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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* YUTAKA IKEDA

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Appeal 2017-000224
Application 12/408,127
Technology Center 1600

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Before RYAN H. FLAX, TIMOTHY G. MAJORS, and RACHEL H. TOWNSEND *Administrative Patent Judges*.

MAJORS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] submits this appeal under 35 U.S.C. § 134(a) involving claims reciting a sample analyzer and computer program for analyzing a sample containing a plurality of kinds of particles. The Examiner rejected the claims for lack of patent-eligible subject matter, and for obviousness-type double patenting. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellant identifies the Real Party in Interest as SYSMEX CORPORATION. App. Br. (Mar. 8, 2016) 2.

## STATEMENT OF THE CASE

According to the Specification, a conventional "blood analyzer . . . pre-stores analysis conditions corresponding to animal species in memory, and reanalyzes a sample by changing the settings to the correct animal type . . . when the sample has been analyzed using incorrect analysis conditions." Spec. ¶ 3. That is, such a "blood analyzer changes the setting range of the fraction level in accordance with the type of animal." *Id.* But, regarding such analyzers, the Specification states, "analysis programs for setting the fractionation level must be developed in accordance with the number of animal species," and these "programs can only be developed at great cost and time." *Id.* ¶ 4.

Claims 1 and 3–20 are on appeal. Claim 12 is illustrative:

> 12. A sample analyzer for analyzing a sample containing a plurality of kinds of particles, comprising:
>
> a measuring device for measuring the sample to obtain first quantization information representing characteristics of the particles in the sample, the first quantization information being quantized to a predetermined number of bits;
>
> a processor; and
>
> a memory storing a classification condition to be used for classifying the particles in the sample into a plurality of kinds of particles, and programs executable by the processor for:
>
> obtaining second quantization information by expanding or compressing the obtained first quantization information by a predetermined scale factor, the second quantization information being quantized to the predetermined number of bits; and
>
> classifying the particles in the sample into a plurality of kinds of particles based on the classification condition and one of the first quantization information and the second quantization information.

App. Br. 17 (Claims App.).

The claims stand rejected[2] by the Examiner as follows:

I. Claims 1 and 3–20 under 35 U.S.C. § 101 for claiming patent-ineligible subject matter.

II. Claims 12, 18, and 20 provisionally for non-statutory obviousness-type double patenting over claims 1, 19, and 22 of US Application No. 12/408,149 ("the '149 Appl.")[3] Final Act. (Sept. 8, 2015) 15.

DISCUSSION

In analyzing patent eligibility under 35 U.S.C. § 101, the Supreme Court has set forth a "framework for distinguishing patents that claim [patent-ineligible] laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014) (citation omitted). According to that framework, first "we determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* "If so, we then ask, '[w]hat else is there in the claims before us?'" *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1297 (2012).) To answer this second question,

> we consider the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application. [The Supreme Court has] 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

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[2] The Examiner withdrew rejections under 35 U.S.C. § 103(a), and also for double-patenting, directed to claims 1, 3, and 4. Ans. 3.

[3] Based on USPTO records, this application was abandoned on Oct. 5, 2017. The provisional double-patenting rejections are, thus, dismissed as moot.

> patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.

*Id.* (internal citations and quotation marks omitted).

The Examiner rejected claims 1 and 3–20 under § 101. Final Act. 2–3. Appellant argues the patentability of the claims rejected under § 101 as a group. App. Br. 4–8. We choose independent claim 12 as representative of the other claims on appeal. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that claim 12 is "directed to the abstract idea of an algorithm for classifying and scaling quantization data." Final Act. 2–3. The Examiner explains that "the claims encompass manipulating data by classifying the data into different kinds of particles through expanding and compressing the quantization information by scaling factors." *Id.* at 3. These "mathematical manipulations and relationships are," according to the Examiner, an abstract idea in accordance with Supreme Court precedents. Ans. 3.[4] The Examiner further finds, *inter alia*, that classifying particles in a sample, generating first and second classification data (as in claim 1), mathematical relationships relating to the number of bits in the data, and preparing distribution diagrams (as in claim 20), are simply more abstract limitations appearing in the claims. *Id.* at 3–5; *see also Id.* at 4 ("The combination of the limitations executed by the sample analyzer are a combination of judicial exceptions.").

The Examiner also finds claim 12 does not recite "significantly more" than the abstract idea, but instead merely "recite[s] executing the algorithm on a sampling analyzer and a measuring device." Final Act. 3; *see also* Ans.

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[4] Examiner's Answer dated Aug. 11, 2016.

5 ("the only limitation [in] addition to the judicial exceptions is measuring the sample."). According to the Examiner, "measuring samples and conducting calculations on processors are routine and conventional in the prior art." Ans. 3. The Examiner, thus, concludes that claim 12 is patent ineligible under § 101.

We agree with the Examiner that claim 12 is directed to an abstract idea without "significantly more" in accordance with the *Alice/Mayo* framework. We explain further below.

At step one of the analysis, we ask whether claim 12 is directed to patent ineligible subject matter. Because all inventions, at some level, embody or apply laws of nature, abstract ideas, etc., "we tread carefully in construing this exclusionary principle lest it swallow all of patent law." *Alice*, 134 S.Ct. at 2354.

Broadly speaking, claim 12 relates to a device for collecting, manipulating, and classifying data. Heeding the Supreme Court's caution against overgeneralizing the claims at step one, however, we look closer. Claim 12 recites a sample analyzer comprising a measuring device, memory, and a processor. Those limitations, while not abstract, are, nevertheless, just generically recited implements for gathering data and storing it, as well as for computing the data using the abstract idea (i.e., a program/mathematical algorithm). Ans. 2; Spec. ¶¶ 2–3. In other words, the system elements are merely generic components grafted onto an otherwise patent-ineligible subject matter (the programs/mathematical algorithms to process the data). We agree with the Examiner that claim 12 is directed to an algorithm for scaling and classifying sample data. Final Act. 2–3. This is an abstract

idea.[5] The algorithm manipulates data (quantization information) related to particle "characteristics" to create additional data (second quantization information). App. Br. 17. *See Digitech Image Techs. LLC v. Elecs. For Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible."). The data manipulation — expanding or compressing data by a scale factor — is itself generalized and abstract.[6] So too is claim 12's final "classifying" clause, which requires classifying particles based on a vague "classification condition" and first or second "quantization information." These features of the algorithm fail to make the abstract idea less abstract. *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) ("Adding one abstract idea (math) to another abstract idea (encoding and decoding) does not render the claim non-abstract.").

Having agreed with the Examiner that claim 1 is directed to an abstract idea, we proceed to step two of the *Alice/Mayo* framework. We

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[5] "[W]e continue to treat[] analyzing information by steps people could go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category." *Synopsis, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146–47 (Fed. Cir. 2016) (internal quotation marks and citation omitted). Restricting the claims to a technological environment or field of use "do[es] not make an abstract concept any less abstract under step one." *Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (holding that claims to a system for editing XML documents was ineligible as being directed to collecting, displaying, and manipulating data).

[6] The Specification describes multiplying 12-bit integer sequence information by 1.2, then compressing to an 8-bit integer sequence. *See, e.g.*, Spec. ¶ 54.

have searched for "something more" in claim 12 that transforms the claim into a patent-eligible application of an abstract idea but, like the Examiner, we find that this is missing. As explained above, claim 12 recites generic components and generalized, abstract operations executed as part of an algorithm. Abstractions such as these do not demonstrate a specific and concrete implementation of the abstract idea of scaling and classifying sample data (quantization information). *RecogniCorp,* 855 F.3d at 1328 ("The addition of a mathematical equation that simply changes the data into other forms of data cannot save [claim 1]"). Even if, as the Examiner determined, the algorithm recited in claim 12 uses a "different" (i.e., new) technique, that technique does not necessarily impart patent eligibility. Ans. 5–6. To the extent there is any new subject matter in claim 12, it appears to be wholly in an abstract algorithm/program. Section § 101 demands more. *Parker v. Flook*, 437 U.S. 584, 588 (1978) ("[W]e assume that respondent's [abstract] formula is novel and useful and that he discovered it."); *see also Synopsis*, 839 F.3d at 1151 (holding that "a claim for a *new* abstract idea is still an abstract idea.").

We have considered all the limitations of claim 12, individually and in combination, and agree with the Examiner that they fail to provide a sufficient inventive concept. The claim's preamble recites a "sample analyzer for analyzing a sample containing a plurality of kinds of particles." App. Br. 17. Yet the only structure required is a "measuring device," and a "memory" and "processor" for storing data and executing a program. Absent evidence to the contrary, we are persuaded the recited "measuring device," "memory," and "processor" simply provide routine data collection and generic computer functionality (e.g., conducting calculations). Ans. 3.

Although reciting a generic computer implementation does not necessarily doom the claims, neither does it necessarily save them from abstraction. *Alice*, 134 S.Ct. at 2359–60. Those recitations do not save the claims here, because they are generic components arranged in a generic way to be used for their conventional functions. Nor does claim 12 specify the source or type of the samples, particles, or particle "characteristics" that are converted into data for classification. Measuring to obtain data on some unspecified "characteristic" of an unspecified "particle" in an unspecified "sample" is just data gathering. These limitations, at the level of generality recited, along with those limitations on the operation of the program/algorithm do not ensure that claim 12 amounts to significantly more than a patent on the ineligible subject matter itself.

Appellant argues the Examiner "fails to provide any support or argument on why the claims are directed to an abstract idea." App. Br. 5. Further, Appellant contends, the Examiner fails to consider the claims as a whole. *Id*. According to Appellant,

> The claims are significantly more than a mere algorithm and recite measuring a sample to obtain quantization information representing characteristics of the particles and then providing a detailed analysis of the particles. The analysis includes multiple classification data/information that is scaled/expanded/ compressed.

*Id*.[7]

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[7] In the Reply Brief, Appellant alleges "the Answer never identifies which judicial exception . . . is being alleged here." Reply Br. 2. This allegation is, however, unpersuasive. It is clear the Examiner finds claim 12 is directed to an abstract idea. *See*, *e.g.*, Final Act. 2–3; *see also* Ans. 3–4; App. Br. 4–5

Appellant's argument is unpersuasive. The Examiner made a prima facie showing that claim 12 is directed to a patent-ineligible abstract idea. As explained above, the Examiner found that the claim is directed to "the abstract idea of an algorithm for classifying and scaling quantization data." Final Act. 2–3. As the Examiner explains, the operations of the algorithm are just a series of abstractions (e.g., mathematical manipulations and relationships) that do not provide a non-abstract inventive concept. Also, we are unpersuaded the Examiner failed to consider the claims as a whole. The Examiner simply found the remaining claim elements, such as measuring samples with a measuring device, involved routine data collection and processing. Final Act. 3; Ans. 2. Appellant fails to provide persuasive evidence otherwise. Appellant points out that the claim requires measuring a sample to obtain data (quantization information), but does not show that this element of the claim is unconventional. And the alleged "detailed analysis" of the sample that Appellant emphasizes (App. Br. 5) is simply the application of the algorithm, which is not the "something more" required to transform an abstract idea. *Alice*, 134 S. Ct. at 2357 ("The transformation of an abstract idea into patent-eligible subject matter 'requires more than simply stat[ing] the [abstract idea] while adding the words 'apply it.'"" (quoting *Mayo*, 132 S. Ct. at 1294)). Appellant's further emphasis on the broad manipulations (scaling/expanding/compressing) of the data incident to the "analysis" does not change the result. App. Br. 5.

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(acknowledging the Examiner's finding that the claims are directed to an abstract idea).

Appellant cites the USPTO's subject matter eligibility guidance, specifically Example 23 of the July 2015 Update, which Appellant contends supports the patentability of claim 12.[8] App. Br. 5; Reply Br. 3. The cited example relates to a hypothetical graphical user interface (GUI) that dynamically relocates obscured textual information (i.e., when the boundaries of one window overlap a portion of another window) by re-formatting and moving the obscured textual information to an unobscured portion of the window so it can be viewed by the user. Update 7. In the example, "[t]he textual information is scaled based upon a scaling factor that is calculated using a mathematical algorithm." *Id.* Appellant focuses on hypothetical claims 1 and 4 of the example, which Appellant contends are analogous to the pending claims.

We are unpersuaded. Hypothetical claim 1 of Example 23 is reproduced below:

> 1. A computer-implemented method for dynamically relocating textual information within an underlying window displayed in a graphical user interface, the method comprising:
>
> displaying a first window containing textual information in a first format within a graphical user interface on a computer screen;
>
> displaying a second window within the graphical user interface;
>
> constantly monitoring the boundaries of the first window and the second window to detect an overlap condition where the second window overlaps the first window such that the textual information in the first window is obscured from a user's view;
>
> automatically relocating the textual information, by a processor, to an unobscured portion of the first window in a

[8] *See* July 2015 Update Appendix: Examples, pp. 7–12 (Example 23) ("Update").

> second format during an overlap condition so that the textual information is viewable on the computer screen by the user; and
>
> automatically returning the relocated textual information, by the processor, to the first format within the first window when the overlap condition no longer exists.

*Id.* at 8; *see also id.* 8–9 (claim 4). As explained in the Update, claim 1 is patent eligible because it is not directed to an abstract idea. Rather, claim 1 specifically "relates to addressing a problem with overlapping windows within a graphical user interface," and "does not recite any mathematical concept or mental process such as comparing or categorizing information." *Id.* at 9. Claim 1 (and 4) of the Example is not comparable to Appellant's claim 12. Among other things, claim 1 includes a series of specific implementation steps that clearly solve a particular problem — overlapping windows and obscured text in GUIs. Such steps include, *inter alia*, "constantly monitoring the [window] boundaries" and "automatically relocating" obscured textual information when an overlap condition is detected. *Id.* at 8. Such specific steps have no analogue in Appellant's claim 12, which broadly embraces sample analysis with conventional computer components, differing, at most, by reason of abstract data manipulation and classification operations of an algorithm running on a processor.

Appellant contends claim 12 "recite[s] computer specific solutions" related to classifying sample information, but that is not demonstrated with persuasive evidence. Reply Br. 5. Indeed, the claim appears simply to use a computer and its memory and processor components as "tools in aid of processes focused on 'abstract ideas'" without being an "improvement in computers as tools." *Electric Power Group LLC v. Alstom S.A.*, 830 F.3d

1350, 1354 (Fed. Cir. 2017). Moreover, unlike claim 1 of the Example, data manipulations ("mathematical concepts") are recited in Appellant's claim 12.

Insofar as Appellant invokes Example 23 of the Update, we find Appellant's claim 12 is closer to claims 2 and 3 of that example, which the guidance indicates should be rejected as *ineligible*. Update 8, 10–11. Hypothetical claim 3, for example, recites:

> 3. A computer-implemented method of resizing textual information within a window displayed in a graphical user interface, the method comprising:
>
> generating first data for describing the area of a first graphical element:
>
> generating second data for describing the area of a second graphical element containing textual information; and
>
> calculating, by the computer, a scaling factor for the textual information which is proportional to the difference between first data and second data.

*Id.* at 8. Like claim 12, claim 3 broadly signals that it is implemented on a computer, adding only generic computer limitations without any clear transformation of them. And, like claim 12, hypothetical claim 3 includes abstract data generation and mathematical manipulation limitations without a sufficiently specific and concrete implementation of those abstract limitations. As pointed out in the Update's analysis, "[e]ven though *the disclosed invention* may improve computer technology, *the claimed invention* provides no meaningful limitations such that this improvement is realized." *Id.* at 11 (emphasis added).

Appellant argues "each of the claimed elements is 'significantly more' than the alleged abstract idea." App. Br. 5. Appellant refers to the patent-

eligible claims in *DDR Holdings LLC v. Hotels.com LP*, 773 F.3d 1245, 1264 (2014), and contends Appellant's claims, like those in *DDR*, solve problems arising "solely in the computing context." App. Br. 6–8. In support, Appellant provides bullet points purporting to evidence the problems solved by the invention. *Id.* at 6–7.

Appellant's argument is unpersuasive. Appellant does not identify which, if any, of the elements of the claims add up to "significantly more" than an abstract idea. In any event, for reasons already explained above, we are not persuaded that claim 12 is patent eligible under the two-step *Alice/Mayo* framework.

We are also unpersuaded that claim 12 is similar to the claims in *DDR Holdings*. There, the *claims* were tailored to a specific e-commerce and Internet-centric problem, where visitors to a host's website were lured away by third-party advertisers and hyperlink's associated with the third-party's products. *DDR Holdings*, 773 F.3d 1248. And, in *DDR Holdings*, the *claims* required specific elements, transforming normal Internet and e-commerce operations, to solve that problem. *Id.* at 1258. ("[T]he claims at issue [] specify how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink.") Indeed, the claims recited specific elements that created hybrid web pages to present third-party product information, while keeping the look-and-feel of the host's website. *Id.* at 1259.[9] Thus, the claims in *DDR Holdings* provided a

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[9] *See, e.g., id.* 1249 (claim 13 reciting, *inter alia*, a processor coupled to a data store and the Internet, and programmed to "serve a composite web page to the visitor computer wit[h] a look and feel based on the look and feel

specific solution overcoming a problem "specifically arising the realm of computer [technology]." *Id.* at 1257. Appellant's claims lack this level of specificity, and provide insufficient meaningful limitations that tie performance of the abstract operations of the algorithm/program to a particular technological problem and its solution.[10]

We have also considered Appellant's alleged evidence, but it does not demonstrate the patentability of claim 12. Appellant states that "[t]he technical problems solved by this invention are described in the specification," yet this statement is followed by bullet points and citations that are inaccurate. App. Br. 6. For example, the first four bullet points include quotes that purport to show problems with prior art sample analysis. *Id.* ("'[Prior art] analysis condition is not necessarily the optimum condition for the analysis of the target sample when analyzing samples of various types.' Specification, ¶ 7."). This quoted content is not at the cited paragraphs, or anywhere in Appellant's Specification. The source of this

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description in the data store and with content based on the commerce object associated wit [h] the link.").

[10] For similar reasons, we are not persuaded claim 12 is analogous to the claims in *Enfish v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016). Reply Br. 3–4. In *Enfish*, the claims were held to be patent eligible because, *inter alia*, they were "specifically directed to a self-referential table for a computer database," that was clearly contrasted with standard relational databases and "improve[d] the way a computer stores and retrieves data in memory." *Id.* at 1337–1339; *see also id.* 1336–1337 (explaining specific features of the self-referential table as embodied in the claimed "means for configuring" language, which was interpreted under § 112, ¶ 6 as requiring a particular four-step algorithm). In other words, the claims in *Enfish* were "directed to a specific improvement to the way computers operate," rather than an abstract idea implemented on a computer. *Id.* at 1336.

"evidence" is unclear. Other quotations and citations are also incorrect, but in some instances a similar disclosure appears elsewhere in the Specification. For example the sixth bullet point appears to relate to a disclosure at paragraph 47, not paragraph 52 as cited. *Id.* at 6. And the final bullet point cites to paragraph 106. *Id.* at 7. Paragraph 106, however, does not exist; Appellant may be referring to paragraph 98 based on the quoted content. *Compare* Spec. ¶ 98 *with* App. Br. 7.

Even crediting Appellant's citations, to the extent we can make sense of them, they relate to a narrower type of sample analysis than what is encompassed by claim 12. Appellant's evidence relates to analysis in blood cell classification processes, and more specifically quantifying blood cells (e.g., leukocytes) in adult versus child blood. *See*, *e.g.*, Spec. ¶¶ 45, 47, 79.[11] Even if, for argument's sake, a problem existed with prior art techniques for sampling and classifying blood cells, Appellant's claims are not tailored to solving that problem. Rather, the claims encompass analysis and classification of essentially any sample and particle type in such sample. In short, what is lacking is an evidentiary nexus between Appellant's allegations of a technological improvement and the broad and abstract claims on appeal.

Finally, Appellant contends "the instant claims . . . recite a non-routine and non-conventional algorithm for classifying particles in a sample based on classification conditions." App. Br. 8. We remain unpersuaded. As Appellant seemingly acknowledges, to the extent there is anything

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[11] The Specification explains "[t]he present inventors acknowledge that the blood cells contained in child blood have lower stainability than blood cell contained in adult blood." Spec. ¶ 45.

unconventional about claim 12, it resides in the algorithm. But this algorithm is just made up of abstractions as explained above. It is not, therefore, enough to demonstrate patent eligibility under § 101. *Flook*, 437 U.S. at 588; *Synopsis*, 839 F.3d at 1151.

For the above reasons, the preponderance of the evidence supports the Examiner's conclusion that claim 12 is patent ineligible under § 101. Claims 1 and 20 (and the rejected dependent claims) were not argued separately and, thus, fall for similar reasons. 37 C.F.R. § 41.37(c)(1)(iv).

## SUMMARY

We affirm rejection of claims 1 and 3–20 for claiming patent-ineligible subject matter under 35 U.S.C. § 101. The double-patenting rejection is dismissed.

## TIME PERIOD FOR RESPONSE

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

## AFFIRMED