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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LOREN CHENG and EDWARD ZAGAT

Appeal 2018-000281
Application 13/760,809
Technology Center 3600

Before PHILIP J. HOFFMANN, CYNTHIA L. MURPHY, and ROBERT J. SILVERMAN, *Administrative Patent Judges*.

MURPHY, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellants[1] appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1–8 and 21–28 under 35 U.S.C. § 101.[2] We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.

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[1] "The real party in interest in this appeal is Facebook, Inc." (Appeal Br. 2.)

[2] The Examiner's rejection of claims 1–8 and 21–28 under 35 U.S.C. § 112 (*see* Non-Final Action 5–6) has been withdrawn (*see* Answer 5–6).

BACKGROUND

The Appellants' invention relates "to analyzing financial transaction habits of social networking system users." (Spec. ¶ 1.) According to the Appellants, "financial institutions possess transaction history and spending habit data in abundance" (Appeal Br. 2), but, "[c]onventionally, a user's transaction history is compared to transaction histories for global users or to a generalized demographic of users" (Spec. ¶ 26). Apparently, this approach does not provide "granular financial comparisons." (Appeal Br. 8.)

To solve this problem, the Appellants' "claimed method analyzes transaction history and compares their spending habits to the users' connections (i.e., friends) in a social networking system." (Appeal Br. 2; *see also* Spec. ¶ 4.) This is done by "[t]he social networking system retriev[ing] transaction history data from one or more financial account providers for its users," and "stor[ing] this information in a specific manner in a 'social graph' maintained by the social networking system." (Appeal Br. 2; *see also* Spec. ¶¶ 4, 35, 36.)

More particularly, the Appellants' method "identifies vendor objects (e.g., business profile pages, product profile pages, etc.) maintained by the social networking system from the retrieved transaction history data," and "generates an edge in the social graph between a user profile for a purchasing user and a corresponding vendor object with a transaction edge type." (Appeal Br. 3; *see also* Spec. ¶¶ 32, 44, 45.) "[S]toring the transaction history data in this manner," allows "the social networking system to query the social graph by edge type and transaction category in order to compare spending habits of a user to that of their friends." (Appeal Br. 3; *see also* Spec. ¶¶ 46, 47, 74.)

Thus, the Appellants' method relies upon "the specific storage structure of the social graph and the particular steps in which it is queried," in order to provide "granular financial comparisons" to a user. (Appeal Br. 8.)

ILLUSTRATIVE CLAIM
(with bracketed text, bolding, and italicizing added)

1. A computer-implemented method comprising:

[(a)] maintaining, by one or more servers of a social networking system, a plurality of user profiles associated with users of the social networking system;

[(b)] maintaining, by the one or more servers of the social networking system, a plurality of **objects** and **edge objects** in a **social graph**, the **edge objects** describing connections between the plurality of user profiles and the plurality of **objects** in the social networking system;

[(c)] retrieving ***transaction history data*** associated with a user of the social networking system from one or more computing devices of a financial account provider system maintaining a financial account associated with the user, the ***transaction history data*** including information for a plurality of ***transactions***, each ***transaction*** having a ***transaction amount*** and associated with at least one ***transaction category***;

[(d)] identifying, by the one or more servers of the social networking system, one or more **objects** of the plurality of **objects** maintained by the social networking system from the ***transaction history data***, each of the one or more **objects** associated with at least one of the plurality of ***transactions***;

[(e)] generating one or more **edge objects** in the **social graph** between a user profile associated with the user and the one or more **objects** associated with the plurality of ***transactions***;

[(f)] querying, by **edge object type** corresponding to ***transaction category***, the **social graph** for the user associated with the plurality of ***transactions*** to identify a frequency of ***transactions*** within each of the at least one ***transaction category*** associated with the user, the frequency of ***transactions***

within each of the at least one ***transaction category*** based on the plurality of ***transactions***;

[(g)] removing ***transaction categories*** associated with the user that include ***frequent transactions*** to generate a first set of ***non-routine transaction categories*** that include ***non-routine transactions***;

[(f)] identifying a subset of users of the social networking system connected to the user based at least in part on the user profile associated with the user;

[(h)] retrieving, by the one or more servers of the social networking system, ***transaction history data*** associated with the identified subset of users, the ***transaction history data*** received from at least one financial account provider system maintaining at least one financial account associated with at least one of the subset of users, the ***transaction history data*** including a plurality of ***transactions***, each t***ransaction*** having a ***transaction amount*** and associated with at least one ***transaction category***;

[(i)] querying, by **edge object type** corresponding to ***transaction category***, the **social graph** for the identified subset of users connected to the user, the **queried edge objects** being associated with the plurality of ***transactions*** from the **social graph** and allowing the social networking system to identify a frequency for the plurality of ***transactions*** associated with the identified subset of users within each of the at least one ***transaction category***;

[(j)] removing ***transaction categories*** associated with the identified subset of users having ***transactions*** at a frequency above a frequency threshold to generate a second set of ***non-routine transaction categories*** having ***transactions*** at a frequency equal to and below the frequency threshold;

[(k)] generating, by the one or more servers of the social networking system, a description of ***transaction amounts*** in the second set of ***non-routine transaction categories*** associated with the identified subset of users connected to the user; and

[(l)] providing, to a computing device of the user for display by the one or more servers of the social networking system, a comparison between the user and the subset of users of the social networking system connected to the user, the

comparison including one or more ***transaction amounts*** for ***non-routine transactions*** in each of the first set of ***non-routine transaction categories***.

REJECTION

The Examiner rejects claims 1–8 and 21–28 under 35 U.S.C. § 101 as being "directed to a judicial exception" (i.e., an abstract idea) "without significantly more." (Non-Final Action 2.)

JUDICIAL EXCEPTIONS

Section 101 of the Patent Act defines subject matter eligible for patent protection as "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. But the Supreme Court has "long held" that this provision contains an important implicit exception: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Ass'n for Molecular Pathology* v. *Myriad Genetics, Inc.*, 569 U. S. 576, 589 (2013). These three listed categories are "judicially created exceptions to § 101," or more concisely, "judicial exceptions." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1311 (Fed. Cir. 2016). Thus, an "abstract idea" is considered a judicial exception to 35 U.S.C. § 101.

THE *ALICE* TEST

In *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014), the Supreme Court provided a two-step test to guard against an attempt to patent purely an abstract idea. (*Id.* at 217–18.) In *Alice* step one, a determination is made as to whether the claim at issue is "directed to" an abstract idea. (*Id.* at 218.) If not, it can be concluded that no attempt is being made to patent an abstract idea, and the *Alice* Test is complete. (*See id.*) If the claim at issue is

"directed to" an abstract idea, then *Alice* step two must be performed. (*See id.*) In this second step of the *Alice* Test for patent eligibility, consideration is given to whether additional elements in the claim are "well-understood," "routine," or "conventional." (*Id.*)

2019 GUIDANCE

The recently published 2019 Revised Patent Subject Matter Eligibility Guidance ("2019 Guidance") provides guidance for USPTO personnel when determining whether a claim is "directed to" an abstract idea under *Alice* step one. (*See* Federal Register Vol. 84, No. 4, 50–57.) The 2019 Guidance lists the following subject matter groupings of abstract ideas: "[m]ental processes," "[m]athematical concepts," and "[c]ertain methods of organizing human activity." (*Id.* at 52.) If a claim does not contain limitations reciting an identified abstract idea that falls within one of these three groupings, this is redolent of the claim not being "directed to" an abstract idea. (*Id.* at 54). But even if a claim does contain limitations reciting an identified abstract idea, this, alone, is not sufficient to establish that the claim is "directed to" this abstract idea. Rather, in order for *Alice* step one to be satisfied, it must also be established that the claim does not contain additional elements (i.e., "claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception") that "integrate" the identified abstract idea "into a practical application." (*Id.* at 55, n. 24.)

ANALYSIS

The Examiner determines that independent claim 1 satisfies *Alice* step one because it is "directed to the abstract idea of identifying and removing ***transaction categories*** having frequency above a threshold and providing

comparison of ***transaction amounts*** between users." (Non-Final Action 2, bolding and italicizing added.) The Examiner calls this an "economic concept[]," and, ergo, an abstract idea. (*Id.* at 4.) We are persuaded by the Appellants' position that the Examiner's *Alice*-step-one determination is not supported sufficiently by the record. (*See* Appeal Br. 7–9; *see also* Reply Br. 2–5.)

Insofar as the Examiner is saying that independent claim 1 recites steps involving ***financial transactions***, we do not disagree. Steps (c) and (h) in independent claim 1 require the retrieval of ***transaction history data*** about a plurality of ***transactions***, each of which has a ***transaction amount*** and is associated with a ***transaction category***. Steps (f) and (i) require the identification of the frequency of ***transactions*** within each ***transaction category***. Step (g) requires the removal of ***transaction categories*** associated with a user that include frequent ***transactions*** to generate a first set of ***non-routine transaction categories***; while step (j) requires the removal of ***transaction categories*** associated with an identified subset of users having ***transactions*** at a frequency above a frequency threshold to generate a second set of ***non-routine transaction categories***. Step (k) requires the generation of a description of ***transaction amounts*** in the second set of ***non-routine transaction categories***. And step (l) requires the comparison of ***transaction amounts*** for ***non-routine transactions*** in the first set of ***non-routine transaction categories***.

Insofar as the Examiner is saying that ***financial transactions*** fit within the ambit of "economic concepts" (Non-Final Action 4), we do not disagree. According to the Appellants, the ***financial-transaction***-related data recited in independent claim 1 provides a user with "relevant information" about

his/her transactions (Spec. ¶¶ 8, 9), or, in other words, helps a user track his/her ***financial transactions***. Tracking of ***financial transactions*** falls under the 2019 Guideline grouping of "[c]ertain methods of organizing human activity," and more particularly falls under the subgrouping of "fundamental economic practices or principles." (Federal Register Vol. 84, No. 4 at 52.)[3] And the ***financial-transaction***-related limitations from steps (c), (f), (g), and (h)–(l), listed above, evince the abstract idea of tracking of ***financial transactions***.

Thus, the record sufficiently establishes that independent claim 1 recites an identified abstract idea, namely the tracking of ***financial transactions***.[4] However, in order for independent claim 1 to be "directed to" this identified abstract idea to satisfy *Alice* step one, the record must also establish that the identified abstract idea has not been integrated into a practical application.[5] We discern that, here, the record does not do so.

As pointed out by the Appellants (*see e.g.,* Appeal Br. 8), independent claim 1 recites features, limitations, and steps that reach beyond the abstract idea of tracking ***financial transactions***. Step (b) requires a plurality of **objects** and **edge objects** in a **social graph**; and step (b) also requires the **edge objects** to describe connections between a plurality of user profiles and

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[3] *See also Intellectual Ventures I LLC v. Capital One Bank (USA)* 792 F.3d 1358, 1363 (Fed. Cir. 2015) ("[T]racking financial transactions to determine whether they exceed a pre-set spending limit (i.e., budgeting)" is an abstract idea.).

[4] This is "Step 2A, Prong One" in the 2019 Guidance. (Federal Register Vol. 84, No. 4 at 54.)

[5] This is "Step 2B, Prong Two" in the 2019 Guidance. (Federal Register Vol. 84, No. 4 at 54.)

the plurality of **objects**. Step (d) requires the identification of **objects**; step (e) requires the generation of one or more **edge objects** in the **social graph**; and steps (f) and (i) require **querying** the **social graph** by **edge object type**.

The Examiner appears to characterize the **social graph**, and the **objects/edges** therein, as "further details" of the abstract idea. (Answer 7.) But the Examiner does not explain, and we do not see, how a **social graph** is ineludibly embedded in the identified abstract idea of tracking ***financial transactions***. And if the **social-graph** limitations recited in steps (b), (d), (e), (f), and (i) are "beyond the identified abstract idea," they are "additional elements." (Federal Register Vol. 84, No. 4 at 55 n. 24.)

Therefore, in order to satisfy *Alice* step one, the **social-graph** limitations in steps (b), (d), (e), (f), and (i) must be evaluated to ensure that they do not integrate the identified abstract idea into a practical application. However, the record reflects that the **social-graph** limitations were not treated as additional elements during the Examiner's *Alice* analysis. (*See* Non-Final Action 5.) Thus, the record does not establish that the **social-graph** limitations in independent claim 1 fail to integrate the identified abstract idea into a practical application.

With particular reference to steps (f) and (i), which require **querying** the **social graph**, the Examiner appears to equate these steps to computer-software functions. (*See* Answer 6.) And the Examiner seems to imply that it impossible for software to serve as "additional elements" that integrate an identified abstract idea into a practical application. (*See id. at* 6–7.) But such an implication gainsays the 2019 Guidance[6] and contradicts controlling

[6] The 2019 Guidance "uses the term 'additional elements' to refer to claim features, limitations, and/or steps that are recited in the claim beyond the

case law.[7] Software limitations, like other limitations beyond the identified abstract idea, must be taken into consideration during the Examiner's *Alice* analysis, and here the record reflects that they were not. Thus, the record does not establish that the **querying** steps in independent claim 1 fail to integrate the identified abstract idea into a practical application.

Moreover, independent claim 1 must be considered "as a whole when evaluating whether [a] judicial exception is meaningfully limited by integration into a practical application." (Federal Register Vol. 84, No. 4 at 55.)[8] And, although "[s]ome elements may be enough on their own to meaningfully limit an exception," it is often "the combination of elements that provide the practical application." (*Id.*) Consequently, "careful consideration" must be given "to both the element and how it is used or arranged in the claim as a whole." (*Id.*)

We note that the Appellants expressly argue that independent claim 1 sets forth "a specific manner of storing financial data in a **social graph** which allows a social networking system to efficiently **query** for a specific

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identified judicial exception." (Federal Register Vol. 84, No. 4 at 55 n. 24.) The 2019 Guidance does not disqualify software features, limitations, and/or steps from serving as "additional elements" that are capable of integrating an abstract idea into a practical application.

[7] *See McRO*, 837 F.3d 1299 at 1315 ("While [a] result may not be tangible," there is no requirement that a claimed invention must "'be tied to a machine or transform an article' to be patentable"); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) ("Nor do we think that claims directed to software, as opposed to hardware, are inherently abstract and therefore only properly analyzed at the second step of the *Alice* analysis").

[8] *See also Enfish*, 822 F.2d at 1336 (During "[t]he 'directed to' inquiry" (i.e., *Alice* step one), claims are "considered in light of the specification, based on whether their character as a whole is directed to excluded subject matter").

edge type (e.g., transactions of a particular category) for a user and subsequently for the user in order to then generate a financial comparison." (Reply Br. 4, bolding added.) Put another way, it is the **social graph** and the **querying** steps, together, that "solve the problem associated with previous methods of providing users with financial comparison." (*Id.*) The record does not reflect that careful consideration was given to this "combination of elements" during the Examiner's *Alice* analysis. Thus, the record does not establish that the **social graph** and the **querying** steps, in combination, fail to integrate the identified abstract idea into a practical application.

Consequently, we are persuaded by the Appellants' position that the Examiner does not establish sufficiently that independent claim 1 satisfies *Alice* step one. As such, we need not proceed to *Alice* step two[9] in order to conclude that, on the record before us, it has not been established that independent claim 1, and claims 2–8 depending therefrom, fail the *Alice* Test for patent eligibility. Independent claim 21 sets forth steps mirroring steps (a)–(l) of independent claim 1; and so we reach the same conclusion with respect to independent claim 21, and claims 22–28 depending therefrom.

DECISION

We REVERSE the Examiner's rejection of claims 1–8 and 21–28.

REVERSED

[9] This is "Step 2B" in the 2019 Guidance. (Federal Register Vol. 84, No. 4 at 56.)