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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SCOTT ANDREW BOCKELMAN, JOHN CARON,
NARESH BALIGA, and LEYLA BADAKHSHANIAN

Appeal 2017-009876
Application 13/875,570
Technology Center 3600

Before HUBERT C. LORIN, AMEE A. SHAH, and
ROBERT J. SILVERMAN, *Administrative Patent Judges*.

SHAH, *Administrative Patent Judge*.

DECISION ON APPEAL¹

The Appellants² appeal under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1, 2, 4–10, and 12–20 under 35 U.S.C. § 101 as being directed to a judicial exception without significantly more. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE and enter a NEW GROUND OF REJECTION pursuant to 37 C.F.R. § 41.50(b).

¹ Throughout this decision, we refer to the Appellants' Reply Brief ("Reply Br.," filed July 14, 2017), Appeal Brief ("Appeal Br.," filed Jan. 17, 2017), and Specification ("Spec.," filed May 2, 2013), and to the Examiner's Answer ("Ans.," mailed May 19, 2017), and Final Office Action ("Final Act.," mailed Aug. 12, 2016).

² According to the Appellants, the real party in interest is Oracle International Corporation. Appeal Br. 2.

STATEMENT OF THE CASE

The Appellants' invention "relates to clinical trial studies, and more particularly, to modeling clinical trial studies that implement a cross-over treatment design." Spec. ¶ 1.

Claims 1, 10, and 16 are the independent claims on appeal. Claim 1 (Appeal Br. 20–21 (Claims App.)) is exemplary of the subject matter on appeal and is reproduced below (with added bracketing for reference).

1. A method, performed by a computer that includes at least a processor and a memory, the method comprising:

[(a)] generating, by the processor, a data model object that is stored in the memory, wherein the data model object comprising [sic]

[(a1)] a treatment entity identifying a plurality of treatments for a clinical trial study, wherein

[(a1A)] each of the plurality of treatments is based on a first subset of operational parameters;

[(a2)] a sequence entity identifying a plurality of sequences for the clinical trial study, wherein

[(a2A)] each of the plurality of sequences is based on a second subset of the operational parameters, wherein

[(a2Ai)] the second subset comprises a washout period parameter representing a washout period associated with each of the sequences, and

[(a2B)] each sequence of the plurality of sequences comprises a combination of ones of the plurality of treatments;

[(b)] assigning, by the processor using the data model object, a plurality of subject groups to each of the plurality of sequences, wherein

[(b1)] one subject group of the plurality of subject groups is respectively assigned to one sequence of the plurality of sequences,

[(b2)] the one sequence is scheduled to be administered to subjects of the one subject group during the clinical trial study, and

[(b3)] the one sequence is determined, at least in part, based on the washout period parameter associated with the one sequence;

[(c)] generating in a data structure, by the processor, a subject visit schedule for the plurality of sequences and the assigned subject groups, wherein the subject visit schedule indicates a plurality of subject visits scheduled for the one subject group assigned to the one sequence; and

[(d)] transmitting, by the processor via network communication, the data structure including the subject visit schedule to a user interface to display the subject visit schedule on a device to assist a user to schedule the plurality of treatments according to the subject visit schedule.

ANALYSIS

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor.” 35 U.S.C. § 101. It is undisputed that the subject matters of independent claims 1, 10, and 16 (and the claims depending therefrom) fall within the “process,” “manufacture,” and “machine” statutory categories of patentable subject matter, respectively.

However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g., Alice Corp. v. CLS Bank Int’l*, 573

U.S. 208, 216 (2014). This case implicates the judicially–excepted category of “abstract ideas.”

In determining whether the claimed subject matter set forth in the claims in this case falls within the judicially–excepted category of “abstract ideas,” we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine whether the claimed subject matter is “directed to” an abstract idea. *See Alice*, 573 U.S. at 217 (“First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. We conclude that they are: These claims are drawn to the abstract idea of intermediated settlement.”). Claimed subject matter directed to certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)) have been determined to be directed to abstract ideas and thereby judicially–excepted from patent–eligibility.

If the claimed subject matter is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an “‘inventive concept’” sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (citation omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*,

566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

Here, under the first step of the *Alice/ Mayo* framework, the Examiner characterizes the claimed subject matter as being directed to “generating, assigning, and transmitting information” and determines that that is an “abstract idea.” Final Act. 2. The Appellants do not dispute that “generating, assigning, and transmitting information,” *per se*, is an abstract idea; rather, the Appellants dispute the Examiner’s *characterization* of the subject matter to which the claims are directed to. According to the Appellants, the claimed subject matter is “directed to an improvement to an existing technological process of computerized scheduling.” Appeal Br. 11. The Appellants contend the claimed subject matter is similar to that of *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), and direct particular attention to recited claim limitations that call for “a data model object” and “a data structure.” *See* Appeal Br. 11; Reply Br. 3.

Although “claim construction is not an inviolable prerequisite” to an analysis under § 101, “a full understanding of the basic character of the claimed subject matter” is, nevertheless, needed to evaluate questions of subject-matter eligibility. *Bancorp Servs., LLC v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273–74 (Fed. Cir. 2012). *See also McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1311 (Fed. Cir. 2016) (“As an initial matter, we note that, in this case, claim construction is helpful to resolve the question of patentability under § 101.”)

In the present Appeal, the issues regarding patent-eligibility depend on the interpretations of the claimed “data model object” and “data structure.” *See* Appeal Br. 11; Reply Br. 3–4; Final Act. 4; Ans. 3–4.

However, we are unable to ascertain an understanding of the scope of the claimed “data model object” and “data structure.” In particular, we are unable to determine whether generating a “data model object” and/or generating in a “data structure,” as recited in the claims, imposes a meaningful limit (i.e., “an improvement to an existing technological process of computerized scheduling” (Appeal Br. 11)) such that the claims are more than a drafting effort designed to monopolize the common processing of a type of information (i.e., “generating, assigning, and transmitting information” (Final Act. 2)). *Cf. Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1346 (Fed. Cir. 2018):

Therefore, we do not assess the merits of the rejection under § 101. Rather, for the reasons given below, and pursuant to our authority under 37 C.F.R. § 41.50(b) to enter a new ground of rejection, we determine that the claims are indefinite under 35 U.S.C. § 112, second paragraph. Accordingly, the rejection under § 101 must fall, *pro forma*, because it is necessarily based upon speculative assumption as to the meaning of the claims. *See In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) (addressing an obviousness rejection). This determination does not reflect on the merits of the underlying rejection based upon § 101.

NEW GROUND OF REJECTION UNDER 35 U.S.C. § 112

Claims 1, 2, 4–10, and 12–20 are rejected under pre-AIA 35 U.S.C. § 112, second paragraph.

The text of pre-AIA 35 U.S.C. § 112, second paragraph, requires “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the

[Appellants] regard[] as the invention.” “As the statutory language of ‘particular[ity]’ and ‘distinct[ness]’ indicates, claims are required to be cast in clear — as opposed to ambiguous, vague, indefinite-terms.” *In re Packard*, 751 F.3d 1307, 1313 (Fed. Cir. 2014). Claims are in compliance with 35 U.S.C. § 112(b)/second paragraph if “the claims, read in light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits.” *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385 (Fed. Cir. 1986) (citing *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624 (Fed. Cir. 1985)). Thus, the test for determining the question of indefiniteness may be formulated as whether the claims “set out and circumscribe a particular area with a reasonable degree of precision and particularity.” *In re Moore*, 439 F.2d 1232, 1235 (CCPA 1971).

Independent claims 1, 10, and 16 include the limitations of generating a data model object and generating a schedule in a data structure, as recited in limitations (a) and (c) of claim 1. Appeal Br. 20, 21, 24, 25, 28, 29 (Claims App.). The Appellants cite to the Specification at paragraphs 3, 41, 55, and 89–91 and Figures 11A and 11B as support for these limitations. *See id.* at 3–8. These portions provide for generating treatments and sequences (Spec. ¶ 3), a data model representing a clinical trial study (*id.* ¶ 41), generating a data model object from a data model (*id.*), “generating a study (e.g., generating a data model object representing the study)” (*id.* ¶ 89), a user input module generating “a data model object that represents the study” (*id.* ¶ 90, Fig. 11A), “generating a schedule (e.g., a subject visit schedule and/or a monitor visit schedule)” (*id.* ¶ 89), and a schedule output

module generating a master subject visit schedule (*id.* ¶ 91, Fig. 11B).

Figure 3 represents components of a data model. *Id.* ¶ 41.

However, there is no discussion or specific definitions of what type of structure comprises a “data model object” or “data structure” as the terms are used in the claims, or how such an object or structure is generated. It is not clear what structure the data model object comprises – whether the structure is a specific type of data structure that improves on conventional data structures (*see Enfish*, 822 F.3d at 1339) or is a conventional database. We further do not see how in the Specification, including the claims, technologically or by what steps, a “data model object” is generated and how a schedule is generated in a “data structure.” It is not clear whether the data model object is generated by some type of technological process, in a way “designed to improve the way a computer stores and retrieves data in memory” (*id.* at 1338), or in a conventional manner whereby data are simply stored therein. Similarly, it is not clear whether the data structure in which the schedule is generated is specially designed or is a conventional database. As such, the limitations are not clear as to what they entail, and we cannot ascertain the scope of the invention.

Therefore, we enter a new ground of rejection of independent claims 1, 10, and 16, along with dependent claims 2, 4–9, 12–15, and 17–20, under 35 U.S.C. § 112, second paragraph, for failure to particularly point out and distinctly claim the subject matter regarded as the invention.

DECISION

We REVERSE the Examiner’s decision rejecting claims 1, 2, 4–10, and 12–20, *pro forma*.

We ENTER A NEW GROUND OF REJECTION for claims 1, 2, 4–10, and 12–20 under 35 U.S.C. § 112(b).

This Decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.” 37 C.F.R. § 41.50(b) also provides that Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

- (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .
- (2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. . . .

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).

REVERSED; 37 C.F.R. § 41.50(b).