g.*, Ans. 2.

According to the Appellants, “[t]he specific, additional features of these claims and their dependent claims are not well-understood, routine, and conventional activities previously known in the industry” and “[i]n particular, conventional activities in CADx do not map a feature relationship between a feature from images of a first modality to a feature from images of a second modality, wherein the first modality is different from the second modality” (Reply Br. 4).

That is not a persuasive argument. An abstract idea does not transform into an inventive concept just because the prior art does not disclose or suggest it.

Appellants argue that the limitations of claim 1 “add[] significantly more to the concept of ‘providing healthcare’ within the fields of computer aided diagnosis, cross-modality computer aided diagnosis, and medical image data analysis” (Reply Br. 5).

We disagree. “[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea ‘while adding the words ‘apply it’ is not enough for patent eligibility.” *Alice* at 2358. Claim 1 recites two elements: “a processor” and “a non-transitory computer readable storage medium.” The Specification supports the view that said elements encompass that which is generic and common in the field at the time of the invention. *See Spec.*, para. 3 (“[c]ase-based CADx typically involves fetching, from a database, information particular to a disease . . .”). The evidence on record supports



the view that only conventional elements of a generic computer system are involved. There is insufficient evidence that claim 1 roots the solution in computer technology. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (“the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.”). *See also Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300-01 (Fed. Cir. 2016) (“the claim’s enhancing limitation necessarily requires that these generic components operate in an unconventional manner to achieve an improvement in computer functionality. The enhancing limitation depends not only on the invention’s distributed architecture, but also depends upon the network devices and gatherers—even though these may be generic—working together in a distributed manner.”). Rather, conventional elements of a generic storage medium and processor are employed for their inherent functions to perform as expected; that is, storing and generating information, respectively. We note that the information being processed, as claimed, is particular (e.g., images of a plurality of modalities), and their particularity gives a contextual and practical application for generating information. However, this is insufficient to transform the abstract idea of generating information into an inventive concept to ensure that in practice the method amounts to significantly more than the abstract idea itself. *Cf. CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011) (“The Court [*Parker v. Flook*, 437 U.S. 584 (1978)] rejected the notion that the recitation of a practical application for the calculation could alone make the invention patentable.”). For the foregoing reasons, albeit the words “apply

it” are not expressly recited in claim 1, which is in effect what the claim 1 subject matter would entail in practice.

We have fully considered the Appellants’ arguments. For the foregoing reasons, they are unpersuasive as to error in the rejection. The rejection is sustained.

*The rejection of claims 1–4, 6, 7, 9–13, and 16–20 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer and Gueck.*

*The rejection of claims 5 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Collins.*

*The rejection of claims 8 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Li.*

Independent claim 1 requires “mapping, by a processor, a feature relationship between a feature from images of a first modality to a feature from images of a second modality, wherein the first modality is different from the second modality.” (Appeal Br. 8, Claims Appendix). Independent claims 11 and 20 contain similar limitations.

The Examiner finds the claimed “mapping” disclosed at paragraphs 14–27, claims 1–5, and Figures 1 and 2 of Niemeyer, in the mapping performed by feature mapping processor 116 (Final Act. 3, 4; Ans. 3, 4). The Examiner also finds that Niemeyer discloses that “the first modality is different from the second modality” at paragraphs 19, 28, and 38, and in Figure 1 (Final Act. 4, 5; Ans. 4, 5).

The Appellants contend that Niemeyer does not disclose the above limitation (Appeal Br. 3–5; Reply Br. 6–12). According to the Appellants, although Niemeyer discloses images from different modalities and feature

mapping between images of a single modality, “Niemeyer does not disclose *mapping across* these different modalities” (Reply Br. 11) (emphasis original).

We agree with the Appellants that the cited passages of Niemeyer do not disclose the above limitation.

Paragraph 20 of Niemeyer discloses a “feature mapping processor **116**” that “utilizes a feature library to characterize the morphological characteristics of a region of interest” in an image and that this feature library can include a “training set” of other images. Paragraph 21 discloses that a medical institution can “implement a training set of morphological characteristics to assist in the proper identification and classification of characteristics.” For example, a “medical institution may develop a set of medical images” that “form a training set that is part of the feature library with images that correspond to different margins (e.g., smooth, irregular, spiculated) and shape (e.g., oval, round, lobular, and irregular) as well as other BI-RADS [breast tissue assessment tool] classifications.” Figure 2 depicts a “screen display **200** of multiple medical images **202**” but is limited to a single modality, namely “MRI data of a breast” (Niemeyer, paragraph 26).

Although Niemeyer discloses at paragraph 19 that “various imaging modalities (e.g., X-ray or MRI)” can be used in the medical world, the cited portions of Niemeyer do not disclose that the feature library utilized by the feature mapping processor contains images from two different imaging modalities as required by the claims.

A prima facie case of obviousness has not been made out in the first instance by a preponderance of the evidence. Accordingly, the rejections are not sustained.

#### CONCLUSIONS

The rejection of claims 1–20 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is affirmed.

The rejection of claims 1–4, 6, 7, 9–13, and 16–20 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer and Gueck is reversed.

The rejection of claims 5 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Collins is reversed.

The rejection of claims 8 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Niemeyer, Gueck, and Li is reversed.

#### DECISION

The decision of the Examiner to reject claims 1–20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED