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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WILLIAM MARC GRAHAM,
WILLIAM JOSEPH JOLICOEUR III, CHRISTOPHER H. HAUSE,
ROBERT WAYNE BUSBY, and KEITH EUGENE NELSON[1]

Appeal 2018-004849
Application 13/687,360
Technology Center 3600

Before THU A. DANG, ELENI MANTIS MERCADER, and
JAMES R. HUGHES, *Administrative Patent Judges*.

MANTIS MERCADER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the Final Rejection of claims 1–2, 7–19, 21–39, 44–56, 58–63, 65–68, and 69, which are all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] The real party in interest is William Marc Graham. Appeal Br. 1.

The Invention

Appellant's claimed invention is directed to a computer-implemented method and system for providing an insurance product or products that protects a wage earner against a reduction in compensation resulting from an event such as involuntary dismissal from employment and subsequent reemployment at a reduced compensation. Abstract.

Exemplary Claim

Claim 27, reproduced below is representative of the subject matter on appeal:

27. A computer-implemented method for an insurance product, the method comprising:

providing a computer having a memory, a computer processor unit, and a computation system operable by the computer processor unit,

receiving input data by the computer from an input device,

generating output data comprised of benefits criteria and costs by the computation system of the computer, and

determining by the computer SGQ_d which is the number of persons returning to work during duration (d) who qualify for salary gap benefits:

$$SGQ_d = RW_d \times W\%$$

where

RW_d is number returning to work during duration (d);

d is duration in months from a qualifying event referred to as an incidence date;

W% is expected % returning to work whose "replacement employment salary" (RES) are no greater than XX% of their "original employment salary" (OES); and

XX% is a percentage in a range of 0 to 100%,

wherein the insurance product protects an insured against a salary gap differential caused by a reduction in compensation, the reduction in compensation arising from the insured being involuntarily dismissed from an

initial employment position having an initial compensation and commencing employment position having a reduced compensation amount that is less than the initial compensation amount; and

wherein the benefits criteria is a number of monthly payments received through maximum benefit period (z) by a salary gap qualified person and wherein $SGP_{d:z}$ is a number of monthly payments received calculated according to equation:

$$SGP_{d:z} = SGQ_d \times SGQP_{d:z} \text{ (for } d > \text{waiting period)}$$

where

$SGQ_d = RW_d \times W\%$;
$RW_d = IU_d - IU_{d-1}$;
$IUd = IU_0 \times SGAMCF_d$;
IU_0 = number of involuntarily unemployed at the incidence date;
$SGAMCF_d$ = Adjusted Monthly Continuance Factor= a ratio of number of persons remaining involuntarily unemployed at end of duration (d) to number of persons involuntarily unemployed at the incidence date;
d = duration in months from the incidence date;
d-1 = previous month;
W% = expected % returning to work whose "replacement employment salary" (RES) are no greater than XX% of their "original employment salary" (OES); and
XX% = is a percentage in a range of 0 to 100%.

Rejection on Appeal

Claims 1–2, 7–19, 21–39, 44–56, 58–63, 65–68, and 69 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 2–7.

ANALYSIS

We adopt the Examiner's findings in the Answer and Final Office Action and add the following.

Section 101 of the Patent Act provides that "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" is patent eligible. 35 U.S.C. § 101. But the Supreme Court has long recognized an implicit exception to this section: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). To determine whether a claim falls within one of these excluded categories, the Court has set out a two-part framework. The framework requires us first to consider whether the claim is "directed to one of those patent-ineligible concepts." *Alice*, 573 U.S. at 217. If so, we then examine "the elements of [the] 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." *Alice*, 573 U.S. at 217 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78, 79 (2012)). That is, we examine the claim for an "inventive concept," "an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Alice*, 573 U.S. at 217–18 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219-20; *Bilski*, 561 U.S. 593 at 611);

mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594-95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

The Patent Office recently revised its guidance about this framework. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Revised Guidance"). Under the Revised Guidance, to decide whether a claim is directed to an abstract idea, we evaluate whether the claim (1) recites subject matter that falls within one of the abstract idea groupings identified in the Revised Guidance and (2) fails to integrate the recited abstract idea into a practical application. *See* Revised Guidance, 84 Fed. Reg. at 51, 54. If the claim is directed to an abstract idea, as noted above, we then determine whether the claim has an inventive concept. The Revised Guidance explains that when making this determination, we should consider whether the additional claim elements add "a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field" or "simply append[] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality." Revised Guidance, 84 Fed. Reg. at 56.

Step 2A(i): Does the Claim Recite a Judicial Exception?

The Examiner determined that claim 27 is "directed to an abstract idea of using a mathematical relationship/formula in determining the salary gap benefits associated with an insurance product." Ans. 2. The Examiner in particular finds

> Claim 27 recites the steps of providing, receiving input data, generating output data comprised of benefits criteria and costs, determining a number of persons returning to work during duration (d) who qualify for salary gap benefits as per the

> benefits associated with an insurance product which protects an insured against a salary gap differential caused by a reduction in compensation, the reduction in compensation arising from the insured being involuntarily dismissed from an initial employment position having a reduced compensation amount that is less than the initial compensation amount and where the benefits criteria is a number of monthly payments received through maximum benefit period (z) by a salary gap qualified person and wherein $SGP_{d:z}$ is a number of monthly payments received calculated according to a mathematical relationships/formulas. In other words, the claim makes use of a mathematical relationship/formula in determining the salary gap benefits with an insurance product which can be performed mentally and is interpreted as a certain method of organizing human activity.

Ans. 3. We agree with the Examiner that the claim recites a mathematical relationship but we further find that the mathematical relationship (formula) is applied to a fundamental economic practice. The mathematical relationship and the fundamental economic practice constitute abstract ideas.

Claim 27, as drafted, is a system that, under its broadest reasonable interpretation, is a fundamental economic practice similar to risk the intermediated settlement in *Alice* (*see Alice*, 573 U.S. at 218–19), verifying credit card transactions in *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011), and guaranteeing transactions in *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014). The Specification describes an "insurance product for protecting a wage earner against a reduction in compensation." Spec. ¶ 8. As such, claim 27 recites a fundamental economic practice—i.e., a certain method of organizing human activity—which is an abstract idea. *See* Revised Guidance, 84 Fed. Reg. at 54–55.

Claim 27 recites, in pertinent part:

determining by the computer SGQ_d which is the number of persons returning to work during duration (d) who qualify for salary gap benefits:

$$SGQ_d = RW_d \times W\%$$

where

RW_d is number returning to work during duration (d);

d is duration in months from a qualifying event referred to as an incidence date;

W% is expected % returning to work whose "replacement employment salary" (RES) are no greater than XX% of their "original employment salary" (OES); and

XX% is a percentage in a range of 0 to 100%,

wherein the insurance product protects an insured against a salary gap differential caused by a reduction in compensation, the reduction in compensation arising from the insured being involuntarily dismissed from an initial employment position having an initial compensation and commencing employment position having a reduced compensation amount that is less than the initial compensation amount; and

wherein the benefits criteria is a number of monthly payments received through maximum benefit period (z) by a salary gap qualified person and wherein $SGP_{d:z}$ is a number of monthly payments received calculated according to equation:

$$SGP_{d:z} = SGQ_d \times SGQP_{d:z} \text{ (ford > waiting period)}$$

where

$SGQ_d = RW_d \times W\%$;

$RW_d = IU_d - IU_{d-1}$;

$IU_d = IU_0 \times SGAMCF_d$;

IU_0 = number of involuntarily unemployed at the incidence date;

$SGAMCF_d$ = Adjusted Monthly Continuance Factor= a ratio of number of persons remaining involuntarily unemployed at end of

> duration (d) to number of persons involuntarily unemployed at the incidence date;
> d = duration in months from the incidence date;
> d-1 = previous month;
> W% = expected % returning to work whose "replacement employment salary" (RES) are no greater than XX% of their "original employment salary" (OES); and
> XX% = is a percentage in a range of 0 to 100%.

Claims App'x. 22.

Under the broadest reasonable interpretation standard,[2] we conclude that the above limitations recite steps in a fundamental economic practice using a mathematical relationship to determine the salary gap benefits associated with an insurance product. *See* Spec. ¶¶ 168–224.

Thus, under *Step 2A(i)*, we agree with the Examiner that claim 27 recites a judicial exception. Specifically, we conclude claim 27, as a whole, under our Revised Guidance, recites a fundamental economic practice, i.e., a certain method of organizing human activity that uses a mathematical formula, and thus an abstract idea.

We do not agree with Appellant's argument that the claims do not recite an abstract idea because "a computer system comprised of computer

[2] During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

hardware and software for calculating insurance metrics for a specific insurance offering using complex algorithms which would not be possible to process using a mere mental process due to their complexity." *See* Appeal Br. 7–8.

The Supreme Court has held that performing mathematical calculations using a pencil and paper, even if the mathematical formula is primarily useful for computerized calculations, "cannot support a patent unless there is some other inventive concept in its application." *Flook*, 437 U.S.584 at 586, 594 (1978). Furthermore, the fact that claim 27's method provides a system that comprises computer elements that perform mathematical calculations does not change our analysis. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) ("[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.").

Accordingly, under *Step 2A(i)*, we agree with the Examiner that representative claim 27 recites a judicial exception.

Step 2A(ii): Judicial Exception Integrated into a Practical Application?

If the claims recite a patent-ineligible concept, as we conclude above, we proceed to the "practical application" *Step 2A(ii)* in which we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

Claim 27 recites an abstract idea as identified in *Step 2A(i)*, *supra*, and none of the additional elements integrates the judicial exception of a fundamental economic practice into a practical application. Here, the additional elements, which are not part of the abstract idea, are the recited elements of "computer having a memory," "a computer processor unit," and a "computation system operable by the computer processor unit," performing each of the functions that comprise the abstract idea.

We note that Appellant's Specification describes the computer as a "mini-computer or a personal computer." *See* Spec. ¶ 26. Thus, claim 27 as a whole merely uses instructions and a generic processor to implement the abstract idea on a computer or, alternatively, merely uses a computer as a tool to perform the abstract idea.

Appellant argues the claimed invention is similar to *McRO* citing "limited rules in a process specifically designed to achieve an improved technological result in conventional industry practice."[3] Appeal Br. 12–13.

We are not persuaded by Appellant's arguments. In *McRO*, the claims were not held to be abstract because they recited a "specific . . . improvement in computer animation" using "unconventional rules that relate[d] sub sequences of phonemes, timings, and morph weight sets." *McRO*, 837 F.3d at 1302–03, 1307–08, 1314–15. In *McRO*, "the incorporation of the claimed rules, not the use of the computer," improved an existing *technological* process. *Id.* at 1314. The claims in *McRO*, however, recited a "specific . . . improvement in *computer animation*" using "unconventional rules that relate[d] sub sequences of phonemes, timings,

[3] Referring to *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016).

and morph weight sets." *McRO*, 837 F.3d at 1302–03, 1307–08, 1314–15 (emphasis added). Appellant does not, however, identify how claim 27 improves 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"). Rather, claim 27 concerns an "insurance product." *See* claim 27.

Furthermore, we note that any increase in processing speed in the claimed method (as compared to without using computers) comes from the capabilities of the generic computer components, and not the recited process itself. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Bancorp Servs., LLC v. Sun Life Assurance Co.*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) ("[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.")); *see also Intellectual Ventures I LLC v. Erie Indemnity Co.*, 711 F. App'x 1012, 1017 (Fed. Cir. 2017) (unpublished) ("Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer 'do[ ] not materially alter the patent eligibility of the claimed subject matter.'").

Therefore, we conclude the abstract idea is not integrated into a practical application, and thus the claim is directed to the judicial exception.

Step 2B – "Inventive Concept" or "Significantly More"

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the "inventive concept" step. For *Step 2B* we

must "look with more specificity at what the claim elements add, in order to determine 'whether they identify an "inventive concept" in the application of the ineligible subject matter' to which the claim is directed." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (quoting *Elec. Power Grp.*, 830 F.3d at 1353).

In applying step two of the *Alice* analysis, our reviewing court guides we must "determine whether the claims do significantly more than simply describe [the] abstract method" and thus transform the abstract idea into patentable subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any "additional features" in the claims that constitute an "inventive concept," thereby rendering the claims eligible for patenting even if they are directed to an abstract idea. *Alice*, 573 U.S. at 221. Those "additional features" must be more than "well-understood, routine, conventional activity." *Mayo*, 566 U.S. at 79.

Evaluating representative claim 27 under *Step 2B*, we conclude it lacks an inventive concept that transforms the abstract idea of managing a target outcome fund into a patent-eligible application of that abstract idea.

The conventional nature of the "computer" is evidenced by the generic "computer" as sated above and a computer software program, stored in memory and executed by the processor(s) of the computer, to perform the disclosed functions. *See* Spec. ¶ 26.

We conclude the claims fail the *Step 2B* analysis because claim 27, in essence, merely recites a method that provides a generic computer and trading system along with no more than mere instructions to implement the identified abstract idea using the computer-based elements.

Therefore, because the claims fail under both the *Step 2A* and *Step 2B* analyses, we sustain the Examiner's § 101 rejection of claim 27 and claims 2, 7–19, 21–39, 44–56, 58–63, 65–68, and 69.

DECISION

We affirm the Examiner's decision rejecting claims 1–2, 7–19, 21–39, 44–56, 58–63, 65–68, and 69.

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