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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MICHAEL P. MESNIER and RADIA PERLMAN

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Appeal 2018-000485  
Application 13/993,374  
Technology Center 2400

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Before DENISE M. POTHIER, LINZY T. McCARTNEY, and  
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

AMUNDSON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants<sup>1</sup> seek our review under 35 U.S.C. § 134(a) from a final rejection of claims 1–8, 10–18, 20–28, and 30, i.e., all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> Appellants identify the real party in interest as Intel Corporation.  
App. Br. 3.

## STATEMENT OF THE CASE

### *The Invention*

According to the Specification, the invention “relates generally to storage area networks.” Spec. ¶ 1.<sup>2</sup> The Specification explains that the “identification of input/output requests facilitates the classification of those input/output requests,” and “[a] classification of a request may be matched to a quality of service policy.” *Id.* ¶ 7.

### *Exemplary Claims*

Independent claims 1 and 21 exemplify the claims at issue and read as follows:

1. A method comprising:

assigning a classifier to an input/output request based on a characteristic of data targeted by the request by selecting one of a plurality of classifiers, each classifier associated with a different type of targeted data; and

selecting one of at least two different types of storage media for the request based on the classifier.

21. An apparatus comprising:

a controller to a classifier to an input/output request based on a characteristic of data targeted by the request and by selecting one of a plurality of classifiers, each classifier associated with a different type of targeted data, select one of at

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<sup>2</sup> This decision uses the following abbreviations: “Spec.” for the Specification, filed June 12, 2013; “Final Act.” for the Final Office Action, mailed November 25, 2016; “Adv. Act.” for the Advisory Action, mailed February 21, 2017; “App. Br.” for the Appeal Brief, filed April 19, 2017; “Ans.” for the Examiner’s Answer, mailed September 14, 2017; and “Reply Br.” for the Reply Brief, filed October 18, 2017.

least two different types of storage media for the request based on the classifier; and

a memory coupled to said controller.

App. Br. 9, 11 (Claims App'x).

*The Prior Art Supporting the Rejections on Appeal*

As evidence of unpatentability under 35 U.S.C. § 102(a), the Examiner relies on the following prior art:

Muppirala et al. (“Muppirala”) US 2011/0314182 A1 Dec. 22, 2011

*The Rejections on Appeal*

Claims 1–8, 10–18, 20–28, and 30 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 2–4.

Claims 1–8, 10–18, 20–28, and 30 stand rejected under 35 U.S.C. § 102(a) as anticipated by Muppirala. Final Act. 4–10.

ANALYSIS

We have reviewed the rejections of claims 1–8, 10–18, 20–28, and 30 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. 2–10), Advisory Action (Adv. Act. 2), and Answer (Ans. 2–4). We add the following to address and emphasize specific findings and arguments.

*The § 101 Rejection of Claims 1–8, 10–18, 20–28, and 30*

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). “[A]n

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 not directed to patent-eligible subject matter but instead directed to “concepts relating to collecting and comparing known information; and using categories to organize, store and transmit information.” Final Act. 3; *see* Ans. 2.

Based on *McRO v. Bandai*, Appellants contend that “the claimed invention improves the operation of [the] computer by matching requests to the best possible storage media for such a request,” and therefore “falls within the principle that improving the operation of a computer demonstrates patent eligibility.” App. Br. 6; *see McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016). Appellants misplace their reliance on *McRO*. The claims in *McRO*—unlike the claims here—recited a “specific . . . improvement in computer animation” using “unconventional rules” that related “sub-sequences of phonemes, timings, and morph weight sets” to automatically animate lip synchronization and facial expressions for three-dimensional characters. *McRO*, 837 F.3d at 1302–03, 1307–08, 1314–15. In *McRO*, “the incorporation of the claimed rules” improved an existing technological process. *Id.* at 1314.

In contrast to the claims in *McRO*, the claims here do not improve an existing technological process. *See Alice*, 134 S. Ct. at 2358 (explaining that “the claims in *Diehr* were patent eligible because they improved an existing

technological process”). Appellants do not describe an advance in hardware or software that, for example, causes a computer itself to operate faster or more efficiently. Instead, the claims use computer components in their ordinary capacity, e.g., “different types of storage media” to store data. App. Br. 9–12 (Claims App’x); *see* Spec. ¶¶ 21, 24–26, Fig. 1. Assigning a classifier to a data request to direct the request to a selected type of storage media does not improve the operation of the computer itself or the storage media itself. In short, the claims do not “focus on a specific means or method that improves the relevant technology” sufficiently to attain eligibility under *Mayo/Alice* step one. *See McRO*, 837 F.3d at 1314.

Moreover, Appellants’ contention concerning “matching” mischaracterizes the claims because they do not require “matching” a data request to “the best possible storage media for such a request.” App. Br. 9–12 (Claims App’x).

As the Examiner indicates, the claims here resemble the claims in *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 F. App’x 988 (Fed. Cir. 2014), that used “categories to organize, store and transmit information.” *See* Final Act. 3. In *Cyberfone*, Federal Circuit reasoned that “the well-known concept of categorical data storage, *i.e.*, the idea of collecting information in classified form, then separating and transmitting that information according to its classification, is an abstract idea that is not patent-eligible.” 558 F. App’x at 992. The principle that “categorical data storage” constitutes an abstract idea applies with equal force here.

In addition, the claims here are similar to claims the Federal Circuit considered patent ineligible because they were directed to the abstract idea of classifying digital images and then storing the images based on their

respective classifications. *See In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611–13 (Fed. Cir. 2016).

*MAYO/ALICE* STEP TWO

Appellants note the Examiner finds that the claimed “different types of storage media” are “recited at a high level of generality and only perform[] generic functions of storing information.” App. Br. 6 (quoting Final Act. 3). Appellants then contend that: (1) “this could be said about every storage media”; and (2) “[t]his is all a storage media ever does and this does not mean that nothing that stores could be patentable.” *Id.* Further, Appellants assert that “the claimed invention does significantly more than merely storing information” because “it decides how to store information based on the type of targeted data.” *Id.*

Appellants’ arguments do not persuade us of Examiner error. We agree with the Examiner that the claimed “different types of storage media” are “recited at a high level of generality and only perform[] generic functions of storing information” and the “type of information being manipulated does not impose meaningful limitations or render[] the idea less abstract.” Final Act. 3–4. Accordingly, the Examiner determines that the claims “do[] not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements when considered both individually and as a combination do not amount to significantly more than the abstract idea.” *Id.* at 3.

As additional elements, the claims recite generic computer components, i.e., “different types of storage media” (claims 1, 11, and 21) and a “memory” (claim 21). The claims use those generic computer components in a customary manner, e.g., to store data, and they simply

provide a generic environment for implementing the abstract idea. *See* Final Act. 3–4. Implementing an abstract idea using conventional machines or devices “add[s] nothing of substance” and, therefore, does not transform the nature of the claim into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2360; *Mayo*, 566 U.S. at 84–85 (citing *Gottschalk v. Benson*, 409 U.S. 63, 64–65, 71 (1972)); *see also TLI Commc’ns*, 823 F.3d at 613–15.

Consequently, considered individually and as an ordered combination, the additional elements in the claims do not transform them into “significantly more” than a patent-ineligible abstract idea. *See* Final Act. 3–4; Ans. 2.

#### SUMMARY

For the reasons discussed above, Appellants’ arguments have not persuaded us that the Examiner erred in rejecting the claims at issue under § 101. Hence, we sustain the § 101 rejection.

#### *The § 102(a) Rejection of Claims 1–8, 10–18, 20–28, and 30*

Appellants argue that the Examiner erred in rejecting independent claims 1, 11, and 21 under § 102(a) because “the cited paragraph[s] in the cited reference [Muppirala] fail[] to teach a classifier based on a characteristic of the data targeted by the request.” App. Br. 7; *see* Reply Br. 1. More specifically, Appellants assert that Muppirala’s “classification is entirely for purposes of prioritization” and “[t]here is no suggestion that the type of data targeted is anyway responsible for the classifier that is selected.” App. Br. 7; *see* Reply Br. 1. In addition, Appellants contend that Muppirala’s “tagging a request with a quality of service classification tag” has “nothing to do with the type of data targeted by an I/O request” and “[t]he quality of service has no correlation to the type of data targeted by an I/O request.” App. Br. 7.

Appellants' arguments do not persuade us of Examiner error. Muppirala discloses "different storage devices" with different completion times for I/O requests, i.e., "different types of storage media." Muppirala ¶¶ 13–14, 17–19, 26, 29, 45, Fig. 1; *see* Final Act. 5; Ans. 3. Muppirala explains that different applications may have different quality of service (QoS) priorities. Muppirala ¶¶ 13, 15; *see* Final Act. 5. Muppirala assigns different classifiers to I/O requests to direct the requests to "different storage devices" with "an intent to meet the service levels desired for each workload." Muppirala ¶¶ 13–14, 31, 44; *see* Final Act. 5; Adv. Act. 2; Ans. 3–4. The classifiers prioritize the I/O requests for the applications. Muppirala ¶ 44; *see* Final Act. 5.

Muppirala's different classifiers for different QoS priorities satisfy the requirement for "a classifier . . . based on a characteristic of data targeted by the request" where each classifier is "associated with a different type of targeted data." Different QoS priorities for data correspond to different types and characteristics of data.

"[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 different service levels at different storage devices and classification based on different importance levels or QoS policies, i.e., different priorities. Spec. ¶¶ 7–14, 19–21, 25, 31–34. The Specification explains that "[t]he levels of importance may correspond directly with the quality of service utilized in servicing each type of data." *Id.* ¶ 31. Thus, the Specification confirms that Muppirala's different classifiers for different QoS priorities satisfy the requirement for "a classifier . . . based on a characteristic of data

targeted by the request” where each classifier is “associated with a different type of targeted data.” Consistent with this, dependent claims 10, 20, and 30 require different storage devices associated with different QoS policies.

App. Br. 10–12 (Claims App’x).

Because Appellants’ arguments do not persuade us of Examiner error, we sustain the § 102(a) rejection of claims 1, 11, and 21.

Claims 2–8 and 10 depend directly or indirectly from claim 1; claims 12–18 and 20 depend directly or indirectly from claim 11; and claims 22–28 and 30 depend directly from claim 21. App. Br. 9–12 (Claims App’x). Appellants do not argue patentability separately for these dependent claims. App. Br. 7; Reply Br. 1. Because Appellants do not argue the claims separately, we sustain the § 102(a) rejection of these dependent claims for the same reasons as the independent claims. *See* 37 C.F.R. § 41.37(c)(1)(iv).

#### DECISION

We affirm the Examiner’s decision to reject claims 1–8, 10–18, 20–28, and 30.

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