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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARTIN O’CONNOR, QIANQIU ZHU, and
DANIEL RICHARD¹

Appeal 2017-010264
Application 13/729,782
Technology Center 2100

Before CARLA M. KRIVAK, BRADLEY W. BAUMEISTER, and
NABEEL U. KHAN, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner’s
Final Rejection of claims 1–28. App. Br. 2.² We have jurisdiction under
35 U.S.C. § 6(b).

We affirm.

¹ Equifax, Inc. is listed as the real party in interest. App. Br. 2.

² Rather than repeat the Examiner’s positions and Appellants’ arguments in their entirety, we refer to the following documents for their respective details: the Final Action mailed June 2, 2016 (“Final Act.”); the Appeal Brief filed January 19, 2017 (“App. Br.”); the Examiner’s Answer mailed May 22, 2017 (“Ans.”); and the Reply Brief filed July 24, 2017 (“Reply Br.”).

STATEMENT OF THE CASE

Appellants describe the present invention as follows:

Various embodiments provide systems, methods, and computer-program products for fusing at least two scores. In various embodiments, each of the scores predicts the probability of an outcome associated with a particular unit and an angle with respect to a horizon at which an object would rest at a point on a frictionless spherical surface is calculated based on the scores. The object comprises characteristics of the particular unit at said point on the spherical surface and the scores represent a downward force of gravity that would be exerted upon the object. In particular embodiments a displaced force is calculated based on the angle and the downward force of gravity interacting according to laws of physics. The displaced force is that which would need to be exerted upon the object to compel the object to move down the spherical surface and is used as a fused score.

Abstract.

Independent claim 1, reproduced below, is illustrative of the appealed claims:

1. A computer-implemented method for determining the creditworthiness of an individual, said method comprising the steps of:

receiving, via one or more processors, at least two scores, wherein each score represents a different aspect of the creditworthiness of an individual;

calculating, via the one or more processors and based at least in part on said at least two scores, an angle with respect to a horizon at which a simulated object would rest instantaneously at a point on an upper hemisphere of a frictionless spherical surface, wherein said calculation is based at least in part on said at least two scores, wherein said object comprises one or more characteristics of said individual at said point on said frictionless spherical surface, and wherein said at least two scores represent a downward force of gravity that would be exerted upon said object;

calculating, via the one or more processors, a displaced force based on said angle and said downward force of gravity interacting

according to laws of physics, wherein said displaced force is a force exerted upon said simulated object to compel said simulated object to move down said frictionless spherical surface; and

determining, via the one or more processors, whether said individual is likely to qualify for a financial product based on said fused score for said at least two scores.

Claims 3–6, 11–14, and 19–21 stand rejected under pre-AIA statute 35 U.S.C. § 112, ¶ 1, as failing to comply with the enablement requirement. Final Act. 3; Ans. 2.³

Claims 1–28 stand rejected under 35 U.S.C. § 101 as being directed to patent ineligible subject matter. Final Act. 2.

We review the appealed rejections for error based upon the issues Appellants identified, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

THE ENABLEMENT REJECTION

Findings and Contentions

Although the Examiner withdraws the enablement rejection of various other claims (Ans. 2), the Examiner maintains that claims 3–6, 11–14, and 19–22 contain subject matter that was not described in the Specification in such a way as to enable one skilled in the art to make or use the invention (*id.*). Particularly, the Examiner finds that functions f_1 through f_k and g_1 through g_k , as well as variables α and β , as recited in claims 3 and 4, are undefined by the Specification. The Examiner further finds that “the

³ In the Answer, the Examiner withdrew the enablement rejection with respect to claims 1, 2, 7–10, 15–18, and 23–27. Ans. 2. The Examiner also withdrew previously issued rejection under 35 U.S.C. § 112, ¶ 2 (pre-AIA), § 103(a), and the doctrine of double patenting. *Id.*

application does not disclose whether ‘M’ & ‘R’ multiply elements in the list of functions (i.e., ‘f₁’ . . . ‘f_k’ & ‘g₁’ . . . ‘g_k’) or [whether] ‘M’ & ‘R’ are functions of the list of functions (i.e., ‘f₁’ . . . ‘f_k’ & ‘g₁’ . . . ‘g_k’).” *Id.* Restated, the Examiner concludes that one of ordinary skill would not understand the gravity of the situation.

Appellants argue “‘M’ and ‘R’” are commonly used functional notations that represent functions. Reply Br. 2. Appellants additionally argue “that α and β represent any number of possible constants that may be utilized within the recited equations.” *Id.* According to Appellants, “one of skill in the art would quickly recognize that M and R each represent functions embedded within the recited equations of the independent claims, and that α and β are placeholders for a broad range of constants that may be selectably utilized within the recited equations.” *Id.*

Analysis

Appellants’ arguments are persuasive. The Examiner has not performed an adequate analysis to determine whether Appellants’ disclosure, when filed, contained sufficient information regarding the subject matter of the claims so as to enable one skilled in the pertinent art to make and use the claimed invention, by, for example, providing a discussion of the *Wands*⁴ factors. *See* MPEP 2164.01 Test of Enablement. Furthermore, we agree with Appellants (Reply Br. 2) that one of ordinary skill would have understood that M and R each represent functions. In fact, one of ordinary skill would have understood that these functions even could be simple coefficients. The fact that the Specification does not provide particular

⁴ *In re Wands*, 858 F.2d 731 (Fed. Cir. 1988).

examples for what the functions M and R may be merely implies breadth—that one of ordinary skill could use any desired coefficient or function.

Accordingly, we do not sustain the enablement rejection under 35 U.S.C. § 112, ¶ 1.

THE NON-STATUTORY SUBJECT MATTER REJECTION

Findings and Contentions

The Examiner finds that all of the claims are directed to an abstract idea and “do not include additional elements that are sufficient to amount to significantly more than the judicial exception.” Final Act. 2. Specifically, the Examiner finds that the claims are drawn to mathematical modeling of the fundamental economic practice of determining credit risk, as well as the abstract idea of using abstract mathematical optimization techniques. *Id.* The Examiner then sets forth rationales for reaching this conclusion and why Appellants’ arguments to the contrary are unpersuasive. *Id.*; Ans. 3–5. The Examiner also explains why recent court cases cited by Appellants are not controlling for the present claims or otherwise do not dictate the Examiner reach a conclusion of patentability. Ans. 5–8.

Arguing all of the claims together as a single group (App. Br. 20–30), Appellants assert, for example, that “[t]he concepts embodied by the currently pending claims are thus directed to computer-specific embodiments that make substantial, non-abstract improvements in the functionality of computers.” App. Br. 24. Appellants additionally argue that

the currently pending claims solve an inherently technological problem of fusing a plurality of scores *into a single fused score* while minimizing the processing power utilized during the fusion process. In contrast to existing methodologies, the currently

pending claims utilize a single processing step for fusing a plurality of scores into a single fused score while minimizing the amount of processing time needed to fuse the plurality of scores.

Id. at 25–26.

Analysis

Appellants’ contentions do not persuade us of error. We adopt as our own (1) the findings and reasons set forth by the Examiner in the Final Action from which the appeal is taken and (2) the reasons set forth by the Examiner in the Examiner’s Answer in response to Appellants’ Appeal Brief. We likewise concur with the conclusions reached by the Examiner.

As a matter of completeness, we additionally note that claim 1 merely recites a step of inputting data into a computer, steps of performing mathematical calculations on the inputted data, and a final step of using a computer to calculate a result or determine “whether said individual is likely to qualify for a financial product based on said fused score for said at least two [input] scores.” *See* claim 1. Even assuming *arguendo* that the mathematical formulas used in the calculations are novel, that fact would not cause the claims to be directed to a computer-specific or inherently technological problem. In such a case, the claims still would be directed merely to a method of using common computers in their conventional and typical manner of performing mathematical calculations based on whatever mathematical formulas are programmed or stored on the computer.

Appellants’ argument that “the currently pending claims utilize a single processing step for fusing a plurality of scores into a single fused score while minimizing the amount of processing time needed to fuse the plurality of scores” (App. Br. 26) is unpersuasive. Appellants do not point to any passage of the Specification in support of this assertion. *See id.* Nor

do we see any disclosure in the Specification relating to the improvement of processing time. *See generally* Spec. Appellants' Specification, instead, indicates rather clearly that the present invention is directed to improvements in known types of predictive modeling and score fusion—abstract ideas—in order “to identify the optimal combination of scores.” Spec. ¶¶ 2–4. As such, Appellants' assertions constitute unsupported attorney argument. *See, e.g., In re Huang*, 100 F.3d 135, 139–40 (Fed. Cir. 1996); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984).

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's conclusion that the claims are directed to patent ineligible abstract ideas. Accordingly, we sustain the Examiner's rejection under 35 U.S.C. § 101 of claims 1–28. *See* 37 C.F.R. § 41.37(c)(1)(iv):

When multiple claims subject to the same ground of rejection are argued as a group or subgroup by appellant, the Board may select a single claim from the group or subgroup and may decide the appeal as to the ground of rejection with respect to the group or subgroup on the basis of the selected claim alone.

DECISION

The Examiner's decision rejecting claims 3–6, 11–14, and 19–21 under 35 U.S.C. § 112, ¶ 1, is reversed.

The Examiner's decision rejecting claims 1–28 under 35 U.S.C. § 101 is affirmed.

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