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UNITED STATES OF AMERICA

EXAMINER
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WILLIS, AMANDA LYNN

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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* SUSAN T. DUMAIS, JONATHAN LOUIS ELSAS,  
and DANIEL JOHN LIEBLING<sup>1</sup>

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Appeal 2018-000558  
Application 12/488,594  
Technology Center 2100

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Before JOSEPH L. DIXON, ELENI MANTIS MERCADER, and  
MATTHEW J. McNEILL, *Administrative Patent Judges*.

McNEILL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1, 3, 5–9, 11, 12, 14–16, 19, 21, 23–25, and 27–29, which are all the claims pending in this application. Claims 2, 4, 10, 13, 17, 18, 20, 22, and 26 were cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

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<sup>1</sup> According to Appellants, the real party in interest is Microsoft Technology Licensing, LLC. App. Br. 2.

## STATEMENT OF THE CASE

### *Introduction*

Appellants' application relates to a search engine that assigns relevance scores to documents based on changes to the documents over time. Spec. ¶¶ 5–9. Claim 1 illustrates the appealed subject matter and reads as follows:

1. A method performed by at least one computing device that executes a search engine, the method comprising:
  - receiving, via an input interface of the search engine, a query that comprises a term;
  - assigning a relevance weight to a document based upon a term classification assigned to the term in the document, the term classification being representative of a length of time that the term has been present in the document over a window of time, wherein the relevance weight is indicative of relevance of the document with respect to the query; and
  - causing a ranked list of search results to be presented on a display responsive to assigning the relevance weight to the document, the ranked list of search results comprises the document, wherein a position of the document in the ranked list of search results is based upon the relevance weight assigned to the document.

### *The Examiner's Rejections*

Claims 1, 3, 5–9, 11, 12, 14–16, 19, 21, 23–25, and 27–29 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 2–6.

Claims 1, 3, 5–9, 11, 14–16, 19, 21, 23–25, and 27–29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Acharya et al. (US 2007/0100817 A1; May 3, 2007) and Doganata et al. (US 2003/0220913 A1; Nov. 27, 2003). Final Act. 6–22.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Acharya, Doganata, and Lu et al. (US 2007/0185858 A1; Aug. 9, 2007). Final Act. 23.

## ANALYSIS

### *Patent-Ineligible Subject Matter*

Under 35 U.S.C. § 101, a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355. Assuming that a claim nominally falls within one of the statutory categories of machine, manufacture, process, or composition of matter, the first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* For example, abstract ideas include, but are not limited to, fundamental economic practices, methods of organizing human activities, an idea of itself, and mathematical formulas or relationships. *Id.* at 2355–57. If the claim is directed to a judicial exception, such as an abstract idea, the second step is to determine whether additional

elements in the claim “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at 2355 (quoting *Mayo*, 566 U.S. at 78). This second step is described as “a search for an “‘inventive concept’”—*i.e.*, an element or combination of elements that is ‘. . . significantly more than . . . the [ineligible concept] itself.’” *Id.* (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

#### *Alice* Step One

“[T]he first step in the *Alice* inquiry . . . asks whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016). “The abstract idea exception prevents patenting a result where ‘it matters not by what process or machinery the result is accomplished.’” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 113 (1854)). “We therefore look to whether the claims . . . focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO*, 837 F.3d at 1314.

In the final rejection, the Examiner finds claim 1 is directed to the abstract idea of “using categories to organize, store, and transmit information.” Final Act. 2. In the Answer, the Examiner finds claim 1 is directed to the abstract idea of “[o]rganizing information through mathematical correlations.” Ans. 2. The Examiner finds the additional claim limitations provide further detail regarding how to mathematically

correlate the data, extra-solution activity, and generic computer components executing the abstract idea using well-understood, conventional activities previously known to the industry. *Id.* at 3. The Examiner also finds claim 1 recites an algorithm that helps process data, not an improvement in technology. *Id.* at 4.

Appellants argue the Examiner erred in finding claim 1 is directed to an abstract idea because the focus of the claim is on an improvement in computer capabilities. *See* App. Br. 9–12 (citing *Enfish*, 822 F.3d 1327). In particular, Appellants argue there is no real world analog to the claimed invention, which improves search engines by assigning relevance weights based on temporal features of documents not previously considered when outputting search results. *Id.* at 9. Appellants argue conventional search engines failed to contemplate how occurrences of terms in documents changed over time, and claim 1 improves search engines by differentially weighing the relevance of documents based on changes in terms in the documents over time. *Id.* at 9–12.

Appellants have persuaded us of Examiner error. The Examiner finds claim 1 is directed to the abstract idea of “organizing information through mathematical correlations.” Ans. 2. We agree with Appellants (*see* App. Br. 7–9) that the Examiner’s description of the abstract idea is at too high a level of abstraction and untethered to the recited claim language. Claim 1 recites a method of executing a search engine, including “receiving . . . a query that comprises a term.” The method also includes “assigning a relevance weight to a document based upon a term classification . . . representative of a length of time that the term has been present in the document over a window of time.” The method also includes “causing a

ranked list of search results to be presented on a display . . . wherein a position of the document in the ranked list of search results is based upon the relevance weight assigned to the document.” In other words, claim 1 recites changing the manner in which a search engine ranks documents in its result list based on the length of time a term in the search query has been present in the documents.

The Examiner’s distillation of this idea into the abstract idea of “organizing information through mathematical correlations” fails to consider the claim as a whole. “[D]escribing the claims at such a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.” *Enfish*, 822 F.3d at 1337 (citing *Alice*, 134 S. Ct. at 2354 (“noting that ‘we tread carefully in construing this exclusionary principle [of laws of nature, natural phenomena, and abstract ideas] lest it swallow all of patent law’”); *Diamond v. Diehr*, 450 U.S. 175, 189 n. 12 (1981) (cautioning that overgeneralizing claims, “if carried to its extreme, make[s] all inventions unpatentable because all inventions can be reduced to underlying principles of nature which, once known, make their implementation obvious”)).

We agree with Appellants that, like the claims in *Enfish*, the claims here are not merely directed to any type of search engine, but instead are specifically directed to a search engine that ranks documents based on a length of time that a term has been present in a document over a window of time. *See Enfish*, 822 F.3d at 1337. Thus, claim 1 is directed to an improvement in computer technology, rather than the overly generalized abstract idea identified by the Examiner.

For these reasons, Appellants have persuaded us the Examiner erred in finding claim 1 is directed to the abstract idea of “organizing information through mathematical correlations.” We, therefore, do not sustain the rejection of claim 1 as being directed to patent-ineligible subject matter. We also do not sustain the rejections of independent claims 14 and 21, which recite commensurate limitations, or dependent claims 3, 5–9, 11, 12, 15, 16, 19, 23–25, and 27–29.

*Obviousness – Independent Claims*

Appellants argue the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) as unpatentable over Acharya and Doganata. *See* App. Br. 20–24; Reply Br. 7–9. In particular, Appellants argue Acharya teaches assigning a score to a document based on how often the document is updated and/or how much of the document is updated. App. Br. 22–23 (citing Acharya ¶¶ 11, 46). Appellants argue the Examiner concedes Acharya does not teach “assigning a relevance weight to a document based upon a term classification assigned to the term in the document, the term classification being representative of a length of time that the term has been present in the document over a window of time” and relies on Doganata for this limitation. *Id.* at 23.

Appellants argue Doganata teaches assigning documents to categories based on the text of the documents, and assigning textual descriptors to the categories. *Id.* Appellants argue the Examiner’s finding that the combined teachings allow documents to be dynamically and automatically categorized as the contents of the documents change over time does not result in the claimed relevance weight assignment. *Id.* at 24.

Appellants have not persuaded us of Examiner error. The Examiner finds Acharya teaches assigning a relevance weight to a document based on a measure of how the contents of the document change over time. Ans. 10 (citing Acharya ¶¶ 11, 36). The Examiner finds Acharya teaches the measure of how the contents of the document change over time is based on the rate of change of terms in the document. *Id.* (citing Acharya ¶ 51). The Examiner finds Acharya, therefore, teaches applying a relevance weight to a document based on the rate of change of terms within the document, but does not explicitly teach term classification as required in the claim. The Examiner finds Doganata teaches associating categories with terms and using this information to classify documents containing those terms. Ans. 11 (citing Doganata ¶ 23). The Examiner's proposed combination incorporates Doganata's term classification with Acharya's document relevance weight determination based on the rate of change of terms. Appellants' argument that the combined teachings "do[] not result in a label being assigned to a document (or term therein) that is in any way *representative of a length of time that the term has been present in the document over a window of time as claimed*" (*see* Reply Br. 8) fails to persuasively identify error in the Examiner's findings.

We, therefore, sustain the rejection of independent claim 1 as unpatentable over Acharya and Doganata. We also sustain the rejections of independent claims 14 and 21 and dependent claims 3, 6–9, 11, 12, 15, 16, 19, 23, 25, 28, and 29, for which Appellants do not offer separate arguments. *See* App. Br. 25.

*Obviousness – Dependent Claims 5, 24, and 27*

Claim 5 recites “[t]he method of claim 1, further comprising: classifying the query as being a navigational query rather than a seeking query; and assigning the relevance weight to the document based upon the query being classified as a navigational query rather than a seeking query.”

Appellants argue the Examiner erred in rejecting claim 5 because the combination of Acharya and Doganata does not teach or suggest “classifying the query as being a navigational query rather than a seeking query.” App. Br. 24–25. In particular, Appellants argue the Specification defines the terms navigational query and seeking query and although Doganata teaches queries can be categorized, Doganata does not teach or suggest a distinction between navigational and seeking queries. *Id.*

The Examiner concludes the “terms ‘navigational’ and ‘seeking’ appear to merely be empty term labels used to differentiate between a first and second type of query. As such, after full and detailed analysis of the claims, specification and consideration of the terms themselves, these terms appear to be non-functional descriptive material.” Ans. 12–13. The Examiner finds Doganata teaches navigational and seeking queries by teaching multiple categories of queries because these terms merely require “a distinction between two types of queries within the claimed device.” *Id.*

Appellants have persuaded us of Examiner error. The Examiner’s interpretation of “navigational query” and “seeking query” is overly broad and not reasonable in light of the Specification. In particular, the Specification states “[a] navigational query is a query that is employed by users who want to navigate to a particular document (e.g., a homepage of a particular newspaper). An information seeking query is a query that is

employed by users to locate particular (e.g., recent) information.” Spec. ¶ 8. The Examiner’s interpretation ignores these definitions and essentially reads the terms “navigational” and “seeking” out of the claim. Accordingly, we are persuaded the Examiner has not established that the combination of Acharya and Doganata teaches or suggests the method of claim 5.

We, therefore, do not sustain the rejection of claim 5 as unpatentable over Acharya and Doganata. We also do not sustain the rejections of claims 24 and 27, which recite commensurate limitations.

#### DECISION

We reverse the decision of the Examiner rejection claims 1, 3, 5–9, 11, 12, 14–16, 19, 21, 23–25, and 27–29 under 35 U.S.C. § 101 as being directed to ineligible subject matter.

We affirm the decision of the Examiner rejecting claims 1, 3, 5–9, 11, 12, 14–16, 19, 21, 23–25, and 27–29 based upon obviousness.

We reverse the decision of the Examiner rejecting claims 5, 24, and 27 based upon obviousness.

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-IN-PART