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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ROBERT AMONE, ERIC KUO,  
and DOUGLAS BUKATY

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Appeal 2017-007412  
Application 14/069,000  
Technology Center 3600

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Before MAHSHID D. SAADAT, ERIC S. FRAHM, and  
BETH Z. SHAW, *Administrative Patent Judges*.

FRAHM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–6, 8–19, and 21–23. Claims 7 and 20 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Independent claim 1, reproduced below with emphases added, is illustrative of the claimed subject matter:

1. A method for characterizing a dentition of a patient, comprising:

accessing *a database* including one or more reference conditions in each of a plurality of dentition categories, each reference condition including a corresponding first value;

determining, using *a computer*, a similar reference condition to an initial patient condition in each of the plurality of dentition categories by:

comparing the initial patient condition in each of the plurality of dentition categories with the one or more reference conditions in each of the plurality of dentition categories; and

receiving a selection, from *a user interface input device*, of at least one reference condition in one or more of the plurality of dentition categories that is similar to the initial patient condition in a same dentition category;

generating, using the computer, *a patient identifier matrix* including a plurality of positions, wherein:

each of the plurality of positions corresponds to one of the plurality of dentition categories; and

each of the plurality of positions includes a second value equal to the first value of the selected reference condition for the corresponding one of the plurality of dentition categories;

comparing, using the computer, at least a portion of the patient identifier matrix and a treatment goal with one or more reference identifiers, wherein each of the one or more reference identifiers includes an initial reference dentition, a treatment goal reference identifier, and a final reference dentition; and

determining, using the computer, a patient dentition goal based on the final reference dentition corresponding to the selected reference identifier and outputting the patient dentition goal to *a user interface output device*.

#### REJECTION

The Examiner made the following rejection:

Claims 1–6, 8–19, and 21–23 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to patent-ineligible subject matter, i.e., a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Final Act. 2–5; Ans. 2–5.

#### ISSUE

Based on Appellants' arguments in the Appeal Brief (App. Br. 8–16) and the Reply Brief (Reply Br. 2–5), the following issue is presented on appeal:

Did the Examiner err in rejecting claims 1–6, 8–19, and 21–23 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter?

#### ANALYSIS

We disagree with Appellants' arguments (App. Br. 8–16; Reply Br. 2–5) as to the patent-eligibility of independent claims 1–6, 8–19, and 21–23. We adopt as our own (1) the findings, conclusions, and reasons set forth by the Examiner in the Final Office Action from which this appeal is taken (Final Act. 2–5), and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to the Appellants' Appeal Brief (Ans. 2–5). We provide the following for emphasis.

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (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. The first step in that analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts” (*id.*), e.g., to an abstract idea. 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 claims are not directed to a patent-ineligible concept, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at 2355 (quoting *Mayo*, 566 U.S. at 78–9). For claims to pass muster, “at step two, an inventive concept must be evident in the claims.” *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017).

The Court acknowledged in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena,

or abstract ideas.” *Mayo*, 566 U.S. at 71. 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.

*Alice* Step One

According to *Alice* step one, “[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. We have considered all of Appellants’ arguments (App. Br. 8–13; Reply Br. 1–3), but find them unpersuasive as to error in the rejection.

Although the independent claims each broadly fall within the statutory categories of patentability, the Examiner concludes the claims are directed to a judicially-recognized exception—i.e., an abstract idea. Final Act. 3–4; Ans. 3–4. In particular, the Examiner concludes the claims are directed to the abstract ideas of “comparing stored and input data and rules, to do what doctors do routinely” (Final Act. 3), classifying, categorizing, indexing medical/dental data to produce a treatment goal (Final Act. 4 citing Spec. 2:18–29; *see also* Ans. 3), and “using a numbering system” (Ans. 3), i.e., to generate patient identifier matrices as claimed. We agree with the Examiner (Final Act. 3–4; Ans. 3–4). The abstract ideas identified by the Examiner pertain to organizing human activities in healthcare (e.g., assisting a caregiver in treating a patient by determining a dentition goal based on dentition data), and using dentition data to identify a patient dentition goal (i.e., comparing stored and input data and rules to make a recommendation).

The numerous claim limitations recite generally a method for characterizing a dentition of a patient (claims 1–6 and 22), a system for

providing an orthodontic profile indexing system (claims 8–13 and 23), and a computer readable medium storing instructions to perform a method of determining a patient dentition goal (claims 14–19 and 21).

We conclude that characterizing and indexing dentition (i.e., medical data, comparing the data, and using rules to produce a treatment (e.g., patient dentition) goal, as recited in claims 1–6, 8–19, and 20–23, are fundamental healthcare or business practices, as well as the organization of human activity in the healthcare field, and, therefore constitutes patent-ineligible subject matter. *See Alice*, 134 S. Ct. at 2357; *Bilski v. Kappos*, 561 U.S. 593, 611 (2010); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (“fundamental economic and conventional business practices are often found to be abstract ideas, even if performed on a computer”).

Instead of using a definition of an abstract idea, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.” *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016)); accord United States Patent and Trademark Office, July 2015 Update: Subject Matter Eligibility 3 (July 30, 2015), <https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf> (instructing Examiners that “a claimed concept is not identified as an abstract idea unless it is similar to at least one concept that the courts have identified as an abstract idea.”). As part of this inquiry, we must “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 Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016).

Here, Appellants’ claims generally relate to a method, system, and computer program for performing the method, of assisting a caregiver in treating a patient by producing a treatment goal or patient dentition goal based on collected and stored dentition data, and are similar to ideas previously concluded by our reviewing court to be abstract. *See, e.g., Content Extraction*, 776 F.3d at 1347; *Electric Power*, 830 F.3d at 1353; *Intellectual Ventures I*, 850 F.3d at 1340.

Our reviewing court has said that abstract ideas include the concepts of collecting and compiling patient health data. *See HealthTrio LLC v. Aetna, Inc.*, 2017 WL 192962 (mem.) (Fed. Cir. 2017) (affirming district court decision holding “collection of data from various sources with the goal of compiling a single, comprehensive, patient health record” is patent ineligible, and stating that “[t]he normalization patents are directed to a method of transforming the data collected from various sources from one or more disparate formats into an integrated format. Although the patent describes a method by which the program determines the meaning of data, that task arguably is one within the capacity of the human mind to perform, and therefore ineligible for patent”); *EResearchTechnology, Inc. v. CRF, Inc.*, 2017 WL 1033672 (mem.) (Fed. Cir. 2017) (affirming district court ruling that “using an electronic device to obtain clinical trial data that would otherwise be collected by pen-and-paper diary, and analyzing the data to decide whether to prompt action” and “[c]lassifying clinical trial results by obtaining data using a portable electronic device and comparing same to a norm” are patent ineligible).

Our reviewing court has also said that abstract ideas include the concepts of collecting data, recognizing certain data within the collected data set, and storing the data in memory. *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). Additionally, the collection of information and analysis of information (e.g., recognizing certain data within the dataset) are also abstract ideas. *Elec. Power*, 830 F.3d at 1353. Similarly, “collecting, displaying, and manipulating data” is an abstract idea. *Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017).

Here, the processor-implemented method of determining a patient dentition or treatment goal based on collected and stored dentition data is similar to ideas previously concluded by our reviewing court to be abstract. *See, e.g., Content Extraction*, 776 F.3d at 1347; *Electric Power*, 830 F.3d at 1353; *Intellectual Ventures I*, 850 F.3d at 1340.

Moreover, we agree with the Examiner that the claims are directed to the abstract idea of “comparing new and stored information and using rules to identify options.” (Ans. 3); *see SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 Fed. Appx. 950 (Fed. Cir. 2014), *cert. denied*, 135 S.Ct. 58 (2014). In *SmartGene*, the Federal Circuit found claims patent ineligible because they did “no more than call on a ‘computing device,’ with basic functionality for comparing stored and input data and rules, to do what doctors do routinely.” *SmartGene*, 555 Fed. Appx. at 954. In the instant case, the recited dentition data and patient identifier matrix are nothing more than data used in an algorithm process that uses a processor to receive, generate, and compare data using mathematical comparisons and rule-based processes. The claims at issue in *SmartGene* relied upon “expert rules” for

“‘evaluating and selecting’ from a stored ‘plurality of different therapeutic treatment regimens.’” *Id.* at 951–52. The “expert rules” in *SmartGene* are analogous to the steps performed in claims 1, 8, and 14 to determine a “patient dentition goal” (claims 1, 8, 14).

Further, to the extent the Examiner determines that the instant claims comprise a combination of abstract ideas, combining several abstract ideas (such as the organization of human activity in the healthcare field and a fundamental business practice) does not render the combination any less abstract. *RecogniCorp*, 855 F.3d at 1327 (“Adding one abstract idea ... to another abstract idea ... does not render the claim non-abstract.”); *see also FairWarningIP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1094 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas). Thus, we determine no error in the Examiner’s conclusion that the claims 1–6, 8–19, and 21–23 are directed to patent-ineligible subject matter.

Appellants’ contention (Reply Br. 3) that because there is no prior art rejection for the pending claims, the Examiner has not shown the claimed process could be accomplished by a human with a pencil and paper, is unpersuasive. The Supreme Court guides: “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of *no relevance* in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89 (emphasis added). Our reviewing court further emphasizes that “[e]ligibility and novelty are separate inquiries.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017); *see also Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016)

(holding that “even assuming” that a particular claimed feature was novel does not “avoid the problem of abstractness”). Therefore, we find Appellants’ argument (Reply Br. 3) is not persuasive.

Appellants’ arguments as to dependent claims 21–23 (App. Br. 14–15), that these claims are sufficient to transform the subject matter of the independent claims from which they depend into a patent-eligible concept, are unpersuasive. Even if, as Appellants contend, these claims tie the claims to a treatment product (e.g., an appliance) in order to implement a patient dentition goal, identifying a treatment product (i.e., data) to implement a goal is just more data collection and recognition, and is still directed to the abstract ideas of the organization of human activity in the healthcare field and a fundamental business practice.

Alice Step Two

We have considered all of Appellants’ arguments (App. Br. 14; Reply Br. 4), but find them unpersuasive as to error in the rejection.

The Examiner concludes, and we agree, the pending claims do not include limitations that are “significantly more” than the abstract idea because the claims do not include an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment. *See* Final Act. 4–5; Ans. 4–5. Here, we agree with the Examiner that the additional limitations, separately, or as an ordered combination, do not provide meaningful limitations (i.e., do not add significantly more) to transform the abstract idea into a patent eligible application. Final Act. 4–5; Ans. 4–5. Specifically, we agree with the Examiner (Final Act. 5 citing Spec. 4:13–33) that Appellants’ “claimed

elements are simply appending well-understood, routine, and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception” (Final Act. 4–5). Appellants have not shown otherwise, either with persuasive evidence or argument.

Summary

In view of the foregoing, we are not persuaded of Examiner error and we sustain the Examiner’s rejection under 35 U.S.C. § 101 of claims 1–6, 8–19, and 21–23.

CONCLUSION

The Examiner did not err in rejecting claims 1–6, 8–19, and 21–23 based upon claimed patent-ineligible subject matter under 35 U.S.C. § 101.

DECISION

For the above reasons, we sustain the Examiner’s rejection of claims 1–6, 8–19, and 21–23 under 35 U.S.C. § 101.

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).

AFFIRMED