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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GERALD COCHRANE WAGNER¹

Appeal 2018-004336
Application 13/830,725
Technology Center 3600

Before JOSEPH DIXON, ELENI MANTIS MERCADER, and
KEVIN TURNER, *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 1–4 and 7–22, which are all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ The real party in interest is Ibis Software Corporation of 1901 Central Avenue, Alameda, California 94501. App. Br. 5.

The Invention

Appellant's claimed invention is directed to Systems and methods are described for providing information to retirees wishing to supplement a retirement investment portfolio by judicious use of funds from one of several available reverse mortgage programs. Abstract.

Exemplary Claim

Claim 1, reproduced below is representative of the subject matter on appeal:

1. A computer-implemented data visualization system for analyzing multiple, independent, non-deterministic factors related to the problem of determining whether a specific individual retiree's investment portfolio and home equity will be able to sustainably provide funds for a specified number of years in the retiree's future, the number of years referred to as a "spending horizon," the system utilizing a Monte Carlo engine for providing statistically accurate estimations of future funds available to the retiree based on various funding strategies including whether the retiree chooses to utilize a reverse mortgage or not, the system comprising:

a retirement planning server in network communication with a plurality of data sources, a partner retirement planning service, and a client, the server comprising:

input/output interfaces and devices to receive information from the data sources and to receive information from and output information to the client and the partner service;

a computational module comprising a plurality of computational engines and a random number generator; and

a microprocessor coupled with memory and at least one mass storage device, at least one input device, and at least one output device in communication with at least one multimedia device, said microprocessor configured to execute a data sharing module and the computational module;

wherein said at least one input device receives information about a client, said client being an individual or an individual together with the individual's spouse or other domestic partner, and wherein said information about said client comprises:

information about a home owned by said client, including information about said client's equity in said home;

information about an investment portfolio owned by said client, including information about a current valuation of the investment portfolio and an asset allocation associated with said investment portfolio;

information about the age(s) of said client; and

information about an amount of funds desired by said client to be available to said client for spending during a spending horizon, wherein said spending horizon is a specific number of future years; said at least one input device further receiving periodically updated information about interest rates related to reverse mortgage programs; wherein said at least one mass storage device stores information, comprising:

information about reverse mortgage programs, including reverse mortgage programs with different types of disbursement schedules;

statistical information, including a standard mean and a standard deviance, about estimated portfolio growth returns;

statistical information, including a standard mean and a standard deviance, about estimated residential property value growth;

statistical information about mortality rates; and

information about government tax rates;

wherein said computational module, said memory, and said data sharing module are programmed to implement a Monte Carlo simulation engine configured to receive input from:

a reverse mortgage engine, in communication with the at least one input device and with the at least one mass storage device, said reverse mortgage engine configured to use the information about the home owned by the client, the ages(s) of the client, the information about the reverse mortgage programs with different types of disbursement schedules, and the periodically updated information about interest rates related to reverse mortgage programs, to provide to the Monte Carlo simulation engine schedules of disbursements from one or more reverse mortgage programs available to the client;

a portfolio initialization engine, in communication with the at least one input device and with the at least one mass storage device, said portfolio initialization engine configured to provide to the Monte Carlo simulation engine the information about the investment portfolio owned by said client, including the information about the current valuation and the asset allocation

of the investment portfolio, and the standard mean and standard deviance regarding estimated portfolio growth returns associated with the asset allocation of the investment portfolio; and

a mortality engine configured to use the information about the age(s) of the client and the stored statistical information about mortality rates to provide actuarial information for the client to the Monte Carlo simulation engine;

wherein said Monte Carlo simulation engine is further configured to generate, for each of a thousand of more simulations, values for one or more non-deterministic, stochastic variables, based on random, computer-generated numbers for representing non-deterministic behavior of portfolio growth returns and non-deterministic behavior of residential property value growth;

said Monte Carlo simulation engine further configured to execute sufficient computational simulations use the values for the one or more non-deterministic, stochastic variables to generate, based at least in part on information from the reverse mortgage engine, said portfolio initialization engine, and said mortality engine, statistically reliable results for two or more estimated schedules of future values for said client's investment portfolio and said client's home equity;

wherein one of said estimated schedules provides predicted future portfolio and home equity values that are based, at least in part, on an assumption that said client withdraws from said portfolio on a regular basis said desired amount of funds to be available for spending during said spending horizon without a reverse mortgage; and

wherein one or more of said estimated schedules provides predicted future portfolio and home equity values that are based, at least in part, on an assumption that said client receives scheduled advances from a reverse mortgage plan, said scheduled advances providing part of said desired amount of funds to be available to said client for spending during said spending horizon; and

wherein said at least one output device presents a visual display comprising a tabular, side-by-side pictorial comparison of the percentage likelihood that the client will still have funds for spending at the spending horizon with said one or more estimated schedules of reverse mortgage options for the client compared to the percentage likelihood that the client will still have funds for spending at the spending horizon without a reverse mortgage option.

Rejection on Appeal

Claims 1–4 and 7–17 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 7–13.

ANALYSIS

We adopt the Examiner’s findings in the Answer and Final Office Action except as otherwise noted below.

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 v. Kappos*, 561 U.S. 593, 612 (2010)); 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 1 is “directed to an abstract idea of forecasting financial performance of an investment portfolio including home equity based on various funding strategies including, or not including, a reverse mortgage which is a method of organizing human activity.” Ans. 7–8.

Claim 1, 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 a “financial performance of an investment portfolio including home equity based on various funding strategies including, or not including, a reverse mortgage which is a method of organizing human activity.” Spec. ¶ 18. As such, claim 1 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 1 recites, in pertinent part:

Monte Carlo simulation engine further configured to execute sufficient computational simulations use the values for the one or more non-deterministic, stochastic variables to generate, based at least in part on information from the reverse mortgage engine, said portfolio initialization engine, and said mortality engine, statistically reliable results for two or more estimated schedules of future values for said client's investment portfolio and said client's home equity;

wherein one of said estimated schedules provides predicted future portfolio and home equity values that are based, at least in part, on an assumption that said client withdraws from said portfolio on a regular basis said desired amount of funds to be available for spending during said spending horizon without a reverse mortgage; and

wherein one or more of said estimated schedules provides predicted future portfolio and home equity values that are based, at least in part, on an assumption that said client receives scheduled advances from a reverse mortgage plan, said scheduled advances providing part of said desired amount of funds to be available to said client for spending during said spending horizon;

presents . . . a tabular, side-by-side pictorial comparison of the percentage likelihood that the client will still have funds for spending at the spending horizon with said one or more estimated schedules of reverse mortgage options for the client compared to the percentage likelihood that the client will still have funds for spending at the spending horizon without a reverse mortgage option.

Claims App'x. 5.

Under the broadest reasonable interpretation standard,² we conclude that the above limitations recite steps in a fundamental economic practice using Monte Carlo simulations to determine

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).

whether a client will still have funds for spending without a reverse mortgage option. *See* Spec. ¶¶ 36–65.

Thus, under *Step 2A(i)*, we agree with the Examiner that claim recites a judicial exception. Specifically, we conclude claim 1, 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 or a statistical analysis, and thus an abstract idea.

Accordingly, under *Step 2A(i)*, we agree with the Examiner that claim 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 1 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 a “server” having “input/output interfaces,” and a “microprocessor coupled with memory,” a “mass storage device” and a

“visual display” performing each of the functions that comprise the abstract idea.

We note that Appellant’s Specification describes the computer as generic computer. *See* Spec. ¶ 36. Thus, claim 1 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.

We do not agree with Appellant that the claimed invention is similar to *McRO* because the claims are directed to improvements of a computer related technology using specific algorithms or rules.³ App. Br. 43–48.

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, 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 1 concerns “forecasting financial performance.” *See* claim 1.

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

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. *Ulramercial, 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 1 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.* ¶ 36.

We conclude the claims fail the *Step 2B* analysis because representative claim 1, in essence, merely recites a generic computer and statistical processing 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 1 and claims 1–2–4 and 7–17.

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DECISION

We affirm the Examiner's decision rejecting claims 1–4 and 7–17.

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