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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TAMER E. ABUELSAAD, GREGORY J. BOSS, JOHN M. GANCI JR., and CRAIG M. TRIM

Appeal 2019-002702
Application 14/153,217
Technology Center 3600

Before RICHARD M. LEBOVITZ, JEFFREY N. FREDMAN, and RYAN H. FLAX, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal[1] under 35 U.S.C. § 134(a) involving claims to a method for pricing data according to usage. The Examiner rejected the claims as reciting patent-ineligible subject matter. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Statement of the Case

Background

"A data store is a repository of data. Generally, the data in a data store does not have to conform to any particular form or structure" (Spec. ¶ 2). A

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the Real Party in Interest as International Business Machines Corporation (*see* Appeal Br. 2).

"data store according to the illustrative embodiments contains numerous data cubes" (*id.* ¶ 13). "A data cube is a quantum of data that can be sold, purchased, borrowed, installed, loaded, or otherwise used in a computation" (*id.*). The Specification teaches "that selling or trading data by bundling with an application restricts the utility of the data as well as the market for the data" (*id.* ¶ 16). "[T]he pricing of data cubes has to be use-related, such that the price a user pays for a data cube, or a part thereof, is related to the utility of that data cube, or a part thereof, in the user's query" (*id.* ¶ 18).

The Claims

Claims 1–11 and 14–22 are on appeal. Claim 1 is reproduced below:

> 1. A method for pricing data according to usage, the method comprising:
>
> identifying, by using a processor, a set of data cubes according to a set of cube selection parameters, the set of data cubes being usable for answering a query;
>
> analyzing, by using the processor, a manner in which a first subset of data cubes is expected to participate in the query;
>
> removing, responsive to the manner of participation in query being subject to a restriction, the first subset of data cubes from the set of data cubes as disqualified from participating in the query;
>
> selecting, by using the processor, a second subset of participating data cubes from the data cubes remaining in the set;
>
> computing, by using the processor, an accuracy level of a result-set of the query;
>
> determining, by using the processor, that an improvement in the accuracy level is achieved by having a new data cube participate in the query, the new data cube being distinct from the data cubes remaining in the set;
>
> producing, by using the processor, a preview of the improvement in the accuracy level of the result set, the preview including a revised pricing for executing the query based upon

> the improvement in the accuracy level achieved by having the new cube participate in the query; and
>
> modifying, by using the processor, responsive to the preview showing that the improvement exceeds a threshold improvement, the query, wherein the modified query when executed uses the new data cube.

The Rejection

The Examiner rejected claims 1–11 and 14–22 under 35 U.S.C. § 101 as directed to an abstract idea (Final Act. 7–14).

The Examiner finds the claims are "directed to a method and system providing pricing data in data cube to a user for payment" (Final Act. 9). The Examiner finds the claimed "steps are merely directed to an idea standing alone such as an uninstantiated concept, plan or scheme, as well as a mental process (thinking) that 'can be performed in the human mind, or by a human using a pen and paper'" (*id.* at 10).

Appellant responds that "claim 1 is directed to . . . a technological improvement in querying data by selecting data cubes for the query in order to improve an accuracy level of the query" (Appeal Br. 11).

Principles of Law

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. 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. *See, e.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, 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 what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.").

Concepts determined to be abstract ideas, and therefore 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. at 611) and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include, for example, physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)) or software "purport[ing] to improve the functioning of the computer itself" (*Enfish, LLC v. Microsoft Corp*., 822 F.3d 1327, 1335 (Fed. Cir. 2016)).

If a claim is determined to be "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 (quotation marks 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.* (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.*

The United States Patent and Trademark Office published guidance on the application of 35 U.S.C. § 101. USPTO's *2019 Revised Patent*

Subject Matter Eligibility Guidance ("Guidance").[2] Under the Guidance, in determining what concept the claim is "directed to," we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (Guidance Step 2A, Prong 1); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)) (Guidance Step 2A, Prong 2).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim contains an "'inventive concept' sufficient to 'transform'" the claimed judicial exception into a patent-eligible application of the judicial exception. *Alice*, 573 U.S. at 221 (quoting *Mayo*, 566 U.S. at 82). In so doing, we thus consider whether the claim:

> (3) adds a specific limitation beyond the judicial exception that are not "well-understood, routine and conventional in the field" (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

(Guidance Step 2B). *See* Guidance, 84 Fed. Reg. at 54–56.

Analysis

Applying this USPTO Guidance and Supreme Court's direction to the facts on this record, we find that Appellant's claims 1–11 and 14–22 are

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[2] *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50–57 (January 7, 2019).

directed to patent-ineligible subject matter. Because the same issues are presented for each of the claims, we focus our consideration on representative claim 1. The same analysis applied below to claim 1 also applies to the other rejected claims.

A. Guidance Step 1

We consider whether the claimed subject matter falls within the four statutory categories set forth in § 101, namely "[p]rocess, machine, manufacture, or composition of matter." 2019 Guidance 53–54; *see* 35 U.S.C. § 101. Claim 1 recites a "method" and claims 14 rand 20 recite either a "computer program product" or "computer system" and, thus, fall within the "process," and "machine" categories respectively. Consequently, we proceed to the next step of the analysis.

B. Guidance Step 2A, Prong 1

The Guidance instructs us first to determine whether a judicial exception to patent eligibility is recited in the claim. The Guidance identifies three judicially-excepted groupings identified by the courts as abstract ideas: (1) mathematical concepts, (2) certain methods of organizing human behavior, such as fundamental economic practices, and (3) mental processes.

Claim 1 reasonably falls within two of the three judicially-excepted groupings listed in the Guidance: fundamental economic practices and mental processes. The abstract concept of mental processes applies because the "claimed steps can be performed by a human analog (i.e., by hand or thinking)" (Final Act. 11). Our reviewing court in *CyberSource* instructs that "a method that can be performed by human thought alone is merely an

abstract idea and is not patent-eligible under § 101." *CyberSource Corp. v. Retail Decisions*, *Inc.*, 654 F.3d 1366, 1373, 1375 (Fed. Cir. 2011) ("That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*."). The abstract concept of fundamental economic practices applies because claim 1 is "directed to the abstract idea of determining a price, using organizational and product group hierarchies." *Versata Dev. Grp. v. SAP Am., Inc*., 793 F.3d 1306, 1333 (Fed. Cir. 2015).

Claim 1 is drawn to a method for pricing data of any type. The Specification acknowledges that the method "may be implemented with respect to any type of data, data source, or access to a data source over a data network" (Spec. ¶ 33).

We agree with the Examiner that the steps recited by the claims are concepts that can be performed in the human mind or by a human with pen and paper and, therefore, qualify as "mental processes" under the Guidance. *See* Guidance at 52. For example, the Specification teaches that the "identifying . . . a set of data cubes" step encompasses the situation where "a seller of a healthcare-related data cube may not wish for the cube to participate in a query where it becomes possible to identify an individual patient" (Spec. ¶¶ 21, 22). This represents the mental process of selecting which data to exclude from the pricing process, such as individually identifiable medical data, as desired by the data seller. The remaining steps also involve pricing data by on how desirable the data is for answer a query. "The concept of data collection, recognition, and storage is undisputedly well-known. Indeed, humans have always performed these functions."

Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n, 776 F.3d 1343, 1347 (Fed. Cir. 2014).

We also agree with the Examiner that the claimed invention is analogous to the claims in *Versata* (*see* Final Act. 10), where our reviewing court found "[u]sing organizational and product group hierarchies to determine a price is an abstract idea that has no particular concrete or tangible form or application." 793 F.3d at 1333. Likewise, the instant claims recite pricing data based on the utility of the data, which is "a fundamental economic practice long prevalent in our system of commerce." *Bilski v. Kappos*, 561 U.S. 593, 611 (2010); *see also buySAFE, Inc. v. Google, Inc*., 765 F.3d 1350, 1353 (Fed. Cir. 2014).

Accordingly, we conclude that the steps of claim 1 recites the judicial exceptions of mental processes and fundamental economic processes.

Guidance Step 2A, Prong 2

Having determined that the claims are directed to a judicial exception, the Guidance directs us to next consider whether the claims integrate the judicial exception into a practical application. Guidance, Step 2A, Prong 2. "[I]ntegration into a practical application" requires that the claim recite an additional element or a combination of elements, that when considered individually or in combination, "apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." Guidance at 54.

A judicial exception is not integrated into a practical application when the claims are drawn to the mere use of "a computer as a tool to perform an

abstract idea." Guidance, 84 Fed. Reg. at 55; *see Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–6 (Fed. Cir. 2016) (determining whether the claims at issue were focused on a "specific asserted improvement in computer capabilities" or "a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool").

Here, there is no practical integration of the abstract idea. Other than the limitations directed to the abstract idea, discussed above, the invention is claimed at a very high level of generality and relies upon standard computing devices (*see, e.g.*, Spec. ¶¶ 43, 49, 54 "data processing environment 100 may be the Internet"; the "operating system may be a commercially available operating system"; "data processing system 200 also may be a tablet computer, laptop computer, or telephone device in addition to taking the form of a PDA"). We appreciate that the mere fact that standard devices are used in the claimed process is not dispositive in determining whether an invention is claimed as a practical integration.

Appellant contends that the "claimed invention solves the recognized problems with respect to the selection of most relevant data" and that "*[d]ata effectiveness preview* in this [claimed] manner is unavailable in the prior-art, whether for ascertaining the data's value or utility or some other purpose." (Reply Br. 4, 5).

We are not persuaded by Appellant's argument because the idea of previewing something for potential purchase, whether trying on pants for fit, playing a computer game at the store, or test driving a car, is a fundamental economic practice and mental process that would be understood to be available for any purchase.

We note that the Specification does not describe any specific algorithms for performing the pricing transactions, but merely provides the general concept of computerizing known methods of pricing data. *See* Spec. ¶ 17 ("data is, or can be, a generalized commodity, which can be traded independently from any trade involving applications or other restrictions."). Thus, the Specification is reasonably understood as teaching simple computerization of pricing systems.

Appellant contends that "claim 1 is directed to are directed to a technological improvement in querying data by selecting data cubes for the query in order to improve an accuracy level of the query" (Appeal Br. 11). Appellant contends

> similar to the situation in *McRO*, it is the claimed determining that an improvement in the accuracy level is achieved by having a new data cube participate in the query, producing a preview of the improvement in the accuracy level of the result set, the preview including a revised pricing for executing the query based upon the improvement in the accuracy level achieved by having the new cube participate in the query, and modifying, responsive to the preview showing that the improvement exceeds a threshold improvement, the query, wherein the modified query when executed uses the new data cube not the use of generic network components, which improves the existing technological process.

(*Id.* at 12).

We are unpersuaded by Appellant's reliance on *McRO, Inc. v. Bandai Namco Games Am. Inc*., 837 F.3d 1299 (Fed. Cir. 2016). *McRO* was a computer based process that improved operations on the computer animation process itself, while claim 1 uses mental processes and methods of organizing human activity of deciding how to price data for sale.

Unlike *McRO*, the computer in claim 1 is used as a tool to perform the same method performed in the mind of a human deciding how much to charge for particular information. That is, an encyclopedia salesman selling volumes of an encyclopedia and of annual updates may reasonably choose to price the volumes and annual updates based on the interest shown by the purchaser and the relevance of the particular volume. This pricing would be a mental step and fundamental economic practice that does not improve a computer itself. Claim 1 does not integrate the return process steps into a practical improvement because the steps simply computerize known mental processes and methods of organizing human activity. Therefore, contrary to *McRO*, where the ultimate product produced was a synchronized computer animation that was itself the transformative use, the result of the presently claimed method is drawn to a method of pricing data, which does not improve the computer itself.

Therefore, claim 1 does not recite elements that integrate the abstract idea into a practical application that is more than the abstract idea itself. Instead, the claims recite conventional computer components that are used to apply the mental process and method of organization of human activity of pricing data. *Alice* makes clear that "[s]tating an abstract idea while adding the words 'apply it with a computer' simply combines those two steps, with the same deficient result." *Alice*, 573 U.S. at 223.

C. Guidance Step 2B

Having determined that the judicial exception is not integrated into a practical application, the Guidance requires us to evaluate the additional elements individually and in combination to determine whether they provide an inventive concept, such as a specific limitation beyond the judicial

exception that is not well-understood, routine, conventional in the field, or simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* 84 Fed. Reg. 51.

Appellant does not argue that the pricing process recited in claim 1 is drawn to something not well-understood, routine, or conventional. We note that the claimed pricing concept does not alter the computer itself in any structural way or improve its functioning and we see no meaningful distinction between the type of financial practice claimed and "the concept of intermediated settlement" held to be abstract in *Alice*, 573 U.S. at 219. The facts here are like those in *Credit Acceptance*, where the court found "[t]he invention's 'communication between previously unconnected systems—the dealer's inventory database, a user credit information input terminal, and creditor underwriting servers,' . . . does not amount to an improvement in computer technology." *Credit Acceptance Corp. v. Westlake Services*, 859 F.3d 1044, 1055 (Fed. Cir. 2017).

The rejection of the claims under 35 U.S.C. § 101 is affirmed.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–11, 14–22	101	Eligibility	1–11, 14–22	

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